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## **Air Quality Technical Report Addendum**

**Prepared For:  
Federal Highway Administration  
Colorado Department of Transportation**

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## 1.0 SUMMARY

The Federal Highway Administration (FHWA) and the Colorado Department of Transportation (CDOT) are evaluating multi-modal transportation improvements along approximately 61 miles of the Interstate 25 (I-25) corridor from the Fort Collins-Wellington area to Denver.

The Draft Environmental Impact Statement (DEIS) evaluated the base year 2001, interim year 2015, and the design/planning year 2030 for each alternative: No-Action, Package A, and Package B. The 2015 scenarios were hypothetical in that they consisted of the full build-out of the proposed transportation systems.

The Final Environmental Impact Statement (FEIS) updated transportation networks to include the base year 2005 and 2035 No-Action, 2035 Package A, 2035 Package B, 2035 Preferred Alternative, and 2035 Phase 1 scenarios. Normally the FEIS should replicate the analyses performed in the DEIS, with the updated interim year changing to 2020 or 2022. However upon consideration, analysis of an interim year did not seem to be appropriate because this project is anticipating true build-out far beyond 2035. The initial set of project improvements identified in Phase 1 is not funded until late in the current planning cycle. The first Phase 1 construction projects are not foreseen to occur until about 2030 to 2035. In addition, the final phases of the North I-25 project may not be completed until 2075 due to funding constraints. Therefore, after consultation with FHWA and CDOT, it was determined that an interim year would not be included. However, for the carbon monoxide (CO) hot spot analysis, an interim scenario (No-Action 2035) was included to show meaningful phasing information. This interim year scenario includes analysis at a worst operating intersection (Harmony Road and I-25) representing the unbuilt portion of the corridor (non Phase 1).

This document is an addendum to the previous Air Quality Technical Report, prepared by Jacobs Engineering in 2008, which provides an overall analysis of potential regional and local air quality impacts. The results are summarized below.

### *Corridor Emission Analysis*

Regional VMT measured over the regional study area would increase approximately 80 percent between 2005 and 2035. Regional analyses of total criteria pollutants show reductions in total emissions between 2005 and 2035: CO decreases 12 percent, VOC decreases 55 percent, NO<sub>x</sub> decreases 76 percent, and PM<sub>10</sub> decreases 1 percent. Criteria pollutant emissions for all of the 2035 Build Alternatives (Package A, Package B, the Preferred Alternative, and Phase 1) would average about 1 percent higher than the 2035 No-Action emissions. Package B and Phase 1 would generate slightly fewer criteria pollutant emissions than Package A or the Preferred Alternative due to proposed rail transit improvements for Package A and the Preferred Alternative. For MSATs, the emissions would be relatively the same for all of the Build Alternatives. The substantial reductions in pollutant

concentrations between 2005 and 2035 are due primarily to future emissions controls and low-sulfur fuels.

MSAT emissions would be reduced between 51 percent and 57 percent for acetaldehyde, acrolein, benzene, 1,3-butadiene, and formaldehyde between 2005 and the 2035 No-Action Alternative. DPM was reduced by over 93 percent during that same timeframe. PM<sub>10</sub> emissions reductions are much less than reductions in DPM emissions because PM<sub>10</sub> is made up of more components than DPM, including gasoline and diesel engine exhaust and evaporative emissions, brake wear, tire wear, and road dust.

Forecasted emissions for MSATs would in all cases be increased between No-Action levels in 2035 and those predicted for the Preferred Alternative and Phase 1. On a percentage basis, the increases are less than one percent for benzene and acrolein. Acetaldehyde and 1,3 butadiene would both increased between one percent and two percent. For formaldehyde, percent increases would be highest with diesel particulates: 5.8 percent with the Preferred Alternative and 4.8 percent for Phase 1. Phase 1 emissions would be slightly higher than the Preferred Alternative for two pollutants: benzene and formaldehyde. The reason for this is that the vehicle mix for the Preferred Alternative would include more heavy trucks, because it would have more travel on freeways.

#### *Attainment/Maintenance Areas*

Fort Collins Area: The Preferred Alternative 2035 total CO emissions would be about 0.436 to 1.971 tons more than the other Build alternatives in 2035. This increase would be attributed in part to the vehicle VMT since increased VMT is directly linked to increased emissions.

Greeley Area: A comparison shows that Package B and Phase 1 within the Greeley SIP area would contribute more emissions of CO than Package A and the Preferred Alternative. The higher emissions would be due to corresponding higher VMT.

Longmont Area: A comparison shows that Package A and the Preferred Alternative within the Longmont SIP area would contribute more emissions of CO than Package B and Phase 1. The higher emissions would be due to corresponding higher VMT associated with Package A and the Preferred Alternative.

Denver Ozone and PM<sub>10</sub> Area: A comparison shows that Package A and Package B within the Denver ozone and PM<sub>10</sub> SIP areas would contribute more overall criteria pollutant emissions than the Preferred Alternative and Phase 1. The higher emissions would be due to corresponding higher VMT associated with Package A and Package B.

Denver CO Area: A comparison shows that Package A and the Preferred Alternative within the Denver CO SIP area would contribute more CO emissions than Package B and Phase 1. This increase would be attributed in part to the commuter rail component associated with Package A and the Preferred Alternative.

## ***Project Level Analyses***

### *Mobile Source Air Toxic Results*

Regardless of the alternative chosen, MSAT emissions would be lower than present levels in the future year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by 72 percent between 1999 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great that MSAT emissions in the regional study area would be lower in the future in all cases.

When evaluating the future options for upgrading a transportation corridor, the major mitigating factor in reducing MSAT emissions is the implementation of the EPA's new motor vehicle emission control standards. Substantial decreases in MSAT emissions would be realized from a current base year (2005) through an estimated future year. Accounting for anticipated increases in VMT and varying degrees of efficiency of vehicle operation, total MSAT emissions were predicted to decline approximately 61 percent from 2005 to 2035.

### *Carbon Monoxide Hot Spot Results*

Modeling was conducted for a No-Action scenario (no improvements in Phase 1) to represent an interim year since improvements are not anticipated until 2035 and for all three Build Packages. The highest modeled 8-hour average concentration was 8.4 ppm associated with the poorly operating intersection of Harmony Road and I-25 in Fort Collins for the No-Action Alternative. This value is less than the federal 8-hour CO NAAQS of 9 ppm. Therefore, since the project-level CO analyses resulted in no exceedances of the NAAQS at any of the identified interchanges and intersections representing the highest volume and worst operations within the regional study area, project-level conformity has been met.

### *Particulate Matter Hot Spot Results*

VMT comparisons for the two sites show that, in the year 2035, the total VMT would only increase 0.007 percent due to the new SH 7 facility. This percentage increase has been applied to the 98 percentile PM<sub>10</sub> values for the SH 7 BRT (or Express Bus) and Parking Facility and the Thornton Parkway RTD Facility. The result is that expected increases in concentrations would all remain below the NAAQS of 150 µg/m<sup>3</sup> in the design year 2035, suggesting that for these scenarios, no emissions violation or increase in frequency or severity of violation would be anticipated due to installation of the SH 7 BRT (or Express Bus) station with parking.

### *Rail Hot Spot Analysis*

The Berthoud Rail Maintenance Yard was compared to the FasTracks Fox North Commuter Rail Maintenance Facility. The emissions generated at the

Fox North facility would be well below the PM<sub>10</sub> NAAQs. The Berthoud Rail Maintenance Yard services a much smaller engine fleet and would thus be less than the NAAQs and unlikely to cause or contribute to any new localized PM<sub>10</sub> violations or increase the frequency or severity of any existing violations.

#### *Commuter Bus and BRT Hot Spot Analysis*

The 98 percentile maximum PM<sub>10</sub> concentration would remain below the NAAQS of 150 µg/m<sup>3</sup> in the design year 2035 at the proposed Greeley facility. This suggests that for these scenarios, no emissions violation or increase in frequency or severity of violation are anticipated due to operations at the Greeley Bus or BRT Maintenance Facility.

Uncontrolled and controlled dust emissions were calculated for the No Build, Package A, Package B, Preferred Alternative, and Phase 1. Total VMT for each alternative within the study area were used for the calculations. In addition, default values for other inputs such as silt content, vehicle weight, and control efficiency were obtained from the AP-42 Fifth Edition. As shown in **Table 12**, fugitive dust emissions would be approximately 0.01 percent higher for all Build Alternatives compared to the No Build alternative. Although dust emissions are anticipated to be slightly higher compared to the No-Action Alternative, the increase is not expected to cause an exceedance of the NAAQS.

#### ***Indirect Effects***

##### *Nitrogen Deposition Results*

Averaged future 2035 Build Alternative (Package A, Package B, the Preferred Alternative, and Phase 1) projections of these nitrogen emissions from transportation would decrease approximately 76 percent, or roughly 46,074 tons per year compared to current baseline 2005 conditions (see **Table 4**, for all 2035 alternatives). However, based on calculations from FHWA, ammonia emissions would increase 78 percent or 870 tons per year. The dominant source of ammonia emissions is generated from area sources, including agricultural livestock and crop production. Agricultural uses are decreasing due to urbanization in the study area. However, ammonia emissions from mobile sources increase due to VMT increasing in the corridor and emissions rates from mobile sources (in terms of ammonia per mile of driving) also increase slightly. Ammonia is a by-product of catalytic converter systems on vehicles to reduce NO<sub>x</sub> emissions. Therefore, as more on-road and non-road vehicles are equipped with catalytic converters, ammonia emissions from the average vehicle will increase somewhat. Package A and the Preferred Alternative are estimated to have higher VMT compared to Package B or Phase 1 (see **Table 3**). Therefore, since these alternatives would have more on-road and non-road vehicles likely to be equipped with catalytic converters, ammonia emissions are anticipated to be marginally higher for Package A and the Preferred Alternative, as listed below:



- ▶ No-Action ..... 858.1 tons per year
- ▶ Package A ..... 871.1 tons per year
- ▶ Package B ..... 865.8 tons per year
- ▶ Preferred Alternative... 872.8 tons per year
- ▶ Phase 1..... 870.0 tons per year

These emissions do not include any benefit from regional transit improvements planned by RTD and included with Package A, Package B, the Preferred Alternative, and Phase 1 nor do these emissions assume any market penetration of hybrid vehicles or other advanced technologies between now and 2035. Non-road sources of nitrogen are estimated to decrease an average 61 percent or over 12,000 tons per year for NO<sub>x</sub> and 11 tons per year for ammonia, over this same time period (Houk, 2007).

The overall decrease in total nitrogen emissions would contribute to the Rocky Mountain National Park (RMNP) goal of reducing nitrogen deposition rates by the year 2018, although the transportation emissions of ammonia would increase in the future since increases in VMT are linked directly to increased ammonia emissions.

**Regional Conformity:**

Because there is not enough money in the fiscally constrained and air quality conforming 2035 DRCOG and NFRMPO RTPs, only the portion of the preferred alternative that is included in the fiscally constrained and air quality conforming 2035 RTPs can be approved by FHWA in the ROD. Multiple conformity analyses were performed. To ensure that air quality conformity would not be of an issue if money were to become available to completely build out the preferred alternative or other alternative evaluated in the document, conformity analyses were performed. As required by law, the Phase 1 of the preferred alternative was analyzed separately and will be included in the fiscally constrained and air quality conforming RTPs prior to FHWA approval in the ROD.

**Project Level Conformity:**

The results of the CO and PM<sub>10</sub> analyses indicated that the project would meet the transportation conformity requirements since the Build Alternatives and the No-Action scenario, would not cause or contribute to any new localized CO or PM<sub>10</sub> violations, increase the frequency or severity of any existing violations, or delay timely attainment of the CO or PM<sub>10</sub> NAAQS.

**2.0 DESCRIPTION OF PREFERRED ALTERNATIVE AND PHASE 1**

The Preferred Alternative is a combination of components presented in Packages A and B in the DEIS. This includes improvements on multiple corridors and includes multimodal improvements which are briefly summarized in this section.

The Preferred Alternative would widen I-25 with general purpose lanes and Tolle Express Lanes (TEL) (lanes restricted to high-occupant vehicles and tolled single occupant vehicles). Access to the TELs would be provided via slip ramps connecting the general purpose lanes. Carpool lots would be located near many interchanges along the I-25 corridor to serve HOV users of the TELs. Substandard interchanges along the corridor would be reconstructed. No new interchange locations have been identified for this FEIS.

The Preferred Alternative would also provide express bus service, commuter bus service, and commuter rail service. Express bus service would connect northern Colorado communities to downtown Denver and to DIA, utilizing the express lanes along I-25. Commuter bus service would be provided along US 85 connecting Greeley to downtown Denver. Queue jumps are bus-only lanes at signalized intersections that provide an opportunity for buses to pass stopped vehicles queued at the intersection. Commuter bus station locations identified in Package A of the DEIS would remain the same in the Preferred Alternative. Commuter rail transit service would be provided from Fort Collins to the anticipated FasTracks North Metro end-of-line. Stations would be at the same locations as for the commuter rail service included in Package A of the DEIS but the number of parking spaces has slightly changed. The rail line would be largely single-track with passing tracks in four locations.

Lastly, the Preferred Alternative would provide grade separated crossings, retaining walls, water quality ponds, drainage structures, and improvements to frontage roads, maintenance roads, and maintenance facilities.

The availability of funding will impact the timing and phasing of construction of the Preferred Alternative. Therefore, a phased Record of Decision (ROD) will be required. This phased ROD approach enables FHWA and FTA to meet their federal obligations while addressing the needs of the area on a broad scale. Phase 1 components include the following:

- ▶ Widening I-25 between SH 66 and SH 56 with one TEL in each direction.
- ▶ Widening I-25 between SH 392 and SH 14 - would initially be used as continuous accel/decel lanes but would ultimately become part of the general purpose lanes.
- ▶ Widening I-25 between 120th Avenue and approximately US 36—one buffer-separated TEL in each direction.
- ▶ Interchange replacement and upgrades—SH 14, Prospect, SH 56, CR 34, and SH 7 would be constructed to their ultimate configurations. SH 392 and 84th Avenue would be completed as part of a separate project.
- ▶ Six carpool lots at I-25 interchanges.
- ▶ Commuter rail right-of-way preservation—All right-of-way necessary to construct the ultimate commuter rail configuration would be purchased as part of Phase 1.

- ▶ Initial I-25 Bus—Regional bus service connecting Fort Collins and Greeley to downtown Denver and DIA would be initiated. Four transit stations would be constructed as part of Phase 1 and 27 buses would be purchased.
- ▶ Commuter Bus—Commuter bus along US 85 connecting Greeley to downtown Denver would be implemented in Phase 1. This would include construction of five stations, 17 queue jumps/transit signal priority intersections and the purchase of five buses.

**Chapter 2.0 Alternatives**, of the FEIS describes the Preferred Alternative and **Chapter 8.0 Project Phasing** describes Phase 1 in more detail.

## 3.0 AFFECTED ENVIRONMENT

### 3.1 REGULATORY FRAMEWORK

The Clean Air Act and its amendments led EPA to establish NAAQS for each of six criteria pollutants to protect the public from the health hazards associated with air pollution. The six criteria pollutants are CO, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide. NAAQS for these criteria pollutants were established based on known human health effects and measurable, health-related threshold values. **Table 1** summarizes the revised standards due to regulatory changes since the DEIS.

#### 3.1.1 Transportation Conformity

Transportation conformity, as a provision of the Clean Air Act (as amended in 1990), helps to ensure that transportation funds go to projects that are consistent with local air quality goals outlined in the State Implementation Plan (SIP). Conformity applies to regionally significant and federally funded projects located in designated non-attainment or attainment/maintenance areas. Conformity regulations require that these actions be included in a fiscally constrained and air quality conforming Regional Transportation Plan (RTP), Transportation Improvement Program (TIP), and the proposed project will not cause or contribute any new violation of the NAAQS.

The SIP identifies the allowable on-road emissions levels to attain the air quality standards as an emissions budget. These budgets act as a cap on emissions and represent the "holding capacity" of the area. The motor vehicle emissions budget that is explicitly identified in the six project area SIPs has been used in the transportation conformity process to cap the emissions allowed by motor vehicles on the corridor transportation network as planned.

The estimated cost of the North I-25 proposed project exceeds the current available or planned funding contained in the 2035 Metro Vision Regional Transportation Plan (2035 MVRTP) (DRCOG 2007) and the North Front Range 2035 RTP. Therefore, this project will be implemented in phases when funding becomes available. Details of the phasing components are summarized in **Chapter 8.0 Project Phasing** of the FEIS.

Because there is not enough money in the fiscally constrained and air quality conforming 2035 DRCOG and NFRMPO RTPs, only the portion of the preferred alternative that is included in the fiscally constrained and air quality conforming 2035 RTPs can be approved by FHWA in the ROD. Multiple conformity analyses were performed. To ensure that air quality conformity would not be an issue if money were to become available to completely build out the preferred alternative or other alternative evaluated in the document, conformity analyses were performed. As required by law, the Phase 1 of the preferred alternative was analyzed separately and will be included in the fiscally constrained and air quality conforming RTPs prior to FHWA approval in the ROD.

**Table 1. National Ambient Air Quality Standards for Criteria Pollutants**

| Pollutant/Averaging Time                                           | Primary Standard*                | Secondary Standard*              |
|--------------------------------------------------------------------|----------------------------------|----------------------------------|
| <b>Carbon monoxide (CO)</b>                                        |                                  |                                  |
| 8-hour <sup>1</sup>                                                | 9 ppm**                          | --                               |
| 1-hour <sup>1</sup>                                                | 35ppm                            | --                               |
| <b>Lead (Pb)</b>                                                   |                                  |                                  |
| Rolling 3-Month Average                                            | 0.15 µg/m <sup>3</sup>           | 0.15 µg/m <sup>3</sup>           |
| Calendar quarter <sup>2</sup>                                      | 1.5 µg/m <sup>3</sup>            | 1.5 µg/m <sup>3</sup>            |
| <b>Nitrogen dioxide (NO<sub>2</sub>)</b>                           |                                  |                                  |
| Annual Arithmetic Mean                                             | 53 ppb                           | 53 ppb                           |
| 1-hour                                                             | 100 ppb                          | 100 ppb                          |
| <b>Ozone (O<sub>3</sub>)</b>                                       |                                  |                                  |
| 1-hour <sup>3</sup>                                                | 0.12ppm                          | 0.12ppm                          |
| 8-hour <sup>4</sup>                                                | 0.075ppm                         | 0.075ppm                         |
| <b>Particulate matter less than 10 microns (PM<sub>10</sub>)</b>   |                                  |                                  |
| Annual <sup>5</sup>                                                | Revoked                          | Revoked                          |
| 24-hour <sup>6</sup>                                               | 150 µg/m <sup>3</sup>            | 150 µg/m <sup>3</sup>            |
| <b>Particulate matter less than 2.5 microns (PM<sub>2.5</sub>)</b> |                                  |                                  |
| Annual <sup>7</sup>                                                | 15 µg/m <sup>3</sup>             | 15 µg/m <sup>3</sup>             |
| 24-hour <sup>8</sup>                                               | 35 µg/m <sup>3</sup>             | 35 µg/m <sup>3</sup>             |
| <b>Sulfur dioxide (SO<sub>2</sub>)</b>                             |                                  |                                  |
| Annual Arithmetic Mean                                             | 80 µg/m <sup>3</sup> (0.03ppm)   | --                               |
| 24-hour <sup>1</sup>                                               | 365 µg/m <sup>3</sup> (0.14 ppm) | --                               |
| 1-hour                                                             | 75 ppb                           | --                               |
| 3-hour <sup>1</sup>                                                | --                               | 1300 µg/m <sup>3</sup> (0.5 ppm) |

\*Primary standards set limits to protect public health, including the health of “sensitive” populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against visibility impairment, damage to animals, crops, vegetation, and buildings.

\*\*Due to mathematical rounding, a measured value of 9.5 ppm or greater is necessary to exceed the standard.

µg/m<sup>3</sup>= micrograms per cubic meter ppm = parts per million ppb = parts per billion

<sup>(1)</sup> Not to be exceeded more than once per year.

<sup>(2)</sup> This level may not be exceeded in any quarter of a year.

<sup>(3)</sup> The 1-hour ozone standard was revoked on April 15, 2009 for the Denver metro area and the north Front Range.

<sup>(4)</sup> The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.075 ppm is < 1; to attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm.

<sup>(5)</sup> Due to a lack of evidence linking health problems to long-term exposure to coarse particle pollution, the EPA revoked the annual PM<sub>10</sub> standard in 2006, effective December 17, 2006.

<sup>(6)</sup> Not to be exceeded more than once per year on average over 3 years.

<sup>(7)</sup> To attain this standard, the 3-year average of the weighted annual mean PM<sub>2.5</sub> concentrations from single or multiple community-oriented monitors must not exceed 15 µg/m<sup>3</sup>.

<sup>(8)</sup> To attain this standard, the 3-year average of the 98<sup>th</sup> percentile of 24-hour concentrations at each populations-oriented monitor within an area must not exceed 35 µg/m<sup>3</sup>, effective December 17, 2006.

Source: EPA

### **Project Level (Hot Spot) Conformity**

At the project level, CDOT is most concerned with CO since it is directly emitted from the tail pipes of motor vehicles. PM<sub>10</sub> emissions are also a local project concern, often derived from motor vehicle exhaust. However, most PM<sub>10</sub> in the atmosphere is generated as fugitive dust – fine dust created by vehicle re-entrainment of excess roadside sand and disturbed ground surfaces from both farming and construction. Conformity at the project-level requires “hot spot” analysis if an area is “nonattainment” or “maintenance” for carbon monoxide (CO) and/or particulate matter. In general, projects must not cause the CO or PM standard to be violated, and in “nonattainment” areas the project must not cause any increase in the number and severity of violations. If a known CO or PM violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

## **3.2 EXISTING CONDITIONS**

In accordance with the Clean Air Act, EPA requires all states to submit a State Implementation Plan (SIP) to address all areas that do not comply with the National Ambient Air Quality Standards (NAAQS). A SIP contains the set of actions or control measures that the state plans to implement to meet NAAQS. Non-attainment areas contain one or more pollutants levels that are in violation of NAAQS.

Effective November 20, 2007, the EPA designated the Denver metro area and the North Front Range as a non-attainment area for 8-hour ozone (O<sub>3</sub>). The new ozone non-attainment status requires regions to submit an enforceable State Implementation Plan (SIP) outlining steps regions will take to maintain compliance with the ozone standard. A plan to reduce ozone concentrations was developed by the Colorado Department of Public Health and Environment (CDPHE) Air Pollution Control Division (APCD), along with the Regional Air Quality Council (RAQC), Denver Regional Council of Governments (DRCOG), and the North Front Range Metropolitan Planning Organization (NFRMPO) which was submitted to EPA in July 2009. Control measures outlined in the SIP to reduce ozone concentrations include:

- ▶ Revisions to Regulation No. 11 (adopted March 2008)—tightened tailpipe emissions standards for VOCs, CO, and NO<sub>x</sub> used to pass or fail program eligible vehicles in the Denver Metro Area. Vehicles subject to the Automobile Inspection and Readjustment (AIR) program are inspected on a two-year cycle.
- ▶ Reid Vapor Pressure (RVP)—A request for EPA to strengthened the RVP requirement from 9.0 pounds per square inch to 7.8 psi.
- ▶ Revisions to Regulation No. 7—expand source-category VOC emissions control requirements to include all ozone non-attainment areas in the state, including the entire Denver/North Front Range non-attainment area.

- ▶ Revisions to Regulation No. 3—Air Pollutant Emission Notices (APEN) and permit exemptions will be removed or revised to develop an inventory of emissions from source categories where actual emissions are anticipated to exceed reporting thresholds.

In March 2008, EPA lowered (strengthened) the NAAQS for the 8-hour ozone standard from 0.08 ppm to 0.075 ppm. Ambient air quality data for the years 2005 to 2007 were collected from monitoring stations. In July 2007, there were exceedances of the 8-hour ozone standard recorded which violated the NAAQS of 0.08ppm. Therefore, EPA designated this area as a non-attainment area.

In 2004, USEPA determined particulate matter under 2.5 micrometers in size ( $PM_{2.5}$ ) within the Denver Metro area and the North Front Range had met the 1997 air quality standards; therefore, designating the Denver metro area and north Front Range as an attainment area. In 2006, USEPA strengthened the 24-hour  $PM_{2.5}$  standard from 65 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) to 35  $\mu\text{g}/\text{m}^3$ . Due to the lack of evidence linking health problems to long-term exposure to coarse particle pollutions, the EPA revoked the annual  $PM_{10}$  standard in 2006. Modeling of  $PM_{2.5}$  emissions was not conducted since the Denver Metro area and the North Front Range are designated as attainment areas. Precursors of  $PM_{2.5}$  include  $\text{NO}_x$  and VOC which were modeled for this project.

The Denver Metro area and North Front Range are designated as a carbon monoxide (CO) attainment/ maintenance area. The Denver Metro area is also in attainment/maintenance for particulate matter under 10 micrometers in size ( $PM_{10}$ ). All other criteria pollutants in these areas are in attainment and not considered pollutants of concern. In addition, the portions of the regional study area located outside of the Denver Metro area and North Front Range are designated as attainment areas for all criteria pollutants. Criteria pollutants in attainment areas are not considered pollutants of concern.

### 3.3 AIR QUALITY MONITORING DATA

Based on 2009 and 2010 data, there are 19 active air quality monitoring stations located in the regional study area. **Table 2** summarizes the most current monitoring station locations and monitored mobile source related criteria pollutants. Carbon monoxide,  $\text{NO}_x$ , ozone,  $PM_{10}$ ,  $PM_{2.5}$ , total suspended particulate matter approximately 40 microns in diameter (TSP), lead, and sulfur dioxide are monitored in the general area. Lead and sulfur dioxide are generally considered to be industrial pollutants and are not included in **Table 2**.

**Table 2. 2009 to 2010 Criteria Pollutant Monitoring Station Data**

| Monitoring Stations |                        |                         | Criteria Pollutants |                 |                |                  |                   |     |
|---------------------|------------------------|-------------------------|---------------------|-----------------|----------------|------------------|-------------------|-----|
| County              | Site Name              | Location                | CO                  | NO <sub>2</sub> | O <sub>3</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | TSP |
| Adams               | Commerce City          | 7101 Birch St.          |                     |                 |                | X                | X                 |     |
|                     | Welby                  | 78th Ave. & Steele St.  | X                   | X               | X              | X                |                   |     |
| Boulder             | Boulder                | 2440 Pearl St.          |                     |                 |                | X                | X                 |     |
|                     | Boulder                | 2102 Athens St.         |                     |                 |                |                  | X                 |     |
|                     | Boulder                | 1405 ½ S. Foothills Hwy |                     |                 | X              |                  |                   |     |
|                     | Longmont               | 350 Kimbark St.         |                     |                 |                | X                | X                 |     |
| Denver              | Longmont               | 440 Main St.            | X                   |                 |                |                  |                   |     |
|                     | Denver CAMP            | 2105 Broadway           | X                   | X               |                | X                | X                 |     |
|                     | Denver Firehouse #6    | 1300 Blake St.          | X                   |                 |                |                  |                   |     |
|                     | Denver Visitors Center | 225 W Colfax Ave.       |                     |                 |                | X                |                   |     |
|                     | Denver                 | 2325 Irving Street      |                     |                 | X              |                  |                   | X   |
|                     | Denver                 | 4650 Columbine Street   |                     |                 |                |                  | X                 |     |
| Larimer             | Fort Collins           | 251 Edison St.          |                     |                 |                | X                | X                 |     |
|                     | Fort Collins           | 708 S Madison St.       | X                   |                 | X              |                  |                   |     |
|                     | Fort Collins           | 3416 La Porte Ave       |                     |                 | X              |                  |                   |     |
| Weld                | Greeley                | 1516 Hospital Rd.       |                     |                 |                | X                | X                 |     |
|                     | Greeley                | 3101 35th Ave.          |                     |                 | X              |                  |                   |     |
|                     | Greeley                | 905 10th Ave.           | X                   |                 |                |                  |                   |     |
|                     | Platteville            | 1004 Main St.           |                     |                 |                |                  | X                 |     |

Source: CDPHE-APCD, *Colorado Annual Monitoring Network Plan 2009 - 2010* (June 30, 2009).

CAMP—Continuous Ambient Monitoring Program

O<sub>3</sub>—ozone

TSP—total suspended particulates

### 3.3.1 Criteria Pollutants and Critical Pollutant Data Trends

Ozone concentrations have fluctuated and currently remain above the national standard. Concentrations at monitoring stations throughout the regional study area returned to levels below the 8-hour standard concentrations after the 2003 peak. However, concentrations remained above the 8-hour standard after the 2005 peak. In 2006, Fort Collins added a new monitoring station to monitor ozone concentrations (3416 La Porte Avenue). This monitoring station had the highest concentrations of ozone from 2006 to 2008 within the North Front Range.

Carbon monoxide emissions rates have been steadily declining over the past 10 years due to improvements in vehicle engine emission controls, motor efficiency, and fuel composition. However, traffic volumes due to increasing population and travel trips are continuing to rise over time. Ambient monitoring levels for CO concentrations within the regional study area have remained below 9 ppm since 2005. The highest 2008 readings for 8-hour CO in the regional study area were 3.0 ppm, 2.7 ppm, and 3.1 ppm for monitors located in Fort Collins, Longmont, and Denver CAMP, respectively.



### 3.4 METHODOLOGY

The North I-25 corridor air quality methodology was coordinated with the CDPHE-APCD, the U.S. Environmental Protection Agency (EPA), Colorado Department of Transportation (CDOT) Region 4 and Environmental Programs Branch, Federal Highway Administration (FHWA) and local agency stakeholders during the DEIS. Continued coordination with these agencies was conducted for the FEIS.

EPA's Motor Vehicle Emission Simulator (MOVES) model was released in December 2009. However, this model has not been approved for use in air quality impact analyses for projects. FHWA and CDOT have agreed that the MOVES model will not be used for this air quality analysis because modeling guidance for project analysis will not likely be required prior to the ROD. The EPA MOBILE 6.2 model incorporates modifications to account for the influences of roadway characteristics (links) and vehicle speed used in the air quality analysis for the DEIS and will be used for this updated air quality analysis for the FEIS. The CDPHE-APCD modeled tailpipe emissions for the regional and attainment/maintenance areas using EPA approved model MOBILE 6.2.

Emission quantities of the criteria pollutants of CO, VOCs, NO<sub>x</sub>, and PM<sub>10</sub>, as well as the primary six mobile source air toxics (MSATs) were estimated for each alternative in the FEIS. For PM<sub>10</sub> emissions, MOBILE6.2 does not account for re-entrained road dust; only tire wear and brake wear emissions. Modeling of PM<sub>2.5</sub> emissions was not conducted since the Denver Metro area and the North Front Range are in attainment. Precursors of PM<sub>2.5</sub> include NO<sub>x</sub> and VOC which were modeled for this project. Roadway facility classifications included expressway, freeway, arterial, connector links, and ramps and queue jumps. Bus-generated emissions were not considered to be regionally significant because the maximum daily circulation volume for the Build Alternatives (Package A commuter and feeder buses, Package B BRT and feeder buses, Preferred Alternative commuter, express, and feeder buses, or Phase 1 express and commuter buses) would be less than 60 buses. No more than 6 idling buses (40 seconds per stop) would be present at any one station, at any peak or non-peak traffic hour. Rail-generated emissions for Package A, the Preferred Alternative, and Phase 1 were calculated separately using emissions factors provided by RTD, and added to the calculated vehicle emissions burden totals (see **Table 4 – Table 8**). Larger parking lot generated emissions are addressed under project-level analyses.

Fugitive dust generated from on-road vehicle entrainment of roadway dust and construction generated emissions were not included in these calculations.

#### 3.4.1 Corridor Analysis

Regional analyses incorporate the entire existing and proposed roadway network within the regional study area boundary.

Emissions from mobile sources for various air pollutants within the entire regional study area were estimated for the existing condition (Year 2005), the No-Action Alternative

(2035), Package A (2035), Package B (2035), Preferred Alternative (2035), and Phase 1 (2035). The existing condition year is the year that the travel demand models were calibrated (see *Travel Demand Traffic Technical Report (Jacobs, 2011)* for more detail). Future emissions were based on anticipated traffic levels for each alternative for the design year 2035 (see **Table 4**). Emissions levels included winter-summer seasonal influence, expected vehicle types, and traffic composition. Portions of all six SIP areas were included within this evaluation.

Information for Phase 1 is provided throughout the rest of this section because that is the only portion of the Preferred Alternative that is on the two Regional Transportation Plans. For more information about Phase 1, see **Section ES.7 Executive Summary** or **Chapter 8.0 Phasing** of the FEIS.

Travel demand forecasting completed for the FEIS generated a calculation of vehicle-miles traveled for the regional study area. The traffic network was evaluated by roadway linkages (as described in **Chapter 4 Transportation** of the FEIS) and found an influence from proposed project changes on traffic volume of 5 percent or more around the primary travel corridors of US 287, I-25, and US 85.

### 3.4.2 Attainment/Maintenance Areas

Emissions for various air pollutants within each attainment/maintenance area were estimated to provide a comparison against important mobile source air quality area pollutant emission burdens calculated by local planning and air quality agencies for each SIP area. These emission calculations are similar to the attainment/maintenance area conformity modeling and include the North I-25 regional study area. Comparisons are meant to compare emissions generated among the project alternatives.

Future emissions were based on traffic distributions, speeds and volumes for each component located in each of the attainment/maintenance areas. Emissions levels included seasonal influences, vehicle types and traffic composition.

### 3.4.3 Project Level CO Analysis

Quantitative CO dispersion modeling was conducted at five signalized interchange and intersection localities where traffic volumes were high and operational levels of service were deficient in the future. At least one representative CO hot spot analysis was conducted in each of the attainment/maintenance areas.

The CAL3QHC model was used to estimate CO concentrations at poorly operating signalized intersections to simulate worst-case localized air pollutant emissions at points where vehicles congregate, incorporating idling emissions and start-stop traffic conditions. High volume intersections and interchanges within the project area affected by Package A, Package B, the Preferred Alternative and Phase 1 traffic conditions, and operating with unacceptable levels of congestion (LOS D or worse) were selected through consultation with CDPHE-APCD, EPA, and FHWA for project-level "hot spot" analysis during the DEIS. Consultation was conducted with CDOT

and CDPHE-APCD for the FEIS. The same intersections were modeled since these remain the worst operating intersections.

- ▶ Harmony Road and I-25 [Package A and Preferred Alternative] (Fort Collins SIP)
- ▶ Evans Bus Station at 31st Street and US 85 [Package A, Package B, Preferred Alternative, and Phase 1] (Greeley SIP)
- ▶ Sugar Mill Transit Station at SH 119 and County Line Road [Package A and Preferred Alternative] (Longmont SIP)
- ▶ SH 7 and I 25 [Package A, Preferred Alternative, and Phase 1] (Denver SIP)
- ▶ Thornton Parkway and I-25 [Package A, Preferred Alternative, and Phase 1] (Denver SIP)

In addition, modeling was conducted for a No-Action scenario (no improvements in Phase 1) to represent an interim year since improvements are not anticipated until 2035.

Traffic volumes at these intersections are among the highest in their respective corridors and SIP areas. All the above intersections experience current congestion at peak hours. These intersections and interchanges would continue to experience congestion in the future under the No-Action Alternative, Package A, Package B, Preferred Alternative or Phase 1. Each location was modeled for the proposed 2035 traffic volumes, number of through lanes, turning lanes, and signalization.

Motor vehicle emissions rates for 2005 were combined with projected 2035 peak-hour traffic volumes at each intersection to utilize the highest emissions rate with the highest traffic volumes, to represent the worst-case modeling conditions for future years (see **Table 4**).

Inputs for the model included projected traffic volumes, motor vehicle emission rates, roadway geometries, traffic signal timing and worst-case meteorological conditions. The CDPHE-APCD provided the motor vehicle emission rates (composite running emissions and idle) using EPA's MOBILE6.2 emission factor model. Inputs for the MOBILE6.2 model included vehicle mix, running speeds, ambient temperature, and vehicle hot/cold start operating percentages. The CDPHE-APCD also provided idle motor vehicle emission rates using the MOBILE6.2 emission factor model and an EPA method for estimating idle emissions from composite emissions. Copies of model input/output data and emission factors are included in **Appendix A**. Traffic data can be found in **Appendix B**.

Worst-case meteorological conditions included low wind speed (1 meter/second) and atmospheric stability class D. The CAL3QHC model determines the worst-case wind direction by selecting the wind direction that results in the highest CO concentration at each receptor. Per EPA guidance, receptors were modeled 20 feet from the edge of the outside travel lane on the queue links at the selected intersections. Receptors

located according to EPA guidance represent worst-case locations for modeling possible violations of federal CO standards.

### **3.4.4 Project Level PM<sub>10</sub> Analysis**

This section summarizes the results of two separate PM<sub>10</sub> analyses. First, a qualitative analysis was performed for the portions of the project within the Denver PM<sub>10</sub> maintenance area, where the Clean Air Act transportation conformity requirements apply. Second, a similar analysis was performed for elements of the project located outside of the PM<sub>10</sub> maintenance area, for purposes of characterizing the likely impacts of these aspects of the project.

#### **PM<sub>10</sub> CONFORMITY ANALYSIS**

The conformity analysis followed the guidelines presented in the *Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Non-attainment and Maintenance Areas* (2006). The following elements were included in the PM<sub>10</sub> hot-spot analysis:

- ▶ Description of proposed project
- ▶ Description of the type of PM<sub>10</sub> emissions
- ▶ Contributing Factors
- ▶ Description of analysis years
- ▶ Description of existing conditions
- ▶ Description of changes resulting from project
- ▶ Description of analysis method chosen
- ▶ Professional Judgment of Impact
- ▶ Discussion of any mitigation measures
- ▶ Conclusion on how project meets 40 CFR 93.116 and 93.123.

The PM<sub>10</sub> qualitative hotspot analysis was conducted for the worst-case transit station and parking facility within the regional study area (located within the Denver PM<sub>10</sub> attainment/maintenance area), along with the worst-case traffic location. Where regional SIP modeling exists, the analyses used comparisons of nodal emissions estimated values for future years. The commuter rail comparative analysis incorporated dispersion modeling and analysis undertaken for a nearby transit project. The Regional Transportation District (RTD) sourced emissions factors were used by that project.

### **3.4.5 Project Level MSAT Analysis**

A basic quantitative analysis of mobile source air toxic (MSAT) emissions from the regional study area of the proposed project was completed using the latest version of the EPA's mobile emission factor model (MOBILE6.2) as discussed in **Section**

**3.4.1 Regional Analysis.** The local study area used for this traffic analysis includes all major roadways potentially affected by the proposed new transportation facility. Specific emissions levels for each transit station along these rail and bus routes were not evaluated in this study.

Project level MSAT analyses was conducted for bus maintenance facilities using emission factors generated specifically for bus emissions through diesel research conducted by the California Air Resources Board (Ayala, 2003). Overall VMT relationships among packages were utilized to estimate future trends in MSAT emissions.

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the EPA regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No.37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (<http://www.epa.gov/ncea/iris/index.html>). In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (<http://www.epa.gov/ttn/atw/nata1999/>). These components are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

The 2007 EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if vehicle activity (vehicle-miles traveled, VMT) increases by 145 percent as assumed, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050, as shown in **Figure 1**.

#### ***Unavailable Information for Project Specific MSAT Impact Analysis***

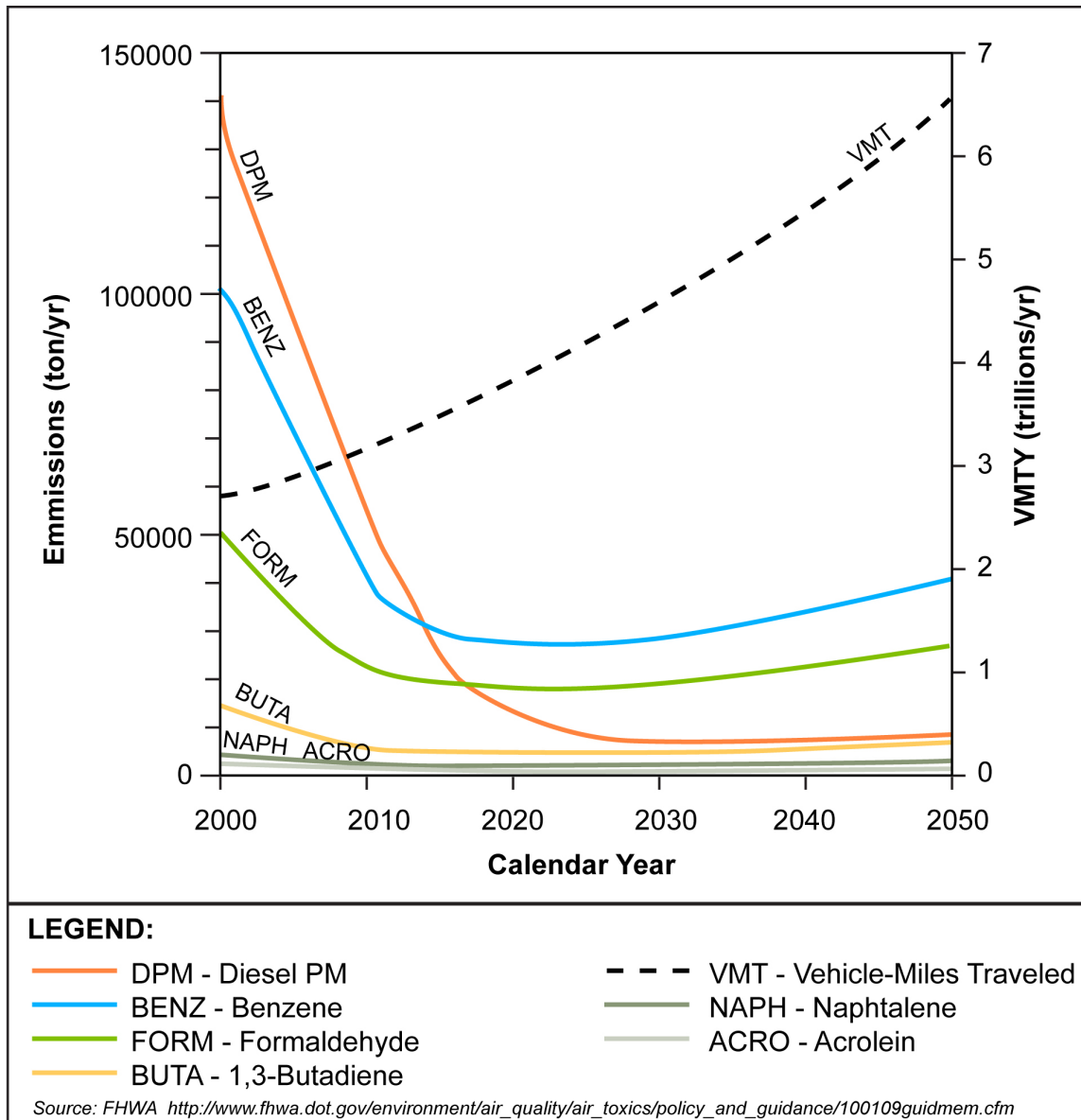
In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process

of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, <http://www.epa.gov/ncea/iris/index.html>). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA's Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, <http://pubs.healtheffects.org/view.php?id=282>) or in the future as vehicle emissions substantially decrease (HEI, <http://pubs.healtheffects.org/view.php?id=306>).

**Figure 1. National MSAT Emission Trends 1999 to 2050 For Vehicles Operating On Roadways Using EPA's Mobile6.2 Model**



Note:

(1) Annual emissions of polycyclic organic matter are projected to be 561 tons/yr for 1999, decreasing to 373 tons/yr for 2050. (2) Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors

Source: U.S. Environmental Protection Agency. MOBILE6.2 Model run 20 August 2009.

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts - each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable. The results produced by the EPA's MOBILE6.2 model, the California EPA's Emfac2007 model, and the EPA's DraftMOVES2009 model in forecasting MSAT emissions are highly inconsistent. Indications from the development of the MOVES model are that MOBILE6.2 significantly underestimates diesel particulate matter (PM) emissions and significantly overestimates benzene emissions.

Regarding air dispersion modeling, an extensive evaluation of EPA's guideline CAL3QHC model was conducted in an NCHRP study ([http://www.epa.gov/scram001/dispersion\\_alt.htm#hyroad](http://www.epa.gov/scram001/dispersion_alt.htm#hyroad)), which documents poor model performance at ten sites across the country - three where intensive monitoring was conducted plus an additional seven with less intensive monitoring. The study indicates a bias of the CAL3QHC model to overestimate concentrations near highly congested intersections and underestimate concentrations near uncongested intersections. The consequence of this is a tendency to overstate the air quality benefits of mitigating congestion at intersections. Such poor model performance is less difficult to manage for demonstrating compliance with National Ambient Air Quality Standards for relatively short time frames than it is for forecasting individual exposure over an entire lifetime, especially given that some information needed for estimating 70-year lifetime exposure is unavailable. It is particularly difficult to reliably forecast MSAT exposure near roadways, and to determine the portion of time that people are actually exposed at a specific location.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (<http://pubs.healtheffects.org/view.php?id=282>). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (<http://www.epa.gov/risk/basicinformation.htm#g>) and the HEI (<http://pubs.healtheffects.org/getfile.php?u=395>) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a



two-step process. The first step requires EPA to determine a "safe" or "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

### **3.4.6 Class I Federal Areas and Nitrogen Deposition**

Combustion of fossil fuels, such as petroleum and coal, generates emissions that form  $\text{NO}_x$  in the atmosphere and is the major contributor to nitrogen deposition. Agricultural releases of nitrogen are primarily in the form of  $\text{NH}_3$  from fertilizer manufacturing, livestock production activities, and cultivation of various crops. Ammonia is also emitted from vehicle catalytic converters. Both  $\text{NO}_x$  and ammonia are evaluated here because they contribute to nitrogen deposition in the project area.

Nitrogen deposition is a growing concern not only in Rocky Mountain National Park but also in sensitive mountain environments all along the Front Range.  $\text{NO}_x$  and ammonia ( $\text{NH}_3$ ) can be transported long distances and eventually are deposited on land and water through precipitation in wet deposition or as gases and particles in dry deposition. This process is known as nitrogen deposition. The transport of these pollutants typically occurs from the west to the east. However, large snowfall events east of the Continental Divide, associated with easterly upslope flow, can bring pollutants from the Front Range urban corridor and eastern plains. Further, localized

upslope flows from the morning heating of the east-facing slopes can also transport pollutants from the Denver-Boulder-Fort Collins urban area. The morning heating can also trigger convective rain shower leading to precipitation events in the park which contributes to wet deposition. Therefore, emissions from the Front Range are also a large contributor to nitrogen deposition in the RMNP. The Colorado Front Range area experienced a rapid population growth from 1980 to 2000. In addition, the Rocky Mountain National Park (RMNP) has over 3 million visitors per year and the community of Estes Park borders the RMNP which also attracts many visitors. Majority of these travels arrive by gasoline and diesel powered vehicles which contributes to the NO<sub>x</sub> emissions deposited in the Park. As a result of population increases and recreational use, emissions from point and mobile sources were responsible for most of the emission increases.

### **Visibility**

Under the 1977 amendments to the Clean Air Act (CAA), Congress set national goals for visibility as “the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I Federal areas which impairment results from manmade air pollution” (CDPHE-APCD, 2007). The federal visibility regulations (40 CFR Part 51 Subpart P —Visibility Protection 51.300—309), which were divided into two phases, were set forth to determine existing impairment in each of the Class I areas, how to remedy such impairment, and how to establish goals to restore visibility to “natural conditions” by the year 2064. The first phase addresses Reasonably Attributable Visibility Impairment (RAVI) impacts in Class I areas by evaluating source specific visibility impacts, or plume blight, from individual sources or small groups of sources. In 1999, another section (second phase) was added to the CAA amendments to address Regional Haze which focuses on the overall decreases in visual range, clarity, color, and ability to discern texture and details in Class I areas. EPA finalized the Regional Haze Rule (RHR) requiring states to adopt a State Implementation Plan (SIP) to address visibility impairment in Class I areas. Colorado has developed a SIP and has set the initial planning period (2007-2018) as the “foundation plan”.

The RHR requires that Class I areas establish goals to improve visibility for the most impaired (20% worst) days over the period of the implementation plan and ensure no degradation in visibility for the least impaired (20% best) days over the same period to ultimately meet the National Visibility Goal established by Congress by 2064 [40 CFR 51.308(d)]. Tracking of visibility conditions in terms of the haze index (HI) metric is expressed in the deciview (dv) unit.

As shown in **Table 3**, baseline conditions are the worst at the RMNP (13.83 dv) compared to the other Class I areas. In order to achieve natural conditions by 2064, a calculation of a uniform rate of progress (UPG) is used. The amount of visibility improvement needed per year over the 60-year period is multiplied by the number of years in the initial planning period (14 years). This will determine the uniform progress needed by 2018 (initial planning year) to be on the path to achieving natural visibility conditions by 2064. The 2064 visibility goal for the RMNP is 7.24 dv.

In order to establish these goals, states are required to inventory emissions from pollutants that are reasonably anticipated to cause or contribute to visibility impairment in any Class I area [40 CFR 51.308(d)(4)(v)]. **Section 4.0** summarizes regional and project emissions as a result of this project and the indirect effects to the RMNP.

**Table 3 Uniform Rate of Progress for Each Colorado Class I Area**

| <b>Baseline Summary of Best and Worst Days in Haze Index Metric</b>                  |                               |                                       |                            |                                    |                                          |                               |
|--------------------------------------------------------------------------------------|-------------------------------|---------------------------------------|----------------------------|------------------------------------|------------------------------------------|-------------------------------|
| <i>Baseline Period (2000-2004)</i>                                                   |                               |                                       |                            |                                    |                                          |                               |
| <b>Mandatory Class I Federal Area</b>                                                | <b>20% Worst Days</b>         |                                       |                            |                                    |                                          | <b>20% Best Days</b>          |
|                                                                                      | Baseline Condition (Deciview) | 2018 Uniform Progress Goal (Deciview) | 2018 Goal Delta (Deciview) | 2064 Natural Conditions (Deciview) | 2064 Delta (Baseline 2064 NC) (Deciview) | Baseline Condition (Deciview) |
| Great Sand Dunes National Park and Preserve                                          | 12.78                         | 11.35                                 | 1.43                       | 6.66                               | 6.12                                     | 4.50                          |
| Mesa Verde National Park                                                             | 13.03                         | 11.59                                 | 1.44                       | 6.83                               | 6.20                                     | 4.32                          |
| Mount Zirkel and Rawah Wilderness Area                                               | 10.52                         | 9.56                                  | 0.96                       | 6.14                               | 1.08                                     | 1.61                          |
| Rocky Mountain National Park                                                         | 13.83                         | 12.29                                 | 1.54                       | 7.24                               | 6.59                                     | 2.29                          |
| Black Canyon of the Gunnison National Park, Weminuche and La Garita Wilderness Areas | 10.33                         | 9.38                                  | 0.95                       | 6.24                               | 4.09                                     | 3.11                          |
| Eagle Nest, Flat Tops, Maroon Bells—Snowmass and West Elk Wilderness Areas           | 9.61                          | 8.89                                  | 0.72                       | 6.54                               | 3.07                                     | 0.70                          |

Source: Colorado Visibility and Regional Haze State Implementation Plan for the Twelve Mandatory Class I Federal Areas in Colorado, 2007.

## 4.0 ENVIRONMENTAL CONSEQUENCES

### 4.1 CORRIDOR ANALYSIS

Results tabulated in **Table 4** illustrate the trend of decreasing criteria pollutant emissions with increasing VMT in future years. The reason for this is increasing controls on the vehicle sources. Regional VMT measured over the regional study area would increase approximately 80 percent between 2005 and 2035. Regional analyses of total criteria pollutants show reductions in total emissions between 2005 and 2035 although the difference is more pronounced in some cases than others:

**Table 4 Daily Region-Wide Total Mobile Source Emissions Estimates**

| Pollutant                         | Baseline Year    | No-Action Alternative | Package A        | Package B        | Preferred Alternative | Phase 1          |
|-----------------------------------|------------------|-----------------------|------------------|------------------|-----------------------|------------------|
|                                   | 2005             | 2035                  | 2035             | 2035             | 2035                  | 2035             |
| Vehicle VMT (daily)               | 76,951,721       | 135,156,908           | 135,478,050      | 135,272,142      | 135,414,740           | 135,370,346      |
| Rail VMT [commuter rail] (daily)  | NA               | NA                    | 2,567            | NA               | 2,400                 | NA               |
| CO (tons/day)                     | 1,831.548        | 1,608.643             | 1620.79          | 1,608.513        | 1,619.953             | 1,609.990        |
| VOC (tons/day)                    | 105.737          | 46.842                | 47.621           | 47.041           | 47.526                | 47.127           |
| NO <sub>x</sub> (tons/day)        | 164.989          | 38.291                | 39.207           | 38.537           | 39.167                | 38.593           |
| PM <sub>10</sub> (tons/day)       | 3.654            | 3.559                 | 3.629            | 3.574            | 3.625                 | 3.577            |
| Acetaldehyde (tons/day)           | 0.766            | 0.354                 | 0.361            | 0.360            | 0.361                 | 0.361            |
| Acrolein (tons/day)               | 0.062            | 0.030                 | 0.031            | 0.031            | 0.031                 | 0.031            |
| Benzene (tons/day)                | 3.023            | 1.406                 | 1.410            | 1.408            | 1.409                 | 1.410            |
| 1,3-butadiene (tons/day)          | 0.372            | 0.159                 | 0.162            | 0.162            | 0.162                 | 0.162            |
| Diesel particulates (tons/day)    | 1.441            | 0.103                 | 0.109            | 0.108            | 0.109                 | 0.108            |
| Formaldehyde (tons/day)           | 1.317            | 0.645                 | 0.663            | 0.662            | 0.662                 | 0.663            |
| <b>Total Emissions (tons/day)</b> | <b>2,112.909</b> | <b>1,700.033</b>      | <b>1,713.984</b> | <b>1,700.397</b> | <b>1,713.005</b>      | <b>1,702.023</b> |

NA—Not Applicable

Source: CDPHE-APCD

CO decreases 12 percent, VOC decreases 55 percent, NO<sub>x</sub> decreases 76 percent, and PM<sub>10</sub> decreases 1 percent.

Package A, Package B, the Preferred Alternative, and Phase 1 2035 criteria pollutant emissions would average about 1 percent higher than the 2035 No-Action emissions. Package B and Phase 1 would generate slightly fewer criteria pollutant emissions than Package A or the Preferred Alternative due to proposed transit improvements for Package A and the Preferred Alternative.

The differences in annual regional total emissions between the 2035 No-Action and the Build Alternatives (Package A, Package B, the Preferred Alternative and Phase 1) is less than 1 percent or approximately 13.95, 0.364, 12.97, and 5.118 tpd, respectively. The total pollutant emissions increases are attributed primarily to the 1 percent higher year 2035 VMT for Package A, Package B, the Preferred Alternative, and Phase 1.

Total 2035 emissions for Package A and the Preferred Alternative would be 13.59 and 10.89 tons per day (tpd), respectively, more than total emissions for Package B and Phase 1. Approximately 8.40 and 7.86 tpd would be emissions from the commuter rail components for Package A and the Preferred Alternative. Because ozone emissions are a regional pollutant created from photochemical reactions between NO<sub>x</sub> and VOCs in the atmosphere, localized sources of these ozone precursors are not easily related to direct ozone effects within the regional study area. Ozone is also created from emissions from non-mobile sources such as lawn mowers, small engine equipment, and industrial sources. Ozone concentration is highly susceptible to weather conditions, such as local upslope winds or regional upper level wind patterns. Because ozone is a regional-scale pollutant, the conformity rule does not require analysis of ozone at the project level. However, the conforming TIP or RTP do not include regional ozone analyses that include Package A, Package B, or the Preferred Alternative. Only Phase 1 improvements are included in the RTP.

MSAT emissions would be reduced between 51 percent and 57 percent for acetaldehyde, acrolein, benzene, 1,3-butadiene, and formaldehyde between 2005 and the 2035 No-Action Alternative. Diesel particulate matter (DPM) were reduced by over 93 percent during that same timeframe. PM<sub>10</sub> emissions reductions shown in **Table 4** are much less than reductions in DPM emissions because PM<sub>10</sub> is made up of more components than DPM, including gasoline and diesel engine exhaust and evaporative emissions, brake wear, tire wear and road dust.

Forecasted emissions for MSATs would in all cases be increased between No-Action levels in 2035 and those predicted for the Preferred Alternative and Phase 1. On a percentage basis, the increases are less than one percent for benzene and acrolein. Acetaldehyde and 1,3 butadiene would both increased between one percent and two percent. For formaldehyde, percent increases would be highest with diesel particulates: 5.8 percent with the Preferred Alternative and 4.8 percent for Phase 1. Phase 1 emissions would be slightly higher than the

Preferred Alternative for two pollutants: benzene and formaldehyde. The reason for this is that the vehicle mix for the Preferred Alternative would include more heavy trucks, because it would have more travel on freeways.

## **4.2 ATTAINMENT/MAINTENANCE AREA ANALYSIS**

The following tables show emissions levels for the criteria and MSAT pollutants by SIP (attainment/maintenance) area. In general, emissions from each SIP area mimic the regional trend of decreasing pollutant emissions from current 2005 levels to the year 2035. Emissions budgets calculated by the various metropolitan planning organizations and published by CDPHE-APCD in the SIP maintenance plan revisions are projected to planning years in the future. Not all planning organizations have updated their plans to a consistent planning year, therefore; emissions budgets listed in the following SIP area data tables may be for different years.

### **4.2.1 Fort Collins Attainment/Maintenance Area for CO**

Package A, Package B, the Preferred Alternative, and Phase 1 2035 components within the Fort Collins SIP area would generate between 18 and 20 percent fewer total emissions than are estimated for the baseline condition in 2005. The 2035 total CO emissions for Package A, Package B, the Preferred Alternative, and Phase 1 would range between 60.679 to 62.649 tons per day, less than the Fort Collins CO attainment/maintenance plan emissions budget attributed to mobile sources for 2015 (see **Table 5**). The Preferred Alternative 2035 total CO emissions would be about 0.436 to 1.971 tons more than the other Build alternatives in 2035. This increase would be attributed in part to the vehicle VMT since increased VMT is directly linked to increased emissions anticipated to increase above existing freight emissions. Package B would have the lowest CO emissions, resulting from lower emission rates associated with less congestion (lower emissions rates) and with more freeway traffic (VMT) distribution.

### **4.2.2 Greeley Attainment/Maintenance Area For CO**

Package A, Package B, the Preferred Alternative, and Phase 1 2035 components within the Greeley SIP would generate between 13 and 14 percent fewer total emissions than are estimated for the baseline condition in 2005. The 2035 total CO emissions for Package A, Package B, the Preferred Alternative, and Phase 1 would be 31.43, 31.60, 31.39, and 31.60 tons, respectively, less than the estimated Greeley CO attainment/maintenance plan emissions budget attributed to mobile sources for 2015 (see **Table 6**).

A comparison shows that Package B and Phase 1 within the Greeley SIP area would contribute more emissions of CO than Package A and the Preferred Alternative. The higher emissions would be due to corresponding higher VMT.

**Table 5. Daily Fort Collins Attainment/Maintenance Area Emissions Estimates**

| Pollutant                         | Area Mobile Emissions Budget | Baseline Year | No-Action Alternative | Package A     | Package B     | Preferred Alternative | Phase 1       |
|-----------------------------------|------------------------------|---------------|-----------------------|---------------|---------------|-----------------------|---------------|
|                                   | 2015                         | 2005          | 2035                  | 2035          | 2035          | 2035                  | 2035          |
| Vehicle VMT(daily)                | NA                           | 2,856,687     | 4,181,220             | 4,243,464     | 4,232,612     | 4,275,237             | 4,260,610     |
| Rail VMT (daily)                  | NA                           | NA            | NA                    | 415           | NA            | 400                   | NA            |
| CO (tons/day)                     | 94                           | 70.616        | 59.857                | 62.213        | 60.679        | 62.649                | 61.177        |
| VOC (tons/day)                    | NA                           | 5.077         | 2.030                 | 2.138         | 2.052         | 2.145                 | 2.062         |
| NOx (tons/day)                    | NA                           | 5.509         | 1.736                 | 1.854         | 1.761         | 1.8661                | 1.777         |
| PM <sub>10</sub> (tons/day)       | NA                           | 0.126         | 0.108                 | 0.1179        | 0.109         | 0.1186                | 0.110         |
| Acetaldehyde (tons/day)           | NA                           | 0.032         | 0.015                 | 0.015         | 0.015         | 0.015                 | 0.015         |
| Acrolein (tons/day)               | NA                           | 0.003         | 0.001                 | 0.001         | 0.001         | 0.001                 | 0.001         |
| Benzene (tons/day)                | NA                           | 0.134         | 0.067                 | 0.068         | 0.068         | 0.068                 | 0.068         |
| 1,3-butadiene (tons/day)          | NA                           | 0.016         | 0.007                 | 0.007         | 0.007         | 0.007                 | 0.007         |
| Diesel particulates (tons/day)    | NA                           | 0.044         | 0.002                 | 0.002         | 0.002         | 0.002                 | 0.002         |
| Formaldehyde (tons/day)           | NA                           | 0.053         | 0.024                 | 0.025         | 0.025         | 0.025                 | 0.025         |
| <b>Total Emissions (tons/day)</b> | NA                           | <b>81.609</b> | <b>63.847</b>         | <b>66.441</b> | <b>64.719</b> | <b>66.898</b>         | <b>65.245</b> |

NA—Not Applicable  
 Source: CDPHE-APCD

Table 6. Daily Greeley Attainment/Maintenance Area Emissions Estimates

| Pollutant                         | Area Mobile Emissions Budget | Year          | No-Action Alternative | Package A     | Package B     | Preferred Alternative | Phase 1       |
|-----------------------------------|------------------------------|---------------|-----------------------|---------------|---------------|-----------------------|---------------|
|                                   | 2015                         | 2005          | 2035                  | 2035          | 2035          | 2035                  | 2035          |
| Vehicle VMT(daily)                | NA                           | 1,360,778     | 2,229,606             | 2,205,071     | 2,216,494     | 2,202,006             | 2,216,501     |
| Rail VMT (daily)                  | NA                           | NA            | NA                    | 0             | NA            | 0                     | NA            |
| CO (tons/day)                     | 60                           | 33.684        | 31.728                | 31.430        | 31.598        | 31.394                | 31.598        |
| VOC (tons/day)                    | NA                           | 2.385         | 1.072                 | 1.059         | 1.064         | 1.057                 | 1.064         |
| NO <sub>x</sub> (tons/day)        | NA                           | 2.539         | 0.912                 | 0.901         | 0.906         | 0.900                 | 0.906         |
| PM <sub>10</sub> (tons/day)       | NA                           | 0.061         | 0.058                 | 0.057         | 0.057         | 0.057                 | 0.057         |
| Acetaldehyde (tons/day)           | NA                           | 0.015         | 0.008                 | 0.008         | 0.008         | 0.008                 | 0.008         |
| Acrolein (tons/day)               | NA                           | 0.001         | 0.001                 | 0.001         | 0.001         | 0.001                 | 0.001         |
| Benzene (tons/day)                | NA                           | 0.063         | 0.035                 | 0.035         | 0.035         | 0.035                 | 0.035         |
| 1,3-butadiene (tons/day)          | NA                           | 0.007         | 0.004                 | 0.004         | 0.004         | 0.004                 | 0.004         |
| Diesel particulates (tons/day)    | NA                           | 0.022         | 0.001                 | 0.001         | 0.001         | 0.001                 | 0.001         |
| Formaldehyde (tons/day)           | NA                           | 0.025         | 0.013                 | 0.013         | 0.013         | 0.013                 | 0.013         |
| <b>Total Emissions (tons/day)</b> | NA                           | <b>38.802</b> | <b>33.832</b>         | <b>33.508</b> | <b>33.686</b> | <b>33.469</b>         | <b>33.687</b> |

NA—Not Applicable

Source: CDPHE-APCD



### 4.2.3 Longmont Attainment/Maintenance Area For CO

Package A, Package B, the Preferred Alternative, and Phase 1 2035 components within the Longmont SIP would generate between 25 and 28 percent fewer total emissions than are estimated for the baseline condition in 2005. The 2035 total CO emissions for Package A, Package B, the Preferred Alternative, and Phase 1 would be 23.03, 22.43, 23.170, and 22.39 tons, respectively, less than the Longmont CO attainment/maintenance plan emissions budget attributed to mobile sources for 2020 (see **Table 7**).

A comparison shows that Package A and the Preferred Alternative within the Longmont SIP area would contribute more emissions of CO than Package B and Phase 1. The higher emissions would be due to corresponding higher vehicle and rail VMT associated with Package A and the Preferred Alternative.

### 4.2.4 Denver Attainment/Maintenance Areas For Ozone and PM<sub>10</sub>

Package A, Package B, the Preferred Alternative, and Phase 1 2035 components within the Denver ozone and PM<sub>10</sub> SIPs would generate approximately 24 percent fewer total emissions than are estimated for the baseline condition in 2005 (see **Table 8**). The 2035 average VOC and NO<sub>x</sub> emissions differ by approximately 0.04 tons between the Build Alternatives. The emissions would be less than the Denver attainment/maintenance plan emissions budget attributed to mobile sources for 2020.

The 2035 total PM<sub>10</sub> emissions for Package A, Package B, the Preferred Alternative, and Phase 1 would be 2.915, 2.913, 2.912, and 2.912 tons, respectively. The emissions would be less than the Denver PM<sub>10</sub> attainment/maintenance plan emissions budget attributed to mobile sources for 2020.

A comparison shows that Package A and Package B within the Denver ozone and PM<sub>10</sub> SIP area would contribute more overall criteria pollutant emissions than the Preferred Alternative and Phase 1. The higher emissions would be due to corresponding higher VMT associated with Package A and Package B.

### 4.2.5 Denver Attainment/Maintenance Areas For CO

Package A, Package B, the Preferred Alternative, and Phase 1 2035 components within the Denver CO SIP would generate 24 percent fewer total emissions than are estimated for the baseline condition in 2005. The 2035 total CO emissions for Package A, Package B, Preferred Alternative, and Phase 1 would range between 1204.84 to 1206.17, less than the Denver CO attainment/maintenance plan emissions budget attributed to mobile sources for 2021 (see **Table 9**).

A comparison shows that Package A and the Preferred Alternative within the Denver CO SIP area would contribute more CO emissions than Package B and Phase 1. This increase would be attributed in part to the commuter rail component associated with Package A and the Preferred Alternative.

Table 7. Daily Longmont Attainment/Maintenance Area Emissions Estimates

| Pollutant                         | Area Mobile Emissions Budget | Baseline Year | No-Action Alternative | Package A     | Package B     | Preferred Alternative | Phase 1       |
|-----------------------------------|------------------------------|---------------|-----------------------|---------------|---------------|-----------------------|---------------|
|                                   | 2020                         | 2005          | 2035                  | 2035          | 2035          | 2035                  | 2035          |
| Vehicle VMT(daily)                | NA                           | 1,228,313     | 1,986,785             | 1,932,519     | 1,969,994     | 1,927,143             | 1,966,115     |
| Rail VMT (daily)                  | NA                           | NA            | NA                    | 350           | NA            | 420                   | NA            |
| CO (tons/day)                     | 43.00                        | 28.725        | 22.801                | 23.03         | 22.430        | 23.170                | 22.386        |
| VOC (tons/day)                    | NA                           | 1.635         | 0.615                 | 0.6704        | 0.612         | 0.6823                | 0.611         |
| NO <sub>x</sub> (tons/day)        | NA                           | 2.188         | 0.480                 | 0.5423        | 0.483         | 0.555                 | 0.482         |
| PM <sub>10</sub> (tons/day)       | NA                           | 0.051         | 0.051                 | 0.0567        | 0.051         | 0.058                 | 0.051         |
| Acetaldehyde (tons/day)           | NA                           | 0.012         | 0.004                 | 0.004         | 0.004         | 0.004                 | 0.004         |
| Acrolein (tons/day)               | NA                           | 0.001         | 0.000                 | 0.000         | 0.000         | 0.000                 | 0.000         |
| Benzene (tons/day)                | NA                           | 0.048         | 0.019                 | 0.018         | 0.018         | 0.018                 | 0.018         |
| 1,3-butadiene (tons/day)          | NA                           | 0.006         | 0.002                 | 0.002         | 0.002         | 0.002                 | 0.002         |
| Diesel particulates (tons/day)    | NA                           | 0.016         | 0.001                 | 0.001         | 0.001         | 0.001                 | 0.001         |
| Formaldehyde (tons/day)           | NA                           | 0.020         | 0.007                 | 0.008         | 0.008         | 0.008                 | 0.008         |
| <b>Total Emissions (tons/day)</b> | NA                           | <b>32.702</b> | <b>23.981</b>         | <b>24.333</b> | <b>23.611</b> | <b>24.499</b>         | <b>23.564</b> |

NA—Not Applicable  
 Source: CDPHE-APCD

**Table 8. Daily Denver Attainment/Maintenance Area Emissions Estimates**

| Pollutant                         | Area Mobile Emissions Budget 2020 | Baseline Year    | No-Action Alternative | Package A        | Package B        | Preferred Alternative | Phase 1          |
|-----------------------------------|-----------------------------------|------------------|-----------------------|------------------|------------------|-----------------------|------------------|
|                                   |                                   | 2005             | 2035                  | 2035             | 2035             | 2035                  | 2035             |
| Vehicle VMT(daily)                | NA                                | 64,319,797       | 110,171,887           | 110,090,058      | 110,068,097      | 109,985,427           | 110,044,051      |
| Rail VMT (daily)                  | NA                                | NA               | NA                    | 85               | NA               | 100                   | NA               |
| CO (tons/day)                     | 1,600.00                          | 1,513.380        | 1,251.444             | 1,247.961        | 1,247.360        | 1,246.863             | 1,247.061        |
| VOC (tons/day)                    | 109.2                             | 84.846           | 35.224                | 35.404           | 35.336           | 35.525                | 35.346           |
| NOx (tons/day)                    | 122.9                             | 135.929          | 27.919                | 28.061           | 28.035           | 28.040                | 28.028           |
| PM <sub>10</sub> (tons/day)       | 55.00                             | 2.997            | 2.905                 | 2.915            | 2.913            | 2.912                 | 2.912            |
| Acetaldehyde (tons/day)           | NA                                | 0.631            | 0.267                 | 0.272            | 0.272            | 0.272                 | 0.272            |
| Acrolein (tons/day)               | NA                                | 0.051            | 0.023                 | 0.024            | 0.024            | 0.024                 | 0.024            |
| Benzene (tons/day)                | NA                                | 2.474            | 1.024                 | 1.024            | 1.023            | 1.023                 | 1.024            |
| 1,3-butadiene (tons/day)          | NA                                | 0.307            | 0.117                 | 0.120            | 0.119            | 0.119                 | 0.119            |
| Diesel particulates (tons/day)    | NA                                | 1.150            | 0.085                 | 0.090            | 0.090            | 0.090                 | 0.090            |
| Formaldehyde (tons/day)           | NA                                | 1.087            | 0.496                 | 0.511            | 0.510            | 0.510                 | 0.510            |
| <b>Total Emissions (tons/day)</b> | <b>NA</b>                         | <b>1,742.853</b> | <b>1,319.504</b>      | <b>1,316.382</b> | <b>1,315.683</b> | <b>1,315.377</b>      | <b>1,315.385</b> |

NA—Not Applicable

Source: CDPHE-APCD

**Table 9. Daily Denver Attainment/Maintenance Area Emissions Estimates (CO area)**

| Pollutant                         | Area Mobile Emissions Budget 2020 | Baseline Year    | No-Action Alternative | Package A        | Package B        | Preferred Alternative | Phase 1          |
|-----------------------------------|-----------------------------------|------------------|-----------------------|------------------|------------------|-----------------------|------------------|
|                                   |                                   | 2005             | 2015                  | 2035             | 2035             | 2035                  | 2035             |
| Vehicle VMT(daily)                | NA                                | 62,004,903       | 106,396,435           | 106,376,899      | 106,315,567      | 106,279,595           | 106,290,868      |
| Rail VMT (daily)                  | NA                                | NA               | NA                    | 85               | NA               | 100                   | NA               |
| CO (tons/day)                     | 1,600.00                          | 1,459.400        | 1,208.005             | 1,206.171        | 1,205.140        | 1205.15               | 1,204.836        |
| VOC (tons/day)                    | 109.2                             | 81.837           | 34.081                | 34.270           | 34.191           | 34.195                | 34.200           |
| NOx (tons/day)                    | 122.9                             | 131.454          | 27.018                | 27.148           | 27.113           | 27.128                | 27.105           |
| PM <sub>10</sub> (tons/day)       | 55.00                             | 2.892            | 2.808                 | 2.817            | 2.814            | 2.815                 | 2.813            |
| Acetaldehyde (tons/day)           | NA                                | 0.609            | 0.259                 | 0.263            | 0.263            | 0.263                 | 0.263            |
| Acrolein (tons/day)               | NA                                | 0.049            | 0.023                 | 0.023            | 0.023            | 0.023                 | 0.023            |
| Benzene (tons/day)                | NA                                | 2.387            | 0.990                 | 0.991            | 0.990            | 0.989                 | 0.990            |
| 1,3-butadiene (tons/day)          | NA                                | 0.296            | 0.113                 | 0.116            | 0.115            | 0.115                 | 0.115            |
| Diesel particulates (tons/day)    | NA                                | 1.111            | 0.084                 | 0.087            | 0.087            | 0.087                 | 0.087            |
| Formaldehyde (tons/day)           | NA                                | 1.049            | 0.482                 | 0.495            | 0.494            | 0.494                 | 0.494            |
| <b>Total Emissions (tons/day)</b> | <b>NA</b>                         | <b>1,681.082</b> | <b>1,273.862</b>      | <b>1,272.381</b> | <b>1,271.230</b> | <b>1,271.259</b>      | <b>1,270.926</b> |

NA—Not Applicable

Source: CDPHE-APCD

## 4.2.6 Project-Level CO Analysis

The highest modeled 8-hour average concentration was 8.4 ppm associated with the poorly operating intersection of Harmony Road and I-25 in Fort Collins for the No-Action Alternative. This value is less than the federal 8-hour CO NAAQS of 9 ppm. See **Table 10**. Therefore, since the project-level CO analyses resulted in no exceedances of the NAAQS at any of the identified interchanges and intersections representing the highest volume and worst operations within the regional study area, project-level conformity has been met for CO.

**Table 10. Results of Hot Spot Analyses for Carbon Monoxide**

| Location                                                    | Alternative                       | 2035 Traffic Volume (vpd) | NAAQS 1-hour Standard CO <sup>2</sup> | Maximum 1-Hour CO Concentration <sup>2</sup> | NAAQS 8-hour Standard CO <sup>2</sup> | Maximum 8-Hour CO Concentration <sup>2</sup> |
|-------------------------------------------------------------|-----------------------------------|---------------------------|---------------------------------------|----------------------------------------------|---------------------------------------|----------------------------------------------|
| Harmony Road and I-25 <sup>1</sup>                          | No-Action                         | 64,850                    | 35 ppm                                | 15.1                                         | 9 ppm                                 | 8.4                                          |
| Harmony Road and I-25 <sup>1</sup>                          | Package A                         | 67,050                    | 35 ppm                                | 11.8                                         | 9 ppm                                 | 6.6                                          |
| Harmony Road and I-25 <sup>1</sup>                          | Package B                         | 67,550                    | 35 ppm                                | 10.8                                         | 9 ppm                                 | 6.8                                          |
| Harmony Road and I-25 <sup>1</sup>                          | Preferred Alternative             | 64,950                    | 35 ppm                                | 12.8                                         | 9 ppm                                 | 7.2                                          |
| Evans Bus Station, 31 <sup>st</sup> and US 85 <sup>**</sup> | Package A                         | 48,900                    | 35 ppm                                | 7.1                                          | 9 ppm                                 | 4.3                                          |
| Evans Bus Station, 31 <sup>st</sup> and US 85               | Preferred Alternative and Phase 1 | 54,050                    | 35 ppm                                | 8.8                                          | 9 ppm                                 | 5.2                                          |
| Sugar Mill Rail Station Site E <sup>1 **</sup>              | Package A                         | 40,750                    | 35 ppm                                | 13.3                                         | 9 ppm                                 | 7.2                                          |
| Sugar Mill Rail Station Site E <sup>1</sup>                 | Preferred Alternative             | 63,600                    | 35 ppm                                | 12.8                                         | 9 ppm                                 | 6.9                                          |
| SH 7 and I-25 <sup>1</sup>                                  | Package A                         | 67,400                    | 35 ppm                                | 10.3                                         | 9 ppm                                 | 6.2                                          |
| SH 7 and I-25 <sup>1</sup>                                  | Package B                         | 71,300                    | 35 ppm                                | 11.5                                         | 9 ppm                                 | 6.9                                          |
| SH 7 and I-25 <sup>1</sup>                                  | Preferred Alternative             | 71,100                    | 35 ppm                                | 9.0                                          | 9 ppm                                 | 5.5                                          |
| SH 7 and I-25 <sup>1</sup>                                  | Phase 1                           | 67,350                    | 35 ppm                                | 8.8                                          | 9 ppm                                 | 5.4                                          |

**Table 10. Results of Hot Spot Analyses for Carbon Monoxide**

| Location                  | Alternative                       | 2035 Traffic Volume (vpd) | NAAQS 1-hour Standard CO <sup>2</sup> | Maximum 1-Hour CO Concentration <sup>2</sup> | NAAQS 8-hour Standard CO <sup>2</sup> | Maximum 8-Hour CO Concentration <sup>2</sup> |
|---------------------------|-----------------------------------|---------------------------|---------------------------------------|----------------------------------------------|---------------------------------------|----------------------------------------------|
| Thornton Parkway and I-25 | Package A                         | 41,850                    | 35 ppm                                | 13.8                                         | 9 ppm                                 | 7.7                                          |
| Thornton Parkway and I-25 | Package B                         | 42,800                    | 35 ppm                                | 14.1                                         | 9 ppm                                 | 7.9                                          |
| Thornton Parkway and I-25 | Preferred Alternative and Phase 1 | 44,650                    | 35 ppm                                | 12.8                                         | 9 ppm                                 | 7.1                                          |

<sup>1</sup> Includes traffic operations associated with egress/ingress at transit stations.  
 \*\*re-modeled with revised emission and idling factors.  
 Parts per million concentration

## 4.2.7 Project-Level PM<sub>10</sub> Analysis

### PM<sub>10</sub> CONFORMITY ANALYSIS

#### 4.2.7.1 DESCRIPTION OF PROPOSED PROJECT

A description of the North I-25 project is provided in **Chapter 1 Purpose and Need** and **Chapter 2 Alternatives** of the FEIS.

The conformity regulations require a PM hotspot analysis for “projects of air quality concern,” which are defined in 40 CFR 93.123(b)(1). This project is considered a project of air quality concern under 93.123(b)(1)(iii), “new bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location.”

#### 4.2.7.2 DESCRIPTION OF THE TYPE OF PM<sub>10</sub> EMISSIONS

The hot spot analysis was based on directly emitted emissions from vehicles, including tailpipe, brake wear, and tire wear. Re-entrained road dust is also addressed in this analysis as required by USEPA and FHWA guidance.

Construction related PM<sub>10</sub> emissions were not included in this hot spot analysis because these emissions would be considered temporary since construction on any one phase would last less than 5 years (40 CFR 93.123[c][5]). Secondary PM<sub>10</sub> precursor emissions would be associated with regional impacts and, therefore, are not required to be included in the hot spot analysis.

Interagency consultation was conducted in September 2004, July 2006, and March 2007 with CDPHE-APCD, EPA, FHWA, FTA, and CDOT/EPB. It was determined that a PM<sub>2.5</sub> hot spot analysis would not be required since the Denver Metro area and the North Front Range are designated as attainment areas.

Precursor emissions of PM<sub>2.5</sub> include NO<sub>x</sub> and VOC which were estimated for this project elsewhere in this document.

#### 4.2.7.3 CONTRIBUTING FACTORS

PM<sub>10</sub> is one of the air quality criteria pollutants outlined in the CAA that is generated, in part, by motor vehicles. PM<sub>10</sub> is a pollutant of concern in the Denver attainment/maintenance area. Although this analysis addresses emissions generated by mobile sources, area and point source PM<sub>10</sub> emissions in the Denver area include the Denver International Airport, Buckley Air Force Base, a large oil refinery complex, four power generation plants, and other industrial sources. Existing conditions of air quality in the project area are presented in section 3.5.2.

Emissions from mobile sources within the entire regional study area and the attainment/maintenance areas were estimated for existing and future conditions. The existing condition year (2005) is the year that the travel demand models were calibrated (see *Travel Demand Traffic Technical Report (Jacobs, 2011)* for more detail). Future emissions were based on anticipated traffic levels, traffic distributions, and speeds. Emissions levels included winter-summer seasonal influence, expected vehicle types, and traffic composition.

Travel demand forecasting completed for the FEIS generated a calculation of vehicle-miles traveled for the regional study area (see **Chapter 4 Transportation** of this FEIS).

Some PM<sub>10</sub> particles are formed by eroded natural surface rock and soil material and enter the air through a variety of actions including "entrainment" into the atmosphere by wind-blown dust. This is particularly important to the Denver Metro Area because it is situated within a low-lying basin where atmospheric temperature inversions trap entrained dust and other pollutants underneath a ceiling of overriding cold air. This frequent condition creates stagnant air within the Denver Metro Area and acts to concentrate pollutants. Counteracting this condition, Denver also experiences very strong westerly winds that effectively disperse pollutants. These same winds accelerate entrainment of exposed dust and sand.

Particles from winter road sanding, brake and tire wear, pavement wear, and other vehicle degenerative processes contribute to PM<sub>10</sub>. Fugitive dust is one of the major contributors of PM<sub>10</sub> in the regional study area. Fugitive dust is mainly dust from roads, fields and construction sites. Mobile sources of fugitive dust includes road dust generated from vehicle entrainment of excess roadside sand, as well as non-roadway vehicle dust contributed from motorized vehicles that typically operate off-road, such as farming equipment, recreational vehicles, construction equipment, and airport vehicles. The primary vehicular emissions source of PM<sub>10</sub> comes from diesel engines which are critical to both the transit and transportation freight industries.

The CDPHE–APCD enforces several regulations through the auspices of the Air Quality Control Commission (AQCC) to reduce particulate emissions from mobile sources as control strategies and contingency measures for non-attainment areas, including gas and diesel motor vehicle inspections and maintenance programs (Regulations 11 and 12) and street-sanding and sweeping standards to clean up winter sanding operations and excess roadside sand accumulations (Regulation 16).

#### **4.2.7.4 DESCRIPTION OF ANALYSIS YEARS**

The analysis year examined needs to be the year that the peak emissions from the project are expected. The current adopted transportation plan (20 years) in the Denver metro area and the North Front Range area are the 2035 MVRTP (December 2007) and *The North Front Range 2035 Regional Transportation Plan* (2035 NFR RTP) (December 2007), respectively.

The Colorado PM<sub>10</sub> maintenance plan presents emission inventories through 2030 which shows a trend of increasing mobile sources emissions. The maintenance plan does not cover years beyond 2030. However, based on the trend of emissions, it is assumed that emissions will continue to increase through 2035. Therefore, 2035 was selected as the year with peak PM<sub>10</sub> emissions and the highest PM<sub>10</sub> background concentrations for the PM<sub>10</sub> hot spot analysis.

#### **4.2.7.5 DESCRIPTION OF EXISTING CONDITIONS**

The daily VMT for the existing conditions (2005) within the regional study area is approximately 30 million miles.

A survey of PM<sub>10</sub> levels recorded from monitoring stations within the regional study area for the years 2005 to 2008 shows that there have not been any exceedances of the annual or 24-hour PM<sub>10</sub> NAAQS from monitoring stations within the Denver metro and northern Front Range areas. The annual average PM<sub>10</sub> standard was revoked by the EPA in December 2006. Therefore, only the 24-hour maximum concentrations recorded at area monitoring stations in 2009 have been listed in **Table 11**.



**Table 11. 2009 Maximum 24-Hour Particulate Matter Concentrations**

| Monitoring Station                                 | PM <sub>10</sub> Concentrations |     |
|----------------------------------------------------|---------------------------------|-----|
|                                                    | 24-Hour                         |     |
|                                                    | Std                             | Max |
| Commerce City 7101 Birch Street                    | 150                             | 96  |
| Welby 3174 E 78 <sup>th</sup> Avenue               | 150                             | 66  |
| Longmont 350 Kimbark Street                        | 150                             | 40  |
| Boulder 2440 Pearl St                              | 150                             | 38  |
| Denver CAMP 2105 Broadway                          | 150                             | 53  |
| Denver Visitors Center 225 W Colfax Avenue         | 150                             | 56  |
| Denver Municipal Animal Shelter 678 S Jason Street | 150                             | 61  |
| Fort Collins 251 Edison Drive                      | 150                             | 40  |
| Greeley 1516 Hospital Road                         | 150                             | 38  |

Source: EPA

#### 4.2.7.6 DESCRIPTION OF CHANGES RESULTING FROM PROJECT

**Change of VMT:** Daily corridor-wide VMT for the Build Alternatives would be similar, within 1 to 2 percent and would increase approximately 42 to 43 percent compared to existing 2005 conditions. The worst case daily traffic volumes at intersections along I-25 for the Build Alternatives would range between 246,400 and 253,500 vpd in 2035, at the southern terminus of the project near I-25 and 84th Avenue. These traffic volumes are lower than those currently experienced at the interchange at I-25 and I-70, where violations of the NAAQS have not been monitored or modeled in the SIP.

**Change of LOS:** Hot spots of PM<sub>10</sub> generally occur where there is a high percentage of trucks in heavily congested areas. Even though traffic is expected to increase as a result of the proposed roadway improvements, the projected LOS is anticipated to improve or remain the same within the regional study area compared to No-Action conditions due to expanded capacity and efficiency (see **Chapter 4 Transportation** of the FEIS for more information).

**Change of Vehicle Emissions:** Overall vehicle emissions are shown in **Table 4**, Daily Region-Wide Total Mobile Source Emissions Estimates. Daily vehicle emissions of PM<sub>10</sub> are higher for Package A and the Preferred Alternative compared to Package B and Phase 1. However, emissions from all of the Build Alternatives would be lower than existing 2005 emissions.

**Change of Re-entrained Dust Emissions:** According to Chapter 13.2.1 of *AP-42, Fifth Edition, Compilation of Air Pollutant Emission Factors*, road re-entrained dust emissions are a function of road silt content, average weight of vehicles, and VMT. Uncontrolled and controlled dust emissions were calculated for the No Build, Package A, Package B, Preferred Alternative, and Phase I. Total VMT for each alternative within the study area were used for the calculations. In addition, default

values for other inputs such as silt content, vehicle weight, and control efficiency were obtained from the AP-42 Fifth Edition. As shown in **Table 12**, fugitive dust emissions would be approximately 0.01 percent higher for all Build Alternatives compared to the No Build alternative. Although dust emissions are anticipated to be slightly higher compared to the No-Action Alternative, the increase is not expected to cause an exceedance of the NAAQS.

**Table 12. Fugitive Dust Emissions**

| Alternative           | Uncontrolled Emissions (tons/day) | Uncontrolled Emissions (tons/day) |
|-----------------------|-----------------------------------|-----------------------------------|
| No Build              | 90.5                              | 90.5                              |
| Package A             | 91.1                              | 91.1                              |
| Package B             | 90.9                              | 90.9                              |
| Preferred Alternative | 91.2                              | 91.2                              |
| Phase I               | 91.1                              | 91.1                              |

Note that the total emissions are representative of the study area to show a worst case scenario. However, the controlled emissions would be lower since regulation 16 only controls fugitive dust emissions within the DRCOG PM<sub>10</sub> maintenance area.

#### **4.2.7.7 DESCRIPTION OF ANALYSIS METHOD CHOSEN**

Consultation with CDPHE-APCD, EPA, and FHWA, CDOT/EPB, and FTA was conducted in September 2004, July 2006, and March 2007, and determined that the project-level hot spot analysis would be conducted at a worst-case transit station parking facility within the regional study area and a comparative analysis for the proposed bus and rail maintenance facilities located outside of the Denver PM<sub>10</sub> attainment/maintenance area.

The following two methods were chosen for the PM<sub>10</sub> hot spot analysis as outlined in Section 4.1 of the March 2006 USEPA/FHWA guidance: air quality studies for the proposed project location and comparison to another location with similar characteristics.

The intention of these project-level qualitative analyses is to assess whether the project would be likely to cause or contribute to any new localized PM<sub>10</sub> violations or increase the frequency or severity of any existing violations (40 CFR 93.116).

#### ***Air Quality Studies for the Proposed Project***

Only the southernmost segment of the 61-mile long regional study area, including Package A commuter rail, Package B new BRT-express lanes, Preferred Alternative express and commuter bus, Phase 1 commuter bus, and station facilities associated with each package, is located in the Denver attainment/maintenance area for PM<sub>10</sub>.

For the sections of I-25 within the PM<sub>10</sub> modeling domain, the grid cells with the maximum modeled 24-hour PM<sub>10</sub> concentrations were selected to represent the worst-case PM<sub>10</sub> concentrations within the project corridor.

***Worst-Case Transit Station with Parking***

The predicted highest-volume transit station with the largest associated parking lot occurs at the I-25/SH 7 BRT (or Express Bus) station in the morning peak hours. This site is expected to have a maximum idling congregation of four express buses at any one peak hour in Package B and 8 express buses during any one peak hour with the Preferred Alternative and Phase 1. There would be 4 peak hour commuter buses with Package A and Package B. The site would accommodate 180 parked vehicles under Package A as a commuter parking lot; 469 parked vehicles under the BRT station parking in Package B; and 280 parking spaces with the Preferred Alternative and Phase 1. Average individual bus idling times are approximately 40 seconds per stop. The maximum number of buses coincident to one parking station at any one peak hour occurs in the peak hours when feeder and mainline I-25 bus headways are shortest. Transit headway refers to the frequency of circulating buses in any one direction on a transit route. A 30-minute headway would be equivalent to two buses per hour. The analyses did not include fugitive dust pollution. Only tailpipe emissions were analyzed.

Traffic accessing the parking facility is expected to operate at an acceptable level of service during peak morning hours. Level of service in the afternoon peak hours is expected to operate less adequately (LOS D). Passing and parking traffic volumes are listed in **Table 13**.

**Table 13. Characteristics of SH 7 BRT ( or Express Bus) Station and Parking Facility**

| Peak Hour                                  | 2035 No-Action | 2035 Package A | 2035 Package B | 2035 Preferred Alternative | 2035 Phase 1 |
|--------------------------------------------|----------------|----------------|----------------|----------------------------|--------------|
| Idling BRT/Express Bus volume (# of buses) | NA             | NA             | 4              | 8                          | 8            |
| Parked vehicles                            | 0              | 180            | 469            | 280                        | 280          |
| Internal parking travel (VMT)              | 0              | 74             | 266            | 128                        | 128          |
| Parking access and pass-by vehicles (VMT)  | 5,685          | 5,715          | 5720           | 5720                       | 5720         |

There are no PM<sub>10</sub> monitoring stations located near the SH 7 BRT (or Express Bus) station and parking lot. The **Colorado SIP for PM<sub>10</sub> Revised 2005 Summary of Dispersion Model Results** was used to formulate a comparison between total emissions model grid cell data at the SH 7 BRT (or Express Bus) station and parking site (Grid Cell No.155) and at a known similar RTD commuter park-n-Ride facility at

the Thornton Parkway (Grid Cell No.125) for purposes of assessing whether the new facility would be likely to cause or contribute to any new localized PM<sub>10</sub> violations or increase the frequency or severity of any existing violations (40 CFR 93.116) over the project timeline (see **Table 14**). The Denver area PM<sub>10</sub> maintenance plan dispersion modeling incorporates both area-wide analysis and hot spot analyses to determine regional PM<sub>10</sub> concentrations. Grid cells at the northern periphery of the modeling domain evaluate an area approximately one kilometer by one kilometer in size and include many more emissions than just the featured sites.

**Table 14. Comparison of PM<sub>10</sub> Dispersion Model Data at SH 7 BRT Station and Parking Lot and Thornton Parkway RTD Facility**

| Location Description                                           | Grid Cell Number | NAAQS (µg/m <sup>3</sup> ) | Total Concentration (6 <sup>th</sup> highest value) (µg/m <sup>3</sup> ) |
|----------------------------------------------------------------|------------------|----------------------------|--------------------------------------------------------------------------|
|                                                                |                  |                            | 2030                                                                     |
| I-25 and Thornton Parkway RTD Facility                         | 125              | 150                        | 103.13                                                                   |
| I-25 and SH7 BRT (or Express Bus) Station and Parking Facility | 155              | 150                        | 89.42                                                                    |

\*6<sup>th</sup> highest modeled values are used to determine compliance with the PM<sub>10</sub> NAAQS

VMT comparisons for the two sites show that, in the year 2030, the total VMT would only increase 0.007 percent due to the new SH 7 facility. Based on the modeled values from the PM<sub>10</sub> maintenance plan, presented above, a 0.007% increase in emissions would clearly not be sufficient to cause either of these locations to exceed the 150 µg/m<sup>3</sup> NAAQS. Although emission rates will continue to decline or level off between current conditions and the design year 2035, VMT will continue to rise. Therefore, the maximum expected emissions would be in the year 2035 which are demonstratively below the NAAQS of 150 µg/m<sup>3</sup>.

#### 4.2.7.8 PROFESSIONAL JUDGMENT OF IMPACT

Based on the PM<sub>10</sub> maintenance plan modeling results and the comparison to another location with similar characteristics to the project, the project is not expected to cause an exceedance of the PM<sub>10</sub> NAAQS as a result of implementation of Package A, Package B or the Preferred Alternative.

In addition, regional PM<sub>10</sub> modeling was conducted by CDPHE-APCD. Concentrations of PM<sub>10</sub> within the regional study area for Package A, Package B, the Preferred Alternative, and Phase 1 would be 3.629, 3.574, 3.625, and 3.577 tons/day, respectively. Modeling was also conducted by CDPHE-APCD for the attainment/maintenance areas. The 2035 total PM<sub>10</sub> emissions within the Denver attainment/maintenance area for Package A, Package B, the Preferred Alternative, and Phase 1 would be 2.915, 2.913, 2.912, and 2.912 tons, respectively. The emissions would be less than the Denver PM<sub>10</sub> attainment/maintenance plan emissions budget attributed to mobile sources for 2020. In addition, the analyses presented above show 2035 levels would be below the PM<sub>10</sub> NAAQS. Therefore,

regional and attainment/maintenance area emissions would be well below the PM<sub>10</sub> NAAQS and the emissions budget as a result of this project.

#### 4.2.7.9 DISCUSSION OF MITIGATION MEASURES

The results of the hot spot analysis concluded no exceedances to the PM<sub>10</sub> standard are likely as a result of the Preferred Alternative or Phase 1 improvements. However, best management practices (BMPs) will be implemented to reduce air quality effects.

Details of the regional PM<sub>10</sub> control measures are presented in **Section 5.0, Mitigation Measures**. In addition, the following BMPs will be implemented to reduce PM emissions.

- ▶ Routing existing traffic away from populated areas (e.g., truck restricted zone)
- ▶ Replace a significant number of older buses with cleaner busses (e.g., those meeting 2007 heavy-duty diesel standards, as practical, hybrid-electric vehicles, etc.)
- ▶ Prepare street cleaning and site watering plans to be followed during construction

CDOT has also developed an Air Quality Action Plan which will generate programmatic emission reduction mitigation solutions statewide. Most of these programs are planned. However, two pilots testing effectiveness of particulate emissions reduction programs are in progress: diesel particulate matter reductions through an *Off-road Diesel Vehicle Retrofit Demonstration Project* installing test maintenance vehicles with DOC filters and particulate emissions reductions through *Engines Off! Colorado* a statewide outreach program to provide communities, individuals and local governments with web-based idling restriction strategies, emissions reduction education, and idling ordinance tool-kits.

#### 4.2.7.10 CONCLUSION ON HOW PROJECT MEETS CONFORMITY REGULATIONS FOR HOT-SPOTS (40 CFR 93.116 AND 93.123)

Based on the analyses discussed above, the lack of monitor violations or exceedances, and the anticipated implementation of mitigation BMPs and existing TCMs, the North I-25 corridor project is not anticipated to cause any new or worsen the existing violations of NAAQS. The Denver metro area is currently in attainment of the PM<sub>10</sub> NAAQS; thus, this project, by definition, will not delay attainment of the NAAQS. Therefore, the project meets the conformity requirements in 40 CFR 93.116 and 91.123 for PM<sub>10</sub>.

## PM<sub>10</sub> ANALYSIS FOR ELEMENTS OF THE PROJECT NOT SUBJECT TO CONFORMITY

### *Comparison to Another Location with Similar Characteristics*

The Berthoud Rail Maintenance Yard and Greeley Maintenance facility are located outside of the PM<sub>10</sub> maintenance area. Therefore, conformity does not apply. However, these sites were used for the following analyses to report likely PM<sub>10</sub> effects for purposes of the FEIS document.

### *Rail Hot Spot Analysis*

The North Fort Collins and Berthoud Rail Maintenance Facility were used in the comparative analysis conducted for the Draft EIS. However, the North Fort Collins Rail Maintenance Facility is not included in the Preferred Alternative and therefore will not be assessed in this analysis for the FEIS. The Berthoud Rail Maintenance Facility is assessed in the FEIS and emissions are compared to the FasTracks Fox North Commuter Rail Maintenance Facility.

The Berthoud Rail commuter rail maintenance yard was delineated to a conceptual level of design. Although yard site functions and general operational capacities have been identified, site specific track layout and rail operations and repair schedules have not yet been defined.

Emissions that would occur for the future years of the Preferred Alternative were estimated using the operational data for DMU trains. Each DMU train car would be individually powered by multiple onboard engines (three heavy duty diesel engines per train car). Emissions were calculated using the total miles traveled per DMU train, the number of cars per train, and the number of trains entering and exiting the facility per day. Emission factors used for each DMU engine were obtained from the RTD *Commuter Rail Maintenance Facility (CRMF) EA* that was prepared in July 2009. Emissions factors used in the RTD CRMF EA were derived from USEPA's MOBILE6.2 program for heavy duty diesel trucks.

This analysis was based on directly emitted PM<sub>10</sub> emissions from tailpipe, break wear, and tire wear. Re-entrained road dusts were not included in the analysis, assuming that the operation of DMU and vehicles within the facility would not cause significant fugitive dust emissions.

**Table 15** summarizes the maintenance yard operations for the Berthoud Rail Yard. The emissions generated at this site are well below the PM<sub>10</sub> NAAQS for the maximum predicted 24-hour and annual emissions levels. Therefore, it is unlikely that emissions from this facility would cause or contribute to any new localized PM<sub>10</sub> violations or increase the frequency or severity of any existing violations.

**Table 15. North I-25 Commuter Rail Maintenance Yard**

| Rail Yard                      | Rail Type | VMT     |          |        | # of Diesel Cars |          |        | # of Engines per Car |          |        | Total Emissions |
|--------------------------------|-----------|---------|----------|--------|------------------|----------|--------|----------------------|----------|--------|-----------------|
|                                |           | Pull-in | Pull-out | Idling | Pull-in          | Pull-out | Idling | Pull-in              | Pull-out | Idling |                 |
| Berthoud Package A             | DMU       | 0.6     | 0.6      | n/a    | 22               | 22       | 67     | 3                    | 3        | 3      | 0.080           |
| Berthoud Preferred Alternative | DMU       | 0.6     | 0.6      | n/a    | 22               | 22       | 67     | 3                    | 3        | 3      | 0.080           |

Note: emissions calculated for pull-in, pull-out, and idling activities only.

Comparison of the Berthoud Rail Yard to the Fox North Rail Yard shows similar function, but a much smaller operating engine fleet as tabulated in **Table 16**. The emissions generated at the Fox North facility are well below the PM<sub>10</sub> NAAQS for the maximum predicted 24-hour and annual emissions levels. Therefore, emissions generated at the proposed Berthoud Yard would be less than the NAAQS and would be unlikely to cause or contribute to any new localized PM<sub>10</sub> violations or increase the frequency or severity of any existing violations.

**Table 16. Comparisons of Commuter Rail Maintenance Yard North I-25 to FasTracks Fox North Rail Maintenance Yard**

| Rail Yard                      | Rail Type | Engine Fleet Size | Yard Ground Size (acre) | Functions and Operations | Conclusion                                                               |
|--------------------------------|-----------|-------------------|-------------------------|--------------------------|--------------------------------------------------------------------------|
| Fox North Rail Yard            | DMU       | 84                | 36                      | Similar                  | Emissions are below 24-hour and annual NAAQS levels for PM <sub>10</sub> |
| Berthoud Package A             | DMU       | 6-8               | 58                      | Similar                  | Emissions would be less than Fox North Yard                              |
| Berthoud Preferred Alternative | DMU       | 6-8               | 58                      | Similar                  | Emissions would be less than Fox North Yard                              |

***Greeley Commuter Bus/BRT Maintenance Facility***

The proposed commuter bus operations and maintenance facility at 31st Street and 1st Street in Greeley would accommodate covered storage, repair and inspection of the bus fleet consisting of 38 buses for Package A US 85 commuter service, 43 total buses for Package B Bus Rapid Transit and feeder bus service, 41 buses for the Preferred Alternative, and 37 buses for Phase 1.

The site is estimated to be 4.6 acres of service buildings, administration offices, employee services, tire and parts storage, parking, water quality facilities, on-site fueling centers, areas for vehicle cleaning, paint and body shops, and repair bays. The entire 2 acre open yard area would be paved and have multiple access points.

The area surrounding the proposed 31<sup>st</sup> and 1<sup>st</sup> Street bus maintenance yard is commercial and undeveloped land.

The Preferred Alternative includes bus service from Greeley on both I-25 and US 85. The Preferred Alternative has one route that serves the South Transit Center in Fort Collins that requires 4 fleet buses (the remainder of the routes serves only the I-25 corridor). Given these service patterns, it was recognized that the Greeley location for the bus maintenance facility would generate less out of direction travel for buses to and from the service facility. Therefore, due to less out-of-direction travel with the Greeley location compared to the Fort Collins site, the Preferred Alternative includes the Greeley site for a bus maintenance facility.

### ***Commuter Bus and BRT Hot Spot Analysis***

The PM<sub>10</sub> monitoring station located near the proposed Greeley maintenance facility recorded maximum 24-hour PM<sub>10</sub> concentration of 96 µg/m<sup>3</sup> in the past 10 years. Because the Greeley monitoring station is outside the PM<sub>10</sub> Maintenance Plan modeling domain, projection of a 2035 PM<sub>10</sub> concentration was not interpolated from Denver area data.

The Greeley commuter bus and BRT maintenance yard was delineated to a conceptual level of design. Although yard site functions and general operational capacities have been identified, site specific circulation, storage and repair schedules have not yet been defined. A relative comparison of facility bus fleet and site size at each facility was used to indicate whether the proposed maintenance facilities would be likely to generate more or less emissions than a similarly functioning RTD Bus Maintenance facility located at Commerce City within the Denver PM<sub>10</sub> attainment/maintenance area (see **Table 17**)

The **Colorado State Implementation Plan for PM<sub>10</sub> Revised 2005 Summary of Dispersion Model Results** was used to formulate a comparison using total emissions model grid cell data for area of the Commerce City RTD Maintenance Facility (Grid Cell No.96). The modeled grid data is used to establish emissions concentrations associated with a larger, modeled RTD bus maintenance facility within the PM<sub>10</sub> attainment/ maintenance area. The Commerce City site is located in a highly industrialized area. The regional PM<sub>10</sub> modeling grid point includes emissions generated from other sources than vehicular mobile sources, such as industrial and urban area generators, and therefore provides a more conservative reference to compare to the Greeley site.



**Table 17. Comparisons of Physical Attributes of the RTD Commuter Bus Maintenance Facility in Commerce City to Greeley Bus and BRT Maintenance Facility**

| Maintenance Facility                                                              | Bus Type                                      | Bus Fleet Size | Yard Ground Size | Functions and Operations | Comparative Emissions Estimate                                             |
|-----------------------------------------------------------------------------------|-----------------------------------------------|----------------|------------------|--------------------------|----------------------------------------------------------------------------|
| RTD Commerce City (Commuter and Regional Bus Service)                             | Standard Diesel Commuter Bus and Diesel Coach | 118            | 14 acres         | Similar                  | Emissions are some of the highest within the conformity modeling area.     |
| Greeley Maintenance Facility Package A (commuter bus) or Package B (BRT)          | Standard Diesel Commuter or Diesel Coach      | 38-43          | 4.6 acres        | Similar                  | Emissions are estimated to be 68% less than the Commerce City RTD Facility |
| Greeley Maintenance Facility Preferred Alternative (commuter bus and express bus) | Standard Diesel Commuter or Diesel Coach      | 37             | 4.6 acres        | Similar                  | Emissions are estimated to be 69% less than the Commerce City RTD Facility |
| Greeley Maintenance Facility Phase 1 (commuter bus)                               | Standard Diesel Commuter or Diesel Coach      | 41             | 4.6 acres        | Similar                  | Emissions are estimated to be 65% less than the Commerce City RTD Facility |

Total PM<sub>10</sub> emissions for the Commerce City site were projected in the SIP for the year 2030 **Table 19**). This site is located within the PM<sub>10</sub> maintenance area, in an area with high background concentrations of PM<sub>10</sub>. The bus parking area being examined for the North I-25 EIS project is not within the PM<sub>10</sub> maintenance area and it is within an area with low background concentrations of PM<sub>10</sub>. In addition, the fleet size at the Commerce City site is significantly larger than what is proposed for the Build Alternatives. Therefore, concentrations predicted in the SIP for the year 2030 for the Commerce City site are sufficient to show that there will be no exceedance of NAAQS in Greeley by the year 2035 as a result of the Build Alternatives.

**Table 18. Comparison of Commerce City RTD and Greeley Maintenance Facility**

| Location Description                                                            | Grid Cell Number | NAAQS PM <sub>10</sub> (µg/m <sup>3</sup> ) | Total PM <sub>10</sub> Concentration (6 <sup>th</sup> highest value) (µg/m <sup>3</sup> ) |
|---------------------------------------------------------------------------------|------------------|---------------------------------------------|-------------------------------------------------------------------------------------------|
|                                                                                 |                  |                                             | 2030                                                                                      |
| Commerce City RTD Maintenance Facility                                          | 96               | 150                                         | 149.85                                                                                    |
| Greeley Bus Maintenance Facility (Proportional emissions) Packages A and B      | NA               | 150                                         | 57.29                                                                                     |
| Greeley Bus Maintenance Facility (Proportional emissions) Preferred Alternative | NA               | 150                                         | 55.50                                                                                     |
| Greeley Bus Maintenance Facility (Proportional emissions) Phase 1               | NA               | 150                                         | 62.66                                                                                     |

\*Total PM<sub>10</sub> concentration projected for 2030

#### 4.2.8 Project-Level MSAT Analysis

**Table 19** describes the MSAT emissions associated with the No-Action, Package A, Package B, the Preferred Alternative, and Phase 1. The Build Alternatives would generate between 1.3% and 1.5% higher emissions than the No-Action Package in the year 2035. The MSAT emissions in the year 2005 base case were much higher than any of the Build or No-Action cases in the year 2035. This is reflective of the overall national trend in MSATs as previously described.

**Table 19. MSAT Emissions (tons per year) by Package**

| Pollutant                          | 2005            | 2035           |               |                |                       |                |
|------------------------------------|-----------------|----------------|---------------|----------------|-----------------------|----------------|
|                                    | Existing        | No-Action      | Package A     | Package B      | Preferred Alternative | Phase 1        |
| Vehicle VMT (Daily)                | 76,951,721      | 135,156,908    | 135,478,050   | 135,272,142    | 135,414,740           | 135,370,346    |
| Acetaldehyde                       | 279.59          | 129.21         | 131.765       | 131.4          | 131.765               | 131.765        |
| Acrolein                           | 22.63           | 10.95          | 11.315        | 11.315         | 11.315                | 11.315         |
| Benzene                            | 1103.395        | 513.19         | 514.65        | 513.92         | 514.285               | 514.65         |
| 1,3-Butadiene                      | 135.78          | 58.035         | 59.13         | 59.13          | 59.13                 | 59.13          |
| Diesel Particulates                | 525.965         | 37.595         | 39.785        | 39.42          | 39.785                | 39.42          |
| Formaldehyde                       | 480.705         | 235.425        | 241.995       | 241.63         | 241.63                | 241.995        |
| <b>Total Emissions (Tons/year)</b> | <b>2548.065</b> | <b>984.405</b> | <b>998.64</b> | <b>996.815</b> | <b>997.91</b>         | <b>998.275</b> |

Regardless of the alternative chosen, MSAT emissions would be lower than present levels in the future year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by 72 percent between 1999 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great that MSAT emissions in the regional study area would be lower in the future in all cases.

When evaluating the future options for upgrading a transportation corridor, the major mitigating factor in reducing MSAT emissions is the implementation of the EPA's new motor vehicle emission control standards. Substantial decreases in MSAT emissions would be realized from a current base year (2005) through an estimated future year. Accounting for anticipated increases in VMT and varying degrees of efficiency of vehicle operation, total MSAT emissions were predicted to decline approximately 61 percent from 2005 to 2035.

The MSATs from mobile sources, especially benzene, have dropped dramatically since 1995, and are expected to continue dropping. In addition, Tier 2 automobiles that were introduced in model year 2004 would continue to help reduce MSATs. Diesel exhaust emissions have been falling since the early 1990s with the passage of the CAA amendments. The CAA amendments provided for improvement in diesel fuel through reductions in sulfur and other components.

The Urban Air Toxics Pilot Program in Denver monitored three locations, all of which are within the regional study area: the downtown Denver CAMP, Swansea Station located at 4650 Columbine Street in metro Denver, and Welby Station located near 78th Avenue and Steele Street in the heart of the Platte River industrial district. Although not all MSATs were monitored at these sites, acetaldehyde, benzene, 1,3-butadiene, and formaldehyde were sampled during the period of May 2002 through April 2003 and were detected 90 percent or more of the time at all three monitoring locations.

Calculated regional MSAT emissions associated with Package A, Package B, the Preferred Alternative and Phase 1 would be 14.24, 12.4, 13.5, and 13.87 tons per year, respectively, more than the No-Action Alternative by the design year of 2035. Decreases from the base year would be substantial even with the associated increase in VMT in the regional travel study area because the build alternatives would reduce congestion which in turn would reduce emissions. Some sensitive receptors do exist but their exposure will decrease by the 2035 design year and beyond. These receptors include homes, schools, churches and community centers.

### ***Summary of MSAT Analysis Findings***

The localized increases in MSAT concentrations would likely be most pronounced along the roadway sections with the highest VMT. Potential impacts from MSATs are greatest near highly developed residential areas and major intersections. In general, emissions would be higher (compared to No-Action) as roadways move closer to receivers. However, with implementation of the build alternative (higher speeds and

less congestion), emissions would be lower. On a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, would over time cause substantial reductions that, in almost all cases, would cause region-wide MSAT levels to be substantially lower than today.

### ***Package A***

The air quality emissions from Package A commuter rail and bus service would be incrementally neutral. Diesel emissions generated by rail locomotion (DMU) and diesel-operated transit bus engines are anticipated to be less than current operating levels due to introduction of Tier III and IV low-sulfur fuels and diesel engine emission controls. Transit service would remove an estimated 6,100 vehicles daily from the roadway network in the year 2035. The commuter bus and feeder systems will provide roughly 1,600 daily riders with service between various northern Front Range sites to Denver and DIA. However, the reduction associated with vehicles removed from the roadways by Package A transit options would account for approximately 0.01 percent of the total regional study area VMT.

### ***Package B***

Air quality emissions from Package B BRT and feeder bus service would occur from diesel emissions generated by buses running in the dedicated transit lane. Diesel emission levels would be anticipated to be less than those currently experienced on buses in use in the regional study area, due to introduction of Tier III and IV low-sulfur fuels and diesel engine emission controls. Transit service would remove an estimated 10,200 vehicles daily from the roadway network in the year 2035. However, the reduction associated with vehicles removed from the roadways by Package B transit options would account for approximately 0.02 percent of the total study area VMT.

### ***Preferred Alternative***

The air quality emissions from the Preferred Alternative express bus service and commuter rail and bus service would be incrementally neutral. Diesel emissions generated by rail locomotion (DMU) and diesel-operated bus engines are anticipated to be less than current operating levels due to introduction of Tier III and IV low-sulfur fuels and diesel engine emission controls. Transit service would remove an estimated 11,500 vehicles daily from the roadway network in the year 2035. However, the reduction associated with vehicles removed from the roadways by the Preferred Alternative transit options would account for approximately 0.02 percent of the total regional study area VMT.

### ***Phase 1***

The air quality emissions from Phase 1 commuter bus service would occur from diesel emissions generated by buses running in the dedicated transit lane. Diesel emission levels would be anticipated to be less than those currently experienced on buses in use in the regional study area, due to introduction of Tier III and IV low-sulfur fuels and diesel engine emission controls. Transit service would remove an

estimated 6,300 vehicles daily from the roadway network in the year 2035. However, the reduction associated with vehicles removed from the roadways by Phase 1 transit options would account for 0.01 percent of the total regional study area VMT.

#### 4.2.9 Indirect Effects

Indirect effects are reasonably foreseeable and can be linked together and extended to estimate further consequences. The most apparent link to air quality is incremental population growth, land use, and development changes caused as a result of the North I-25 corridor project. These growth and development changes would affect traffic and traffic patterns which would then affect air quality. In areas of anticipated transit oriented development air quality would be anticipated to improve due to more efficient travel patterns. This improvement would be more noticeable with Package A and the Preferred Alternative than Package B and Phase 1.

Commuter rail and BRT or Express Bus stations would result in local increases of some pollutants due to increasing emissions from transit vehicles themselves and from automobile, truck and bus traffic accessing the stations. These emissions would be greater than with the No-Action Alternative at these particular locations, but in no cases would there be exceedances of the NAAQS.

Table 20 shows the stations with residential or other sensitive land uses that could be affected by these localized increases in emissions as a result of the Preferred Alternative.

**Table 20. Sensitive Land Uses Affected by the Preferred Alternative**

| <b>Transit Station Location</b>                                                                                            | <b>Sensitive Land Uses in the Vicinity</b>                                                                           |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Fort Collins Downtown Transit Center Rail Station: BNSF and Maple Street                                                   | Residential, church and educational land uses within 600 feet.                                                       |
| CSU Commuter Rail Station: Mason Street south of University Avenue and north of West Pitkin                                | Church and college residential and uses within 600 feet of the commuter rail.                                        |
| South Fort Collins Transit Center Commuter Rail Station [I-25 between SH 14 and SH 60]: Mason Street and West Fairway Lane | Commuter rail station would be 500 feet from residential areas.                                                      |
| North Loveland Commuter Rail Station: BNSF and 29th Street                                                                 | Commuter rail station would be 100 feet from residential development and 600 feet from school and church facilities. |
| Downtown Loveland Commuter Rail Station: BNSF and approximately 6 <sup>th</sup> Street                                     | Commuter rail station would be 700 feet from residential, school, community health, and church facilities.           |
| Berthoud Commuter Rail Station: east of BNSF and north of SH 56                                                            | Commuter rail station would be 100 feet from residential land uses.                                                  |
| North Longmont Commuter Rail Station: East of BNSF and north of SH 66                                                      | Commuter rail station would be 100 feet from residential land uses.                                                  |
| Longmont at Sugar Mill Commuter Rail Station: north of alignment and south of Rogers Road                                  | Commuter rail station would be 1,000 feet from residential land uses.                                                |

**Table 20. Sensitive Land Uses Affected by the Preferred Alternative**

| <b>Transit Station Location</b>                                                                                                | <b>Sensitive Land Uses in the Vicinity</b>                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| I-25 and WCR 8 Commuter Rail Station:<br>I-25 and WCR 8                                                                        | No sensitive land uses in close proximity. Nearest sensitive land use is 2,300 feet from site.                                                         |
| Berthoud Commuter Rail Maintenance Facility:<br>CR 46 and US 287                                                               | Scattered residential land use within 100 feet of the maintenance facility. No other sensitive land uses in area.                                      |
| Greeley Commuter Bus Station:<br>US 85 and D Street                                                                            | Commuter bus facilities would be 300 feet from residential area and community facility.                                                                |
| South Greeley Commuter Bus Station:<br>US 85 and US 34 interchange on the southwest corner of 26th Street and 9th Avenue       | Commuter bus facilities would be 100 feet from closest residential land use. Most sensitive land use areas are located more than 1,100 feet from site. |
| Evans Commuter Bus Station: US 85 and 42nd Street                                                                              | Commuter bus facilities would be 100 feet from residential areas and church facilities.                                                                |
| Platteville Commuter Bus Station: US 85 and SH 66                                                                              | Commuter bus facilities would be 300 feet from sensitive land use areas.                                                                               |
| Fort Lupton Commuter Bus Station: US 85 just south of 14th Street                                                              | Commuter bus facilities would be 850 feet from sensitive land use areas.                                                                               |
| Greeley Bus Maintenance Facility: 31st Street and 1st Avenue                                                                   | Commuter bus facilities would be 700 feet from residential areas and church facilities.                                                                |
| South Fort Collins Transit Center Express Bus Station (I-25 between SH 14 and SH 60): west of US 287 and north of Fairway Lane | Commuter Express Bus facilities would be 500 feet from residential areas.                                                                              |
| I-25 and Harmony Road Express Bus Station: I-25 and Harmony Road                                                               | No sensitive land use areas in close proximity. Nearest residential development 2,000 feet from site.                                                  |
| Windsor Express Bus Station: located southeast of I-25 and SH 392                                                              | Commuter Express Bus facilities would be 500 feet from residential areas.                                                                              |
| Crossroads Express Bus Station: Site M is located southwest of I-25 and Crossroads Boulevard                                   | No sensitive land use areas within 1/2 mile proximity.                                                                                                 |
| US 34 and SH 257 Express Bus Station: US 34 and SH 257                                                                         | No residential areas in close proximity.                                                                                                               |
| West Greeley Express Bus Station: US 34 (Business Loop) and 83rd Avenue                                                        | Commuter Express Bus facilities would be 100 feet from residential areas.                                                                              |
| Berthoud Express Bus Station: I-25 and SH 56.                                                                                  | Commuter Express Bus facilities would be 600 feet from residential areas.                                                                              |
| Firestone Express Bus Station: I-25, south of SH 119.                                                                          | Commuter Express Bus facilities would be less than 300 feet from residential areas.                                                                    |
| Frederick/Dacono Express Bus Station: I-25, 1/2 mile north of SH 52                                                            | No sensitive land use areas within 1/2 mile proximity.                                                                                                 |
| I-25 and SH 7 Express Bus Station: Site C is located on the southwest corner of the I-25 and SH 7 interchange                  | Both commuter Express Bus facilities would be less than 100 feet from the closest sensitive land use.                                                  |

Commuter rail and Express Bus stations would result in local increases of some pollutants due to increasing emissions from transit vehicles themselves and from automobile, truck and bus traffic accessing the stations. These emissions would be

greater than with the No-Action Alternative at these particular locations, but in no cases would there be exceedances of the NAAQS.

**Table 21** shows the stations with residential or other sensitive land uses that could be affected by these localized increases in emissions as a result of Phase 1.

**Table 21. Summary of Express Bus Indirect Effects for Phase 1**

| <b>BRT Station Location</b>                                                                                                                                              | <b>Sensitive Land Uses in the Vicinity</b>                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| I-25 and Harmony Road Express Bus Station: I-25 and Harmony Road                                                                                                         | No sensitive land use areas in close proximity. Nearest residential development 2,000 feet from site. |
| West Greeley Express Bus Station: US 34 (Business Loop) and 83rd Avenue                                                                                                  | Commuter Express Bus facilities would be 100 feet from residential areas.                             |
| Greeley Downtown Transfer Center Express Bus Station: Downtown Greeley between 9th Avenue and 8th Avenue on 7th Street                                                   | Commuter Express Bus facilities would be greater than 1,000 feet from residential areas.              |
| Firestone Express Bus Station: I-25, south of SH 119.                                                                                                                    | Commuter Express Bus facilities would be less than 300 feet from residential areas.                   |
| I-25 and SH 7 Express Bus Station: Two sites: Site E is east of I-25 and ½ mile north of SH 7 Site C is located on the southwest corner of the I-25 and SH 7 interchange | Both commuter Express Bus facilities would be less than 100 feet from the closest sensitive land use. |

***Nitrogen Deposition***

Another indirect air quality effect could be the continued conversion of agricultural land use, which is the dominant source of ammonia along the Front Range, to residential and commercial uses would act to lessen overall nitrogen deposition effects to the Rocky Mountain Park and other sensitive environments in the future.

Existing ammonia emissions within the State of Colorado are presented in **Table 22** and **Table 24**). In addition, emissions of nitrate and sulfate are presented since, when combined with ammonia, can form nitrate and sulfate aerosols that contribute to regional haze (see **Table 23** and **Table 24**)

Table 22. Statewide Ammonia Emissions

| Source Category | Statewide Ammonia |                |            |
|-----------------|-------------------|----------------|------------|
|                 | Plan 02c (tpy)    | Base 18b (tpy) | Net Change |
| Point           | 539               | 623            | 16%        |
| Area            | 135,736           | 135,757        | 0%         |
| On-Road Mobile  | 4,317             | 5,894          | 37%        |
| Off-Road Mobile | 43                | 60             | 38%        |
| Oil and Gas     | 0                 | 0              | 0%         |
| Road Dust       | 0                 | 0              | 0%         |
| Fugitive Dust   | 0                 | 0              | 0%         |
| Windblown Dust  | 0                 | 0              | 0%         |
| Anthro Fire     | 137               | 95             | -31%       |
| Natural Fire    | 1,965             | 1,965          | 0%         |
| Biogenic        | 0                 | 0              | 0%         |
| <b>Total</b>    | <b>142,737</b>    | <b>144,393</b> | <b>1%</b>  |

Source: Colorado Visibility and Regional Haze State Implementation Plan for the Twelve Mandatory Class I Federal Areas in Colorado, 2007.

Table 23. Statewide SO<sub>2</sub> Emissions

| Colorado Planning and Baseline Emission Inventories |                           |                |             |
|-----------------------------------------------------|---------------------------|----------------|-------------|
| Source Category                                     | Statewide SO <sub>2</sub> |                |             |
|                                                     | Plan 02c (tpy)            | Base 18b (tpy) | Net Change  |
| Point                                               | 97,016                    | 69,262         | -29%        |
| Area                                                | 6,504                     | 7,676          | 18%         |
| On-Road Mobile                                      | 4,389                     | 677            | -85%        |
| Off-Road Mobile                                     | 3,015                     | 781            | -74%        |
| Oil and Gas                                         | 260                       | 9              | -97%        |
| Road Dust                                           | 4                         | 0              | -100%       |
| Fugitive Dust                                       | 5                         | 6              | 29%         |
| Anthro Fire                                         | 108                       | 91             | -15%        |
| Natural Fire                                        | 3,335                     | 3,335          | 0%          |
| Biogenic                                            | 0                         | 0              | 0%          |
| <b>Total</b>                                        | <b>114,636</b>            | <b>81,837</b>  | <b>-29%</b> |

Source: Colorado Visibility and Regional Haze State Implementation Plan for the Twelve Mandatory Class I Federal Areas in Colorado, 2007.



Table 24. Statewide NO<sub>x</sub> Emissions

| Colorado Planning and Baseline Emission Inventories |                           |                   |             |
|-----------------------------------------------------|---------------------------|-------------------|-------------|
| Source Category                                     | Statewide NO <sub>x</sub> |                   |             |
|                                                     | Plan 02c<br>(tpy)         | Base 18b<br>(tpy) | Net Change  |
| Point                                               | 117,869                   | 112,241           | -5%         |
| Area                                                | 11,645                    | 16,360            | 40%         |
| On-Road Mobile                                      | 141,883                   | 45,249            | -68%        |
| Off-Road Mobile                                     | 62,447                    | 40,804            | -35%        |
| Oil and Gas                                         | 23,351                    | 27,993            | 20%         |
| Road Dust                                           | 1                         | 0                 | -100%       |
| Fugitive Dust                                       | 13                        | 17                | 29%         |
| Anthro Fire                                         | 520                       | 408               | -21%        |
| Natural Fire                                        | 9,377                     | 9,377             | 0%          |
| Biogenic                                            | 37,349                    | 37,349            | 0%          |
| <b>Total</b>                                        | <b>404,455</b>            | <b>289,799</b>    | <b>-28%</b> |

Source: Colorado Visibility and Regional Haze State Implementation Plan for the Twelve Mandatory Class I Federal Areas in Colorado, 2007.

Ammonium deposition has a greater potential than nitrate for producing harmful changes in ecosystems because ammonium by-products cause greater changes in plant growth and insect vulnerability and they produce an extra acidifying effect in soils during the biological conversion from ammonium to nitrate which may explain why ammonium is increasing at a faster rate than nitrate.

Averaged future 2035 Build Alternative (Package A, Package B, the Preferred Alternative, and Phase 1) projections of these nitrogen emissions from transportation would decrease approximately 76 percent, or roughly 46,074 tons per year compared to current baseline 2005 conditions (see **Table 4**, for all 2035 alternatives). However, based on calculations from FHWA, ammonia emissions would increase 78 percent or 870 tons per year. The dominant source of ammonia emissions is generated from area sources, including agricultural livestock and crop production. Agricultural uses are decreasing due to urbanization in the study area. However, ammonia emissions from mobile sources increase due to VMT increasing in the corridor and emissions rates from mobile sources (in terms of ammonia per mile of driving) also increase slightly. Ammonia is a by-product of catalytic converter systems on vehicles to reduce NO<sub>x</sub> emissions. Therefore, as more on-road and non-road vehicles are equipped with catalytic converters, ammonia emissions from the average vehicle will increase somewhat. Package A and the Preferred Alternative are estimated to have higher VMT compared to Package B or Phase I (see **Table 3**). Therefore, since these alternatives would have more on-road and non-road vehicles likely to be equipped with catalytic converters, ammonia emissions are anticipated to be higher for Package A and the Preferred Alternative.

These emissions do not include any benefit from regional transit improvements planned by RTD and the Package A, Package B, the Preferred Alternative, and Phase 1 nor do these emissions assume any market penetration of hybrid vehicles or other advanced technologies between now and 2035. Non-road sources of nitrogen are estimated to decrease an average 61 percent or over 12,000 tons per year for NO<sub>x</sub> and 11 tons per year for ammonia, over this same time period (Houk, 2007).

The overall decrease in total nitrogen emissions would contribute to the RMNP goal of reducing nitrogen deposition rates by the year 2018, although the transportation emissions of ammonia would increase in the future since increases in VMT are linked directly to increased ammonia emissions.

#### **4.2.10 Cumulative Impacts**

The issue of global climate change is an important national and global concern that is being addressed in several ways by the Federal government. The transportation sector is the second largest source of total greenhouse gases (GHGs) in the U.S., and the greatest source of carbon dioxide (CO<sub>2</sub>) emissions—the predominant GHG. In 2004, the transportation sector was responsible for 31 percent of all U.S. CO<sub>2</sub> emissions. The principal anthropogenic (human-made) source of carbon emissions is the combustion of fossil fuels, which account for approximately 80 percent of anthropogenic emissions of carbon worldwide. Almost all (98 percent) of transportation-sector emissions result from the consumption of petroleum products such as gasoline, diesel fuel, and aviation fuel.

According to the EPA, the largest source of CO<sub>2</sub> emissions globally is fossil fuel combustion, such as coal, oil and gas in power plants, automobiles, industrial facilities, and other sources.

Recognizing this concern, FHWA is working nationally with other modal administrations through the DOT Center for Climate Change and Environmental Forecasting to develop strategies to reduce transportation's contribution to greenhouse gases - particularly CO<sub>2</sub> emissions - and to assess the risks to transportation systems and services from climate changes.

At the state level, there are also several programs underway in Colorado to address transportation GHGs. The Governor's Climate Action Plan, adopted in November 2007, includes measures to adopt vehicle CO<sub>2</sub> emissions standards and to reduce vehicle travel through transit, flex time, telecommuting, ridesharing, and broadband communications. CDOT issued a policy Directive on Air Quality in May 2009. This Policy Directive was developed with input from a number of agencies, including the State of Colorado's Department of Public Health and Environment (CDPHE), the U.S. Environmental Protection Agency (EPA), the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the Denver Regional Transportation District (RTD), the Denver Regional Air Quality Council (RAQC). This Policy Directive addresses unregulated mobile source air toxics (MSAT) and

greenhouse gases (GHG) produced from Colorado's state highways, interstates, and construction activities.

As a part of CDOT's commitment to addressing MSATs and GHGs, some of CDOT's program-wide activities include:

1. Developing truck routes/restrictions with the goal of limiting truck traffic in proximity to facilities, including schools, with sensitive receptor populations.
2. Continue researching pavement durability opportunities with the goal of reducing the frequency of resurfacing and/or reconstruction projects.
3. Developing air quality educational materials, specific to transportation issues, for citizens, elected officials, and schools.
4. Offering outreach to communities to integrate land use and transportation decisions to reduce growth in vehicle miles traveled (VMT), such as smart growth techniques, buffer zones, transit-oriented development, walkable communities, access management plans, etc.
5. Committing to research additional concrete additives that would reduce the demand for cement.
6. Expanding Transportation Demand Management (TDM) efforts statewide to better utilize the existing transportation mobility network.
7. Continuing to diversify the CDOT fleet by retrofitting diesel vehicles, specifying the types of vehicles and equipment contractors may use, purchasing low-emission vehicles, such as hybrids, and purchasing cleaner burning fuels through bidding incentives where feasible. Incentivizing is the likely vehicle for this.
8. Exploring congestion and/or right-lane only restrictions for motor carriers.
9. Funding truck parking electrification (note: mostly via exploring external grant opportunities)
10. Researching additional ways to improve freight movement and efficiency statewide.
11. Committing to incorporating ultra-low sulfur diesel (ULSD) for non-road equipment statewide.
12. Developing a low-VOC emitting tree landscaping specification.

Because climate change is a global issue, and the emissions changes due to project alternatives are very small compared to global totals, the GHG emissions associated with the alternatives were not calculated. Because GHGs are directly related to energy use, the changes in GHG emissions would be similar to the changes in energy consumption presented in section 3.21 of the FEIS. The relationship of current and projected Colorado highway emissions to total global CO<sub>2</sub> emissions is presented in **Table 25**. Colorado highway emissions are expected to increase by

4.7% between now and 2035. The benefits of the fuel economy and renewable fuels programs in the 2007 Energy Bill are offset by growth in VMT; the draft 2035 statewide transportation plan predicts that Colorado VMT will double between 2000 and 2035. **Table 25** also illustrates the size of the project corridor relative to total Colorado travel activity.

**Table 25. Colorado Highway Emissions**

| <b>Global CO<sub>2</sub> emissions, 2005, million metric tons (MMT)<sup>1</sup></b> | <b>Colorado highway CO<sub>2</sub> emissions, 2005, MMT<sup>2</sup></b> | <b>Projected Colorado 2035 highway CO<sub>2</sub> emissions, MMT<sup>2</sup></b> | <b>Colorado highway emissions, % of global total (2005)<sup>2</sup></b> | <b>Project corridor VMT, % of statewide VMT (2005)<sup>3</sup></b> |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------|
| 27,700                                                                              | 29.9                                                                    | 31.3                                                                             | 0.108%                                                                  | 2.84%                                                              |

1) EIA, International Energy Outlook 2007

2) Calculated by FHWA Resource Center

3) Average of Build Alternatives; Statewide VMT was 47.9 billion in 2005, based on the Colorado Department of Transportation's Fact Book 2006 –2007, Transportation Facts (CDOT 2007).

%=percent

CO<sub>2</sub>=carbon dioxide

MMT=million metric tons

VMT=vehicle miles traveled

There are several communities in the North I-25 corridor who have adopted policies and/or plans to address GHG emissions. Below is a summary of the policy and plans for the City of Denver, Fort Collins, and Boulder.

The City and County of Denver has developed a Climate Action Plan to address GHG emissions. In order for the entire Denver community to be below 1990 levels by the year 2012 and 2020, an absolute reduction of 10 and 25 percent, respectively, will be needed. This is equivalent to an annual reduction of 1.8 million and 4.4 million metric tons of CO<sub>2</sub>e, respectively. Note when GHG emissions are summed for an inventory, they are commonly referred to as CO<sub>2</sub>e, indicating that the gases have been converted to CO<sub>2</sub>-equivalent. Transportation sector initiatives to reduce GHG emissions in Denver include: statewide pay-as-you-drive auto insurance, western states vehicle feebate system, law to require the availability of low rolling resistance replacement tires, RTD use of biodiesel, increase federal CAFÉ (corporate average fuel economy), adopt California's clean car program, and adopt a statewide renewable fuels standard.

The City of Fort Collins has developed a Climate Action Plan to help reduce GHG emissions. The intent is to reduce GHG emissions by the end of 2012 to a level not to exceed 2,466,000 tons of CO<sub>2</sub>. This will be achieved by the City implementing measures to reduce VMT, which in turn would reduce GHG emissions. It is estimated that 5 to 10 percent of automobile trips can be moved to non-motorized transport which would reduce the total VMT by 1 percent by 2012. There are several transit projects proposed within the Denver Metro area. The Mason corridor transit system will serve as the backbone for enhanced transit system in Fort Collins. The

City anticipates the Bus Rapid Transit element to be completed by 2011. The proposed transit improvements for the North I-25 corridor will also reduce some automobile trips which in turn will reduce GHG emissions

In 2004, WSP Environment & Energy (formerly Econergy International) worked with the City of Boulder to develop an economy-wide GHG inventory. At this time, the 1990 baseline GHG emissions were established. However, the 1990 baseline inventory was reexamined to ensure it was still an accurate representation of the city's 1990 GHG inventory. The inventory is based on predominant greenhouse gases, carbon dioxide and methane, which is represented as metric tons of CO<sub>2</sub>e. The updated 1990 baseline GHG emissions is roughly 80,000 CO<sub>2</sub>e below the baseline established in 2004. The City's GHG goal is to reduce economy-wide emissions to a level that is 7% below the net 1990 baseline GHG emission, by the end of 2012.

There are three types of strategies for achieving emissions reductions in the transportation sector: increase vehicle fuel efficiency, switch to a less carbon-intensive fuel, and reduce VMT. WSP Environment & Energy (formerly Econergy) has performed a preliminary analysis of several emissions mitigation programmatic approaches which are listed below:

- ▶ Provide administrative support to Boulder County to enact a feebate program for vehicles.
- ▶ Develop grant program to promote the sale of E30 (30% ethanol/70% gasoline blend) and biodiesel at participating gas stations.
- ▶ Develop a battery leasing program
- ▶ Develop an ethanol-rating system based on supply-chain carbon emissions

#### **4.3 PROJECT PHASING AND REGIONAL CONFORMITY**

**Regional Conformity:** Because there is not enough money in the fiscally constrained and air quality conforming 2035 DRCOG and NFRMPO RTPs, only the portion of the preferred alternative that is included in the fiscally constrained and air quality conforming 2035 RTPs can be approved by FHWA in the ROD. Multiple conformity analyses were performed. To ensure that air quality conformity would not be an issue if money were to become available to completely build out the Preferred Alternative or other alternative evaluated in the document, conformity analyses were performed. As required by law, the Phase 1 of the Preferred Alternative was analyzed separately and will be included in the fiscally constrained and air quality conforming RTPs prior to FHWA approval in the ROD.

**Project Conformity:** The results of these analyses indicated that the project would meet the transportation conformity requirements since the Build Alternatives and the No-Action scenario, would not cause or contribute to any new localized CO or PM<sub>10</sub> violations, increase the frequency or severity of any existing violations, or delay timely attainment of the CO or PM<sub>10</sub> NAAQS.

## 5.0 MITIGATION MEASURES

Regional and local agency strategies that could be used to reduce criteria pollutant and mobile source toxics emissions, especially diesel particulate matter from existing diesel engines, include but are not limited to: tailpipe retrofits, closed crankcase filtration systems, clean fuels, engine rebuild and replacement requirements, contract requirements, anti-idling ordinances and legislation, truck stop electrification programs, and aggressive fleet turnover policies. Implementation of a vehicle purchase/recycle program would also help to reduce air pollution within the regional study area by reducing highly polluting vehicles off the road. Air quality impacts are not anticipated to result from this project. Therefore, mitigation measures would not be required.

The follow mitigation measures are recommended to mitigate potential air quality emissions from commuter rail:

- ▶ New rail vehicles will be required to meet Tier 3 and Tier 4 standards.
- ▶ Alternative bus fleet vehicle selections will be investigated for more energy and emissions efficient vehicles, such as hybrids, electric buses, etc.

The following mitigation measures are recommended for construction activities associated with any of the Build Alternatives.

- ▶ An air quality mitigation plan will be prepared describing all feasible measures to reduce air quality emissions from the project. CDOT staff must review and endorse construction mitigation plans prior to work on a project site.
- ▶ Acceptable options for reducing emissions could include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, and after-treatment products.
- ▶ The contractor will ensure that all construction equipment is properly tuned and maintained.
- ▶ Idling time will be minimized to 10 minutes—to save fuel and reduce emissions.
- ▶ An operational water truck should be on site at all times. Water will be applied to control dust as needed to prevent dust impacts off site.
- ▶ There will be no open burning of removed vegetation. Vegetation should be chipped or delivered to waste energy facilities.
- ▶ Existing power sources or clean fuel generators will be utilized rather than temporary power generators.
- ▶ A traffic plan will be developed to minimize traffic flow interference from construction equipment movement and activities. The plan may include advance public notice of routing, use of public transportation, and satellite

parking areas with a shuttle service. Operations affecting traffic for off-peak hours will be scheduled whenever reasonable.

- ▶ Obstructions of through-traffic lanes will be minimized. A flag person will be provided to guide traffic properly minimizing congestion and to ensure safety at construction sites.

These improvement measures would be enacted along with the project phases for which the measures are relevant.

The CDPHE-APCD enforces several regulations through the auspices of the Air Quality Control Commission (AQCC) to reduce particulate emissions from mobile sources as control strategies and contingency measures for non-attainment areas, including gas and diesel motor vehicle inspections and maintenance programs (Regulations 11 and 12) and street-sanding and sweeping standards to clean up winter sanding operations and excess roadside sand accumulations (Regulation 16).

### ***Non-Transportation-Related Mitigation***

According to EPA, it is important to reduce both NO<sub>x</sub> and NH<sub>3</sub> emissions. However, a reduction of 1 ton of ammonia is more effective than a 1 ton reduction of NO<sub>x</sub>. While there are more NO<sub>x</sub> emissions along the Front Range and NH<sub>4</sub> and NO<sub>3</sub> contribute approximately 50 percent to the mass of nitrogen deposited at monitoring stations within the RMNP, a 1 ton reduction of ammonia should have a greater benefit. As discussed in **Sections 3.4.5 and 4.3.9**, ammonia emissions are generated mostly from agricultural livestock and crop production. Although there are no agricultural uses associate with this project, implementing best management practices (BMPs) for agricultural production could help to reduce ammonia emissions.

The following improvement measures were identified which could be applicable to other agricultural projects in the area that others could implement to help reduce ammonia emissions within the regional study area:

- ▶ Choose a nitrogen fertilizer appropriate for a given cropping system that will have the lowest nitrogen volatilization on the soil type to which it is applied.
- ▶ Incorporating fertilizer or manure as soon as possible into the soils will greatly reduce ammonia volatilization, minimize the loss of ammonia, and make more applied nitrogen available for plants.
- ▶ Properly store and manage commercial fertilizer to minimize emissions of ammonia from leaks, spills, or other problems.
- ▶ The use of feed additive and supplemental hormones in animal production has proven to greatly improve nutrient utilization, resulting in more efficient milk and meat production. Use of these products may decrease nitrogen excretion per day and/or reduce the total number of days on feed, thereby reducing overall nitrogen excretion and subsequent ammonia volatilization.
- ▶ Ammonia volatilization occurs soon after manure is deposited on barn floors. BMPs should be implemented such as scraping and flushing the floors and

alleyways, drying manure and cooling barn temperatures, installing filters/scrubbers on air exchange systems, etc.

- ▶ Areas such as lawns, open spaces, parks, and golf courses require large amounts of water as well as significant amounts of fertilizers to help them stay green. Therefore, appropriate fertilizers should be applied and BMPs for re-treatment of wastewater run-off should be implemented.

## 6.0 REFERENCES

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## **Appendix A.**

# **CO Hot Spot Analysis**

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```
'NorthI25EvansStation31stUS85PMPackageA', 60 , 175 , 0 , 0 , 20 , 0.3048 , 1 , 1
'Receptor 1', 374 , 403 , 5
'Receptor 2', 374 , 443 , 5
'Receptor 3', 374 , 483 , 5
'Receptor 4', 414 , 499 , 5
'Receptor 5', 454 , 516 , 5
'Receptor 6', 454 , 628 , 5
'Receptor 7', 414 , 612 , 5
'Receptor 8', 374 , 593 , 5
'Receptor 9', 374 , 633 , 5
'Receptor 10', 374 , 673 , 5
'Receptor 11', 262 , 619 , 5
'Receptor 12', 262 , 579 , 5
'Receptor 13', 262 , 539 , 5
'Receptor 14', 222 , 522 , 5
'Receptor 15', 182 , 505 , 5
'Receptor 16', 182 , 390 , 5
'Receptor 17', 222 , 408 , 5
'Receptor 18', 262 , 427 , 5
'Receptor 19', 262 , 387 , 5
'Receptor 20', 262 , 347 , 5
'NorthI25EvansStation31stUS85PMPackageA', 16 , 1 , 1 , 'CO'
1
'85nbapp', 'AG', 342 , -476 , 342 , 524 , 1265 , 45.5 , 0 , 44
2
'85nbappque', 'AG', 342 , 479 , 342 , -476 , 0 , 24 , 2
100 , 38 , 2 , 1000 , 143.34 , 1600 , 1 , 3
1
'85nbdep', 'AG', 342 , 524 , 342 , 1498 , 1205 , 45.5 , 0 , 44
1
'85sbapp', 'AG', 294 , 1498 , 294 , 498 , 1505 , 45.5 , 0 , 44
2
'85sbappque', 'AG', 294 , 544 , 294 , 1498 , 0 , 24 , 2
100 , 38 , 2 , 1200 , 143.34 , 1600 , 1 , 3
1
'85sbdep', 'AG', 294 , 498 , 294 , -476 , 1370 , 45.5 , 0 , 44
2
'85nbturn', 'AG', 324 , 467 , 324 , 110 , 0 , 12 , 1
100 , 80 , 2 , 230 , 143.34 , 1600 , 1 , 3
2
'85sbturn', 'AG', 312 , 554 , 312 , 914 , 0 , 12 , 1
100 , 80 , 2 , 210 , 143.34 , 1600 , 1 , 3
1
'31wbapp', 'AG', 1339 , 959 , 323 , 527 , 375 , 46.9 , 0 , 32
2
'31wbappque', 'AG', 378 , 550 , 1339 , 959 , 0 , 12 , 1
100 , 88 , 2 , 190 , 143.34 , 1600 , 1 , 3
1
'31wbdep', 'AG', 323 , 527 , -530 , 152 , 515 , 46.9 , 0 , 32
1
'31ebapp', 'AG', -522 , 129 , 313 , 497 , 410 , 23.7 , 0 , 32
2
'31ebappque', 'AG', 258 , 472 , -522 , 129 , 0 , 12 , 1
100 , 88 , 2 , 220 , 143.34 , 1600 , 1 , 3
1
'31ebdep', 'AG', 313 , 497 , 1344 , 936 , 465 , 23.7 , 0 , 32
2
'31ebturn', 'AG', 259 , 484 , 34 , 387 , 0 , 12 , 1
100 , 90 , 2 , 110 , 143.34 , 1600 , 1 , 3
2
'31wbturn', 'AG', 381 , 537 , 600 , 630 , 0 , 12 , 1
100 , 90 , 2 , 90 , 143.34 , 1600 , 1 , 3
1 , 0 , 4 , 1000 , 0 , 'Y', 10 , 0 , 36
```

JOB: NorthI25EvansStation31stUS85PMPackageA

RUN: NorthI25EvansStation31stUS85PMPackageA

DATE : 11/22/10  
TIME : 10:26:41

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

| V/C QUEUE<br>(VEH) | LINK DESCRIPTION | * | LINK COORDINATES (FT) |        |        |        | * | LENGTH<br>(FT) | BRG TYPE<br>(DEG) | VPH   | EF<br>(G/MI) | H<br>(FT) | W<br>(FT) |
|--------------------|------------------|---|-----------------------|--------|--------|--------|---|----------------|-------------------|-------|--------------|-----------|-----------|
|                    |                  | * | X1                    | Y1     | X2     | Y2     | * |                |                   |       |              |           |           |
|                    | 1. 85nbapp       | * | 342.0                 | -476.0 | 342.0  | 524.0  | * | 1000.          | 360. AG           | 1265. | 45.5         | .0 44.0   |           |
|                    | 2. 85nbappque    | * | 342.0                 | 479.0  | 342.0  | 375.1  | * | 104.           | 180. AG           | 292.  | 100.0        | .0 24.0   |           |
| .54                | 5.3              |   |                       |        |        |        |   |                |                   |       |              |           |           |
|                    | 3. 85nbdep       | * | 342.0                 | 524.0  | 342.0  | 1498.0 | * | 974.           | 360. AG           | 1205. | 45.5         | .0 44.0   |           |
|                    | 4. 85sbapp       | * | 294.0                 | 1498.0 | 294.0  | 498.0  | * | 1000.          | 180. AG           | 1505. | 45.5         | .0 44.0   |           |
|                    | 5. 85sbappque    | * | 294.0                 | 544.0  | 294.0  | 668.7  | * | 125.           | 360. AG           | 292.  | 100.0        | .0 24.0   |           |
| .65                | 6.3              |   |                       |        |        |        |   |                |                   |       |              |           |           |
|                    | 6. 85sbdep       | * | 294.0                 | 498.0  | 294.0  | -476.0 | * | 974.           | 180. AG           | 1370. | 45.5         | .0 44.0   |           |
|                    | 7. 85nbturn      | * | 324.0                 | 467.0  | 324.0  | 332.5  | * | 134.           | 180. AG           | 308.  | 100.0        | .0 12.0   |           |
| .90                | 6.8              |   |                       |        |        |        |   |                |                   |       |              |           |           |
|                    | 8. 85sbturn      | * | 312.0                 | 554.0  | 312.0  | 662.4  | * | 108.           | 360. AG           | 308.  | 100.0        | .0 12.0   |           |
| .82                | 5.5              |   |                       |        |        |        |   |                |                   |       |              |           |           |
|                    | 9. 31wbapp       | * | 1339.0                | 959.0  | 323.0  | 527.0  | * | 1104.          | 247. AG           | 375.  | 46.9         | .0 32.0   |           |
|                    | 10. 31wbappque   | * | 378.0                 | 550.0  | 1099.1 | 856.9  | * | 784.           | 67. AG            | 338.  | 100.0        | .0 12.0   |           |
| 1.48               | 39.8             |   |                       |        |        |        |   |                |                   |       |              |           |           |
|                    | 11. 31wbdep      | * | 323.0                 | 527.0  | -530.0 | 152.0  | * | 932.           | 246. AG           | 515.  | 46.9         | .0 32.0   |           |
|                    | 12. 31ebapp      | * | -522.0                | 129.0  | 313.0  | 497.0  | * | 912.           | 66. AG            | 410.  | 23.7         | .0 32.0   |           |
|                    | 13. 31ebappque   | * | 258.0                 | 472.0  | -754.8 | 26.6   | * | 1106.          | 246. AG           | 338.  | 100.0        | .0 12.0   |           |
| 1.72               | 56.2             |   |                       |        |        |        |   |                |                   |       |              |           |           |
|                    | 14. 31ebdep      | * | 313.0                 | 497.0  | 1344.0 | 936.0  | * | 1121.          | 67. AG            | 465.  | 23.7         | .0 32.0   |           |
|                    | 15. 31ebturn     | * | 259.0                 | 484.0  | 32.3   | 386.3  | * | 247.           | 247. AG           | 346.  | 100.0        | .0 12.0   |           |
| 1.15               | 12.5             |   |                       |        |        |        |   |                |                   |       |              |           |           |
|                    | 16. 31wbturn     | * | 381.0                 | 537.0  | 451.6  | 567.0  | * | 77.            | 67. AG            | 346.  | 100.0        | .0 12.0   |           |
| .94                | 3.9              |   |                       |        |        |        |   |                |                   |       |              |           |           |

PAGE

2

JOB: NorthI25EvansStation31stUS85PMPackageA

RUN: NorthI25EvansStation31stUS85PMPackageA

DATE : 11/22/10  
TIME : 10:26:41

ADDITIONAL QUEUE LINK PARAMETERS

| LINK DESCRIPTION | * | CYCLE LENGTH (SEC) | RED TIME (SEC) | CLEARANCE LOST TIME (SEC) | APPROACH VOL (VPH) | SATURATION FLOW RATE (VPH) | IDLE EM FAC (gm/hr) | SIGNAL TYPE | ARRIVAL RATE |
|------------------|---|--------------------|----------------|---------------------------|--------------------|----------------------------|---------------------|-------------|--------------|
| 2. 85nbappque    | * | 100                | 38             | 2.0                       | 1000               | 1600                       | 143.34              | 1           | 3            |
| 5. 85sbappque    | * | 100                | 38             | 2.0                       | 1200               | 1600                       | 143.34              | 1           | 3            |
| 7. 85nbturn      | * | 100                | 80             | 2.0                       | 230                | 1600                       | 143.34              | 1           | 3            |
| 8. 85sbturn      | * | 100                | 80             | 2.0                       | 210                | 1600                       | 143.34              | 1           | 3            |
| 10. 31wbappque   | * | 100                | 88             | 2.0                       | 190                | 1600                       | 143.34              | 1           | 3            |
| 13. 31ebappque   | * | 100                | 88             | 2.0                       | 220                | 1600                       | 143.34              | 1           | 3            |
| 15. 31ebturn     | * | 100                | 90             | 2.0                       | 110                | 1600                       | 143.34              | 1           | 3            |
| 16. 31wbturn     | * | 100                | 90             | 2.0                       | 90                 | 1600                       | 143.34              | 1           | 3            |

RECEPTOR LOCATIONS

| RECEPTOR      | * | COORDINATES (FT) |       |     | * |
|---------------|---|------------------|-------|-----|---|
|               | * | X                | Y     | Z   | * |
| 1. Receptor 1 | * | 374.0            | 403.0 | 5.0 | * |
| 2. Receptor 2 | * | 374.0            | 443.0 | 5.0 | * |
| 3. Receptor 3 | * | 374.0            | 483.0 | 5.0 | * |
| 4. Receptor 4 | * | 414.0            | 499.0 | 5.0 | * |
| 5. Receptor 5 | * | 454.0            | 516.0 | 5.0 | * |
| 6. Receptor 6 | * | 454.0            | 628.0 | 5.0 | * |
| 7. Receptor 7 | * | 414.0            | 612.0 | 5.0 | * |

|              |    |   |       |       |     |   |
|--------------|----|---|-------|-------|-----|---|
| 8. Receptor  | 8  | * | 374.0 | 593.0 | 5.0 | * |
| 9. Receptor  | 9  | * | 374.0 | 633.0 | 5.0 | * |
| 10. Receptor | 10 | * | 374.0 | 673.0 | 5.0 | * |
| 11. Receptor | 11 | * | 262.0 | 619.0 | 5.0 | * |
| 12. Receptor | 12 | * | 262.0 | 579.0 | 5.0 | * |
| 13. Receptor | 13 | * | 262.0 | 539.0 | 5.0 | * |
| 14. Receptor | 14 | * | 222.0 | 522.0 | 5.0 | * |
| 15. Receptor | 15 | * | 182.0 | 505.0 | 5.0 | * |
| 16. Receptor | 16 | * | 182.0 | 390.0 | 5.0 | * |
| 17. Receptor | 17 | * | 222.0 | 408.0 | 5.0 | * |
| 18. Receptor | 18 | * | 262.0 | 427.0 | 5.0 | * |
| 19. Receptor | 19 | * | 262.0 | 387.0 | 5.0 | * |
| 20. Receptor | 20 | * | 262.0 | 347.0 | 5.0 | * |

3

JOB: NorthI25EvansStation31stUS85PMPackageA

RUN: NorthI25EvansStation31stUS85PMPackageA

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

| WIND ANGLE (DEGR) | * CONCENTRATION (PPM) | REC1 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 | REC19 | REC20 |
|-------------------|-----------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | *                     | 3.4  | 3.2  | 3.5  | 2.6  | 1.8  | .5   | 1.0  | 2.4  | 2.4  | 2.4   | 2.7   | 2.9   | 3.0   | 1.1   | .7    | 2.3   | 2.9   | 4.1   |       |       |
| 3.9               | 3.6                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 10.               | *                     | 1.9  | 1.9  | 2.2  | 1.8  | 1.2  | .1   | .3   | 1.0  | 1.0  | 1.0   | 4.1   | 4.3   | 4.5   | 2.2   | 1.4   | 3.1   | 3.9   | 5.3   |       |       |
| 4.8               | 4.9                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 20.               | *                     | 1.1  | 1.3  | 1.6  | 1.5  | 1.1  | .0   | .0   | .2   | .2   | .2    | 4.3   | 4.7   | 5.1   | 2.7   | 1.8   | 3.6   | 4.0   | 5.0   |       |       |
| 4.8               | 5.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 30.               | *                     | .8   | 1.1  | 1.6  | 1.5  | 1.2  | .0   | .0   | .1   | .1   | .1    | 4.3   | 4.8   | 5.0   | 2.8   | 2.0   | 3.4   | 3.7   | 4.8   |       |       |
| 4.7               | 4.9                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 40.               | *                     | .7   | 1.0  | 1.7  | 1.3  | 1.2  | .0   | .0   | .0   | .0   | .0    | 4.1   | 4.5   | 4.6   | 2.8   | 1.9   | 3.4   | 3.7   | 4.6   |       |       |
| 4.4               | 4.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 50.               | *                     | .7   | .9   | 1.6  | 1.5  | 1.4  | .2   | .2   | .2   | .0   | .0    | 4.0   | 4.2   | 4.4   | 2.9   | 2.3   | 3.0   | 3.4   | 4.6   |       |       |
| 4.5               | 4.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 60.               | *                     | .5   | .7   | 1.3  | 1.1  | 1.0  | .5   | .5   | .6   | .2   | .0    | 4.1   | 4.2   | 4.6   | 3.0   | 2.5   | 2.9   | 3.2   | 4.3   |       |       |
| 4.3               | 4.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 70.               | *                     | .3   | .3   | .7   | .6   | .6   | 1.1  | 1.1  | 1.2  | .6   | .4    | 4.4   | 4.6   | 4.9   | 3.5   | 2.8   | 2.2   | 2.8   | 3.9   |       |       |
| 3.7               | 3.6                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 80.               | *                     | .0   | .0   | .3   | .3   | .3   | 1.4  | 1.4  | 1.5  | .9   | .6    | 4.6   | 5.1   | 4.9   | 3.6   | 2.8   | 1.9   | 2.6   | 3.6   |       |       |
| 3.4               | 3.2                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 90.               | *                     | .0   | .0   | .0   | .0   | .0   | 1.4  | 1.4  | 1.5  | 1.0  | .8    | 4.8   | 5.1   | 4.6   | 3.2   | 2.9   | 1.8   | 2.4   | 3.5   |       |       |
| 3.4               | 3.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 100.              | *                     | .0   | .0   | .0   | .0   | .0   | 1.4  | 1.3  | 1.6  | .9   | .6    | 4.7   | 5.0   | 4.1   | 3.2   | 2.9   | 1.7   | 2.3   | 3.6   |       |       |
| 3.4               | 3.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 110.              | *                     | .0   | .0   | .0   | .0   | .0   | 1.3  | 1.2  | 1.6  | .9   | .6    | 4.7   | 4.7   | 3.9   | 2.8   | 3.1   | 1.5   | 2.1   | 3.4   |       |       |
| 3.1               | 2.8                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 120.              | *                     | .0   | .0   | .0   | .0   | .0   | 1.2  | 1.1  | 1.6  | .9   | .6    | 4.7   | 4.4   | 3.9   | 3.1   | 3.3   | 1.5   | 2.0   | 3.5   |       |       |
| 3.2               | 3.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 130.              | *                     | .0   | .0   | .0   | .0   | .0   | 1.1  | 1.2  | 1.5  | 1.0  | .6    | 4.8   | 4.4   | 4.2   | 3.4   | 3.5   | 1.5   | 2.0   | 3.5   |       |       |
| 3.2               | 3.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 140.              | *                     | .0   | .0   | .0   | .0   | .0   | 1.1  | 1.3  | 1.5  | 1.0  | .7    | 4.8   | 4.8   | 4.7   | 3.7   | 3.5   | 1.6   | 2.1   | 3.7   |       |       |
| 3.4               | 3.3                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 150.              | *                     | .1   | .1   | .1   | .0   | .0   | 1.1  | 1.4  | 1.5  | 1.0  | .8    | 5.3   | 5.0   | 5.2   | 4.0   | 3.5   | 1.7   | 2.2   | 3.8   |       |       |
| 3.5               | 3.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 160.              | *                     | .2   | .3   | .3   | .0   | .0   | 1.1  | 1.5  | 1.6  | 1.3  | 1.0   | 5.3   | 5.2   | 5.3   | 3.9   | 3.4   | 1.6   | 2.3   | 4.0   |       |       |
| 3.9               | 3.9                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 170.              | *                     | 1.0  | 1.0  | 1.1  | .3   | .1   | 1.3  | 1.9  | 2.4  | 1.9  | 1.9   | 5.2   | 5.0   | 5.2   | 3.7   | 3.0   | 1.2   | 1.9   | 3.7   |       |       |
| 3.7               | 3.7                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 180.              | *                     | 2.4  | 2.6  | 2.8  | 1.1  | .6   | 1.9  | 2.7  | 3.8  | 3.5  | 3.4   | 3.6   | 3.5   | 3.9   | 2.8   | 2.3   | .6    | 1.0   | 2.6   |       |       |
| 2.5               | 2.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 190.              | *                     | 3.6  | 3.9  | 4.2  | 1.9  | 1.3  | 2.9  | 3.7  | 5.0  | 4.8  | 4.5   | 2.0   | 2.2   | 2.5   | 2.1   | 1.8   | .1    | .3    | 1.1   |       |       |
| 1.1               | 1.1                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 200.              | *                     | 4.0  | 4.4  | 4.7  | 2.4  | 1.6  | 3.4  | 3.8  | 4.9  | 4.7  | 5.0   | 1.3   | 1.4   | 2.1   | 1.9   | 1.9   | .0    | .0    | .3    |       |       |
| .3                | .3                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 210.              | *                     | 3.7  | 4.3  | 4.5  | 2.6  | 1.9  | 3.3  | 3.6  | 4.7  | 4.7  | 4.7   | 1.0   | 1.3   | 1.9   | 2.0   | 1.9   | .0    | .0    | .1    |       |       |
| .1                | .1                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 220.              | *                     | 3.8  | 4.3  | 4.4  | 2.8  | 2.0  | 3.6  | 3.6  | 4.7  | 4.7  | 4.9   | 1.0   | 1.5   | 2.2   | 2.2   | 2.1   | .0    | .0    | .0    |       |       |
| .0                | .0                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 230.              | *                     | 3.7  | 4.0  | 4.1  | 2.7  | 2.0  | 3.4  | 3.7  | 4.8  | 4.7  | 4.5   | .8    | 1.3   | 2.1   | 2.1   | 2.0   | .1    | .1    | .1    |       |       |

|      |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| .0   | .0    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 240. | * .1  | 3.7 | 4.2 | 4.3 | 3.0 | 2.5 | 3.0 | 3.5 | 4.8 | 4.5 | 4.0 | .5  | .9  | 1.7 | 1.7 | 1.6 | .5  | .5  | .6  |
| .2   |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 250. | * .4  | 4.1 | 4.5 | 4.9 | 3.6 | 2.9 | 2.6 | 2.9 | 4.1 | 3.9 | 3.4 | .2  | .4  | .9  | .9  | .9  | 1.2 | 1.2 | 1.4 |
| .6   |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 260. | * .6  | 4.6 | 5.1 | 4.9 | 3.5 | 3.1 | 2.0 | 2.5 | 3.6 | 3.5 | 3.2 | .0  | .0  | .3  | .2  | .2  | 1.7 | 1.8 | 1.9 |
| 1.1  |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 270. | * .9  | 4.8 | 5.1 | 4.6 | 3.2 | 2.8 | 1.8 | 2.5 | 3.5 | 3.5 | 3.0 | .0  | .0  | .0  | .0  | .0  | 1.8 | 1.9 | 2.0 |
| 1.3  |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 280. | * .9  | 4.7 | 5.0 | 4.0 | 2.9 | 2.7 | 1.7 | 2.4 | 3.5 | 3.3 | 2.8 | .0  | .0  | .0  | .0  | .0  | 1.8 | 1.9 | 1.9 |
| 1.3  |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 290. | * .9  | 4.7 | 4.6 | 3.6 | 2.8 | 2.9 | 1.6 | 2.2 | 3.5 | 3.1 | 2.7 | .0  | .0  | .0  | .0  | .0  | 1.7 | 1.7 | 1.7 |
| 1.3  |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 300. | * 1.0 | 4.7 | 4.2 | 3.6 | 3.1 | 3.1 | 1.4 | 2.1 | 3.3 | 2.9 | 2.7 | .0  | .0  | .0  | .0  | .0  | 1.6 | 1.6 | 1.6 |
| 1.3  |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 310. | * 1.0 | 4.6 | 4.2 | 3.9 | 3.1 | 3.4 | 1.5 | 2.0 | 3.6 | 3.2 | 3.0 | .0  | .0  | .0  | .0  | .0  | 1.6 | 1.6 | 1.6 |
| 1.1  |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 320. | * .9  | 4.6 | 4.4 | 4.4 | 3.6 | 3.3 | 1.6 | 2.1 | 3.5 | 3.2 | 3.2 | .0  | .0  | .0  | .0  | .0  | 1.5 | 1.5 | 1.6 |
| 1.1  |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 330. | * .9  | 5.0 | 4.7 | 4.9 | 3.7 | 3.2 | 1.7 | 2.2 | 3.7 | 3.5 | 3.5 | .1  | .1  | .1  | .0  | .0  | 1.5 | 1.5 | 1.5 |
| 1.0  |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 340. | * 1.1 | 5.0 | 4.9 | 4.8 | 3.6 | 3.1 | 1.7 | 2.2 | 3.8 | 3.8 | 3.8 | .3  | .3  | .3  | .0  | .0  | 1.5 | 1.5 | 1.6 |
| 1.3  |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 350. | * 2.1 | 4.6 | 4.5 | 4.7 | 3.4 | 2.6 | 1.2 | 1.9 | 3.6 | 3.6 | 3.6 | 1.2 | 1.2 | 1.3 | .4  | .1  | 1.6 | 1.9 | 2.5 |
| 2.2  |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 360. | * 3.6 | 3.4 | 3.2 | 3.5 | 2.6 | 1.8 | .5  | 1.0 | 2.4 | 2.4 | 2.4 | 2.7 | 2.9 | 3.0 | 1.1 | .7  | 2.3 | 2.9 | 4.1 |
| 3.9  |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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|       |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | * 5.0 | 5.0 | 5.1 | 4.9 | 3.7 | 3.4 | 3.6 | 3.8 | 5.0 | 4.8 | 5.0 | 5.3 | 5.2 | 5.3 | 4.0 | 3.5 | 3.6 | 4.0 | 5.3 |
| 4.8   |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | * 330 | 270 | 250 | 330 | 310 | 220 | 200 | 190 | 190 | 200 | 160 | 160 | 160 | 150 | 130 | 20  | 20  | 10  |     |
| 10    |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

THE HIGHEST CONCENTRATION OF 5.30 PPM OCCURRED AT RECEPTOR REC13.

PAGE

4

JOB: NorthI25EvansStation31stUS85PMPackageA

RUN: NorthI25EvansStation31stUS85PMPackageA

DATE : 11/22/10  
TIME : 10:26:41

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |       | * CO/LINK (PPM)   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|--------|-------|-------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |       | * ANGLE (DEGREES) |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|        |       | REC1              | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 |
| REC19  | REC20 | 330               | 270  | 250  | 330  | 310  | 220  | 200  | 190  | 190  | 200   | 160   | 160   | 160   | 150   | 130   | 20    | 20    | 10    |
| LINK # | *     |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 10     | 20    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 1      | * .5  | 1.9               | 1.7  | 1.6  | .0   | .0   | .6   | 1.1  | 1.8  | 1.4  | .6    | 1.1   | 1.2   | 1.2   | .9    | .6    | .0    | .0    | .0    |
| .1     |       |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 2      | * .1  | .6                | .7   | .5   | .0   | .0   | .1   | .2   | .2   | .2   | .1    | .2    | .2    | .2    | .1    | .1    | .0    | .0    | .0    |
| .0     |       |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 3      | * .7  | .3                | .0   | .0   | 1.2  | .8   | .3   | .1   | .8   | 1.2  | 1.8   | .1    | .0    | .0    | .0    | .0    | .7    | .8    | 1.0   |
| .9     |       |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 4      | * .7  | 1.0               | .0   | .0   | 1.0  | .7   | .2   | .0   | .0   | .1   | .6    | 2.1   | 1.7   | .9    | .0    | .0    | 1.1   | 1.4   | 2.1   |
| 1.6    |       |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 5      | * .1  | .2                | .0   | .0   | .1   | .2   | .0   | .0   | .0   | .0   | .1    | .4    | .1    | .0    | .0    | .0    | .1    | .2    | .3    |
| .2     |       |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 6      | * 2.1 | .3                | 1.0  | 1.0  | .0   | .0   | .6   | .9   | 1.2  | 1.1  | .8    | .8    | 1.3   | 1.9   | 1.3   | .9    | .0    | .2    | .9    |
| 1.3    |       |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 7      | * .2  | .2                | .4   | .2   | .0   | .0   | .1   | .2   | .2   | .2   | .1    | .2    | .2    | .3    | .2    | .2    | .0    | .0    | .0    |
| .0     |       |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 8      | * .1  | .1                | .0   | .0   | .1   | .2   | .0   | .0   | .0   | .0   | .2    | .1    | .0    | .0    | .0    | .0    | .1    | .1    | .2    |
| .1     |       |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 9      | * .1  | .1                | .0   | .0   | .3   | .3   | .4   | .4   | .4   | .2   | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     |       |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 10     | * .1  | .0                | .0   | .0   | .3   | .4   | .4   | .4   | .1   | .1   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     |       |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 11     | * .1  | .2                | .4   | .4   | .0   | .0   | .1   | .0   | .0   | .1   | .2    | .2    | .4    | .6    | .6    | .6    | .4    | .4    | .4    |
| .3     |       |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 12     | * .1  | .0                | .2   | .3   | .0   | .0   | .1   | .0   | .0   | .0   | .1    | .1    | .1    | .2    | .2    | .2    | .2    | .2    | .2    |
| .1     |       |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 13     | * .1  | .0                | .4   | .6   | .0   | .0   | .1   | .0   | .0   | .0   | .1    | .0    | .0    | .0    | .3    | .4    | .5    | .4    | .1    |



evanpga2.out

|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| .1   | .0 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 14 * |    | .1 | .0 | .0 | .3 | .3 | .2 | .2 | .2 | .1 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0   | .1 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 15 * |    | .0 | .3 | .3 | .0 | .0 | .1 | .0 | .0 | .0 | .1 | .0 | .0 | .0 | .4 | .5 | .5 | .3 | .1 |
| .1   | .0 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 16 * |    | .0 | .0 | .0 | .4 | .5 | .3 | .3 | .1 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0   | .0 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

```
'NorthI25EvansStation31stUS85PMPA', 60 , 175 , 0 , 0 , 20 , 0.3048 , 1 , 1
'Receptor 1', 386 , 403 , 5
'Receptor 2', 386 , 443 , 5
'Receptor 3', 386 , 483 , 5
'Receptor 4', 426 , 499 , 5
'Receptor 5', 466 , 516 , 5
'Receptor 6', 466 , 628 , 5
'Receptor 7', 426 , 612 , 5
'Receptor 8', 386 , 593 , 5
'Receptor 9', 386 , 633 , 5
'Receptor 10', 386 , 673 , 5
'Receptor 11', 250 , 619 , 5
'Receptor 12', 250 , 579 , 5
'Receptor 13', 250 , 539 , 5
'Receptor 14', 210 , 522 , 5
'Receptor 15', 170 , 505 , 5
'Receptor 16', 170 , 390 , 5
'Receptor 17', 210 , 408 , 5
'Receptor 18', 250 , 427 , 5
'Receptor 19', 250 , 387 , 5
'Receptor 20', 250 , 347 , 5
'NorthI25EvansStation31stUS85PMPA', 16 , 1 , 1 , 'CO'
1
'85nbapp', 'AG', 348 , -476 , 348 , 524 , 1367 , 45.5 , 0 , 56
2
'85nbappque', 'AG', 348 , 479 , 348 , -476 , 0 , 36 , 3
120 , 69 , 2 , 1080 , 143.34 , 1600 , 1 , 3
1
'85nbdep', 'AG', 348 , 524 , 348 , 1498 , 1305 , 45.5 , 0 , 56
1
'85sbapp', 'AG', 288 , 1498 , 288 , 498 , 1635 , 45.5 , 0 , 56
2
'85sbappque', 'AG', 288 , 544 , 288 , 1498 , 0 , 36 , 3
120 , 66 , 2 , 1300 , 143.34 , 1600 , 1 , 3
1
'85sbdep', 'AG', 288 , 498 , 288 , -476 , 1490 , 45.5 , 0 , 56
2
'85nbturn', 'AG', 324 , 467 , 324 , 110 , 0 , 12 , 1
120 , 97 , 2 , 247 , 143.34 , 1600 , 1 , 3
2
'85sbturn', 'AG', 312 , 554 , 312 , 914 , 0 , 12 , 1
120 , 95 , 2 , 230 , 143.34 , 1600 , 1 , 3
1
'31wbapp', 'AG', 1332 , 973 , 318 , 534 , 415 , 46.9 , 0 , 44
2
'31wbappque', 'AG', 378 , 560 , 1332 , 973 , 0 , 24 , 2
120 , 89 , 2 , 210 , 143.34 , 1600 , 1 , 3
1
'31wbdep', 'AG', 318 , 534 , -537 , 168 , 562 , 46.9 , 0 , 44
1
'31ebapp', 'AG', -513 , 122 , 318 , 488 , 450 , 23.7 , 0 , 44
2
'31ebappque', 'AG', 258 , 461 , -513 , 122 , 0 , 24 , 2
120 , 87 , 2 , 240 , 143.34 , 1600 , 1 , 3
1
'31ebdep', 'AG', 318 , 488 , 1347 , 927 , 510 , 23.7 , 0 , 44
2
'31ebturn', 'AG', 259 , 484 , 34 , 387 , 0 , 12 , 1
120 , 80 , 2 , 120 , 143.34 , 1600 , 1 , 3
2
'31wbturn', 'AG', 381 , 537 , 600 , 630 , 0 , 12 , 1
120 , 84 , 2 , 100 , 143.34 , 1600 , 1 , 3
1 , 0 , 4 , 1000 , 0 , 'Y', 10 , 0 , 36
```

JOB: NorthI25EvansStation31stUS85PMPA

RUN: NorthI25EvansStation31stUS85PMPA

DATE : 11/22/10  
TIME : 9:51:19

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

| V/C QUEUE<br>(VEH) | LINK DESCRIPTION | * | LINK COORDINATES (FT) |        |        |        | * | LENGTH<br>(FT) | BRG TYPE<br>(DEG) | VPH   | EF<br>(G/MI) | H<br>(FT) | W<br>(FT) |
|--------------------|------------------|---|-----------------------|--------|--------|--------|---|----------------|-------------------|-------|--------------|-----------|-----------|
|                    |                  | * | X1                    | Y1     | X2     | Y2     | * |                |                   |       |              |           |           |
| -----*             |                  |   |                       |        |        |        |   |                |                   |       |              |           |           |
| .58                | 1. 85nbapp       | * | 348.0                 | -476.0 | 348.0  | 524.0  | * | 1000.          | 360. AG           | 1367. | 45.5         | .0 56.0   |           |
|                    | 2. 85nbappque    | * | 348.0                 | 479.0  | 348.0  | 343.2  | * | 136.           | 180. AG           | 663.  | 100.0        | .0 36.0   |           |
| 6.9                | 3. 85nbdep       | * | 348.0                 | 524.0  | 348.0  | 1498.0 | * | 974.           | 360. AG           | 1305. | 45.5         | .0 56.0   |           |
|                    | 4. 85sbapp       | * | 288.0                 | 1498.0 | 288.0  | 498.0  | * | 1000.          | 180. AG           | 1635. | 45.5         | .0 56.0   |           |
|                    | 5. 85sbappque    | * | 288.0                 | 544.0  | 288.0  | 700.3  | * | 156.           | 360. AG           | 634.  | 100.0        | .0 36.0   |           |
| .65                | 7.9              |   |                       |        |        |        |   |                |                   |       |              |           |           |
|                    | 6. 85sbdep       | * | 288.0                 | 498.0  | 288.0  | -476.0 | * | 974.           | 180. AG           | 1490. | 45.5         | .0 56.0   |           |
|                    | 7. 85nbturn      | * | 324.0                 | 467.0  | 324.0  | 271.7  | * | 195.           | 180. AG           | 311.  | 100.0        | .0 12.0   |           |
| .98                | 9.9              |   |                       |        |        |        |   |                |                   |       |              |           |           |
|                    | 8. 85sbturn      | * | 312.0                 | 554.0  | 312.0  | 690.1  | * | 136.           | 360. AG           | 304.  | 100.0        | .0 12.0   |           |
| .82                | 6.9              |   |                       |        |        |        |   |                |                   |       |              |           |           |
|                    | 9. 31wbapp       | * | 1332.0                | 973.0  | 318.0  | 534.0  | * | 1105.          | 247. AG           | 415.  | 46.9         | .0 44.0   |           |
|                    | 10. 31wbappque   | * | 378.0                 | 560.0  | 424.9  | 580.3  | * | 51.            | 67. AG            | 570.  | 100.0        | .0 24.0   |           |
| .29                | 2.6              |   |                       |        |        |        |   |                |                   |       |              |           |           |
|                    | 11. 31wbdep      | * | 318.0                 | 534.0  | -537.0 | 168.0  | * | 930.           | 247. AG           | 562.  | 46.9         | .0 44.0   |           |
|                    | 12. 31ebapp      | * | -513.0                | 122.0  | 318.0  | 488.0  | * | 908.           | 66. AG            | 450.  | 23.7         | .0 44.0   |           |
|                    | 13. 31ebappque   | * | 258.0                 | 461.0  | 205.7  | 438.0  | * | 57.            | 246. AG           | 557.  | 100.0        | .0 24.0   |           |
| .31                | 2.9              |   |                       |        |        |        |   |                |                   |       |              |           |           |
|                    | 14. 31ebdep      | * | 318.0                 | 488.0  | 1347.0 | 927.0  | * | 1119.          | 67. AG            | 510.  | 23.7         | .0 44.0   |           |
|                    | 15. 31ebturn     | * | 259.0                 | 484.0  | 210.8  | 463.2  | * | 52.            | 247. AG           | 256.  | 100.0        | .0 12.0   |           |
| .25                | 2.7              |   |                       |        |        |        |   |                |                   |       |              |           |           |
|                    | 16. 31wbturn     | * | 381.0                 | 537.0  | 423.3  | 555.0  | * | 46.            | 67. AG            | 269.  | 100.0        | .0 12.0   |           |
| .23                | 2.3              |   |                       |        |        |        |   |                |                   |       |              |           |           |

PAGE

2

JOB: NorthI25EvansStation31stUS85PMPA

RUN: NorthI25EvansStation31stUS85PMPA

DATE : 11/22/10  
TIME : 9:51:19

ADDITIONAL QUEUE LINK PARAMETERS

| LINK DESCRIPTION | * | CYCLE LENGTH (SEC) | RED TIME (SEC) | CLEARANCE LOST TIME (SEC) | APPROACH VOL (VPH) | SATURATION FLOW RATE (VPH) | IDLE EM FAC (gm/hr) | SIGNAL TYPE | ARRIVAL RATE |
|------------------|---|--------------------|----------------|---------------------------|--------------------|----------------------------|---------------------|-------------|--------------|
| 2. 85nbappque    | * | 120                | 69             | 2.0                       | 1080               | 1600                       | 143.34              | 1           | 3            |
| 5. 85sbappque    | * | 120                | 66             | 2.0                       | 1300               | 1600                       | 143.34              | 1           | 3            |
| 7. 85nbturn      | * | 120                | 97             | 2.0                       | 247                | 1600                       | 143.34              | 1           | 3            |
| 8. 85sbturn      | * | 120                | 95             | 2.0                       | 230                | 1600                       | 143.34              | 1           | 3            |
| 10. 31wbappque   | * | 120                | 89             | 2.0                       | 210                | 1600                       | 143.34              | 1           | 3            |
| 13. 31ebappque   | * | 120                | 87             | 2.0                       | 240                | 1600                       | 143.34              | 1           | 3            |
| 15. 31ebturn     | * | 120                | 80             | 2.0                       | 120                | 1600                       | 143.34              | 1           | 3            |
| 16. 31wbturn     | * | 120                | 84             | 2.0                       | 100                | 1600                       | 143.34              | 1           | 3            |

RECEPTOR LOCATIONS

| RECEPTOR      | * | COORDINATES (FT) |       |     | * |
|---------------|---|------------------|-------|-----|---|
|               | * | X                | Y     | Z   | * |
| 1. Receptor 1 | * | 386.0            | 403.0 | 5.0 | * |
| 2. Receptor 2 | * | 386.0            | 443.0 | 5.0 | * |
| 3. Receptor 3 | * | 386.0            | 483.0 | 5.0 | * |
| 4. Receptor 4 | * | 426.0            | 499.0 | 5.0 | * |
| 5. Receptor 5 | * | 466.0            | 516.0 | 5.0 | * |
| 6. Receptor 6 | * | 466.0            | 628.0 | 5.0 | * |
| 7. Receptor 7 | * | 426.0            | 612.0 | 5.0 | * |

|              |    |   |       |       |     |   |
|--------------|----|---|-------|-------|-----|---|
| 8. Receptor  | 8  | * | 386.0 | 593.0 | 5.0 | * |
| 9. Receptor  | 9  | * | 386.0 | 633.0 | 5.0 | * |
| 10. Receptor | 10 | * | 386.0 | 673.0 | 5.0 | * |
| 11. Receptor | 11 | * | 250.0 | 619.0 | 5.0 | * |
| 12. Receptor | 12 | * | 250.0 | 579.0 | 5.0 | * |
| 13. Receptor | 13 | * | 250.0 | 539.0 | 5.0 | * |
| 14. Receptor | 14 | * | 210.0 | 522.0 | 5.0 | * |
| 15. Receptor | 15 | * | 170.0 | 505.0 | 5.0 | * |
| 16. Receptor | 16 | * | 170.0 | 390.0 | 5.0 | * |
| 17. Receptor | 17 | * | 210.0 | 408.0 | 5.0 | * |
| 18. Receptor | 18 | * | 250.0 | 427.0 | 5.0 | * |
| 19. Receptor | 19 | * | 250.0 | 387.0 | 5.0 | * |
| 20. Receptor | 20 | * | 250.0 | 347.0 | 5.0 | * |

□  
3

JOB: NorthI25EvansStation31stUS85PMPA

RUN: NorthI25EvansStation31stUS85PMPA

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

| WIND ANGLE (DEGR) | * CONCENTRATION (PPM) | REC1 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 | REC19 | REC20 |
|-------------------|-----------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | *                     | 3.7  | 3.6  | 3.8  | 2.3  | 1.2  | .5   | 1.0  | 2.4  | 2.4  | 2.4   | 2.9   | 3.2   | 3.3   | 1.3   | .7    | 1.6   | 3.3   | 5.6   |       |       |
| 4.7               | 4.3                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 10.               | *                     | 1.8  | 2.0  | 2.5  | 1.3  | .8   | .1   | .3   | 1.0  | 1.0  | 1.0   | 4.6   | 4.9   | 5.3   | 2.3   | 1.6   | 2.6   | 4.8   | 7.0   |       |       |
| 5.6               | 5.3                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 20.               | *                     | .9   | 1.1  | 1.8  | .9   | .8   | .0   | .0   | .2   | .2   | .2    | 5.1   | 5.6   | 6.0   | 3.1   | 2.1   | 3.6   | 5.7   | 6.7   |       |       |
| 5.5               | 5.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 30.               | *                     | .5   | .8   | 1.3  | .8   | .8   | .0   | .0   | .1   | .1   | .1    | 5.3   | 5.8   | 6.0   | 3.5   | 2.4   | 4.0   | 5.5   | 5.8   |       |       |
| 5.1               | 5.1                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 40.               | *                     | .5   | .6   | 1.1  | .9   | .9   | .1   | .1   | .1   | .0   | .0    | 5.3   | 5.5   | 5.6   | 3.5   | 2.5   | 4.1   | 4.9   | 5.1   |       |       |
| 4.9               | 4.8                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 50.               | *                     | .4   | .6   | 1.0  | .9   | .9   | .2   | .2   | .2   | .0   | .0    | 5.2   | 5.4   | 5.4   | 3.7   | 2.8   | 4.0   | 4.5   | 4.9   |       |       |
| 4.9               | 4.8                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 60.               | *                     | .4   | .4   | .9   | .8   | .8   | .6   | .6   | .6   | .2   | .1    | 5.0   | 5.1   | 5.5   | 3.8   | 3.1   | 3.6   | 4.0   | 4.8   |       |       |
| 4.3               | 4.4                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 70.               | *                     | .2   | .2   | .5   | .5   | .5   | 1.1  | 1.0  | 1.1  | .4   | .3    | 5.2   | 5.4   | 5.5   | 4.2   | 3.2   | 3.0   | 3.3   | 4.1   |       |       |
| 4.1               | 4.1                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 80.               | *                     | .0   | .0   | .1   | .1   | .1   | 1.3  | 1.3  | 1.4  | .7   | .4    | 5.2   | 5.8   | 5.7   | 4.1   | 3.3   | 2.6   | 2.9   | 4.2   |       |       |
| 4.1               | 3.9                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 90.               | *                     | .0   | .0   | .0   | .0   | .0   | 1.2  | 1.2  | 1.6  | .7   | .5    | 5.6   | 5.9   | 5.3   | 3.7   | 3.5   | 2.2   | 3.0   | 4.1   |       |       |
| 4.0               | 3.7                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 100.              | *                     | .0   | .0   | .0   | .0   | .0   | 1.1  | 1.1  | 1.8  | .6   | .5    | 5.5   | 5.6   | 4.7   | 3.6   | 3.5   | 2.1   | 2.9   | 4.1   |       |       |
| 3.9               | 3.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 110.              | *                     | .0   | .0   | .0   | .0   | .0   | .9   | .9   | 1.9  | .6   | .4    | 5.6   | 5.3   | 4.4   | 3.6   | 3.6   | 1.9   | 2.7   | 3.9   |       |       |
| 3.7               | 3.2                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 120.              | *                     | .0   | .0   | .0   | .0   | .0   | .9   | .8   | 2.2  | .7   | .4    | 5.7   | 5.3   | 4.7   | 4.0   | 3.9   | 1.9   | 2.7   | 3.9   |       |       |
| 3.5               | 3.2                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 130.              | *                     | .0   | .0   | .0   | .0   | .0   | .8   | .8   | 2.3  | .8   | .4    | 5.8   | 5.2   | 5.0   | 4.2   | 4.1   | 1.8   | 2.4   | 4.0   |       |       |
| 3.5               | 3.3                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 140.              | *                     | .0   | .0   | .0   | .0   | .0   | .8   | .8   | 2.4  | 1.0  | .5    | 6.2   | 5.8   | 5.3   | 4.6   | 3.7   | 1.7   | 2.4   | 4.0   |       |       |
| 3.7               | 3.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 150.              | *                     | .1   | .1   | .1   | .0   | .0   | .8   | .8   | 2.6  | 1.3  | .7    | 6.4   | 5.9   | 5.7   | 4.6   | 3.5   | 1.8   | 2.5   | 4.1   |       |       |
| 3.8               | 3.7                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 160.              | *                     | .3   | .3   | .3   | .0   | .0   | .8   | 1.0  | 2.9  | 1.8  | 1.1   | 6.1   | 6.0   | 6.0   | 4.6   | 3.0   | 1.8   | 2.4   | 4.3   |       |       |
| 4.2               | 4.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 170.              | *                     | 1.0  | 1.2  | 1.2  | .3   | .1   | .9   | 1.7  | 3.8  | 2.8  | 2.2   | 5.7   | 5.3   | 5.7   | 3.8   | 2.4   | 1.2   | 1.9   | 4.0   |       |       |
| 3.9               | 3.8                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 180.              | *                     | 2.6  | 2.8  | 3.1  | 1.0  | .6   | 1.4  | 3.1  | 5.4  | 4.3  | 3.9   | 3.9   | 3.9   | 4.5   | 2.8   | 1.6   | .5    | 1.1   | 2.5   |       |       |
| 2.5               | 2.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 190.              | *                     | 4.0  | 4.6  | 5.0  | 2.3  | 1.3  | 2.6  | 4.5  | 6.4  | 5.5  | 5.0   | 2.0   | 2.2   | 2.9   | 1.8   | 1.1   | .1    | .3    | 1.0   |       |       |
| 1.0               | 1.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 200.              | *                     | 4.7  | 5.4  | 5.7  | 3.0  | 2.1  | 3.5  | 5.4  | 6.4  | 5.5  | 5.1   | 1.1   | 1.4   | 2.0   | 1.2   | 1.1   | .0    | .0    | .3    |       |       |
| .3                | .3                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 210.              | *                     | 4.9  | 5.6  | 5.8  | 3.4  | 2.3  | 3.9  | 5.5  | 5.7  | 5.0  | 4.9   | .7    | 1.0   | 1.7   | 1.2   | 1.2   | .0    | .0    | .1    |       |       |
| .1                | .1                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 220.              | *                     | 5.1  | 5.4  | 5.5  | 3.5  | 2.6  | 4.1  | 4.9  | 5.3  | 4.9  | 4.9   | .5    | .8    | 1.5   | 1.3   | 1.3   | .0    | .0    | .0    |       |       |
| .0                | .0                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 230.              | *                     | 5.0  | 5.1  | 5.1  | 3.5  | 2.5  | 4.1  | 4.7  | 5.2  | 4.8  | 4.7   | .5    | .8    | 1.4   | 1.4   | 1.4   | .1    | .1    | .1    |       |       |

|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 240. | *   | 5.0 | 5.2 | 5.2 | 3.6 | 2.8 | 4.0 | 4.2 | 5.0 | 4.5 | 4.3 | .4  | .6  | 1.3 | 1.3 | 1.3 | .3  | .3  | .5  |  |
| .2   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 250. | *   | 4.9 | 5.2 | 5.3 | 3.8 | 2.8 | 3.3 | 3.7 | 4.5 | 4.3 | 4.1 | .1  | .3  | .8  | .8  | .8  | .7  | .8  | 1.0 |  |
| .4   | .2  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 260. | *   | 5.3 | 5.6 | 5.3 | 3.7 | 3.1 | 2.7 | 3.1 | 4.1 | 3.9 | 3.8 | .0  | .1  | .3  | .3  | .3  | 1.0 | 1.0 | 1.3 |  |
| .6   | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 270. | *   | 5.4 | 5.7 | 4.9 | 3.6 | 2.9 | 2.4 | 2.9 | 4.0 | 3.9 | 3.8 | .0  | .0  | .1  | .1  | .1  | 1.1 | 1.1 | 1.6 |  |
| .7   | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 280. | *   | 5.4 | 5.5 | 4.3 | 3.2 | 3.1 | 2.3 | 2.8 | 3.9 | 3.9 | 3.5 | .0  | .0  | .0  | .0  | .0  | .9  | .9  | 1.8 |  |
| .6   | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 290. | *   | 5.7 | 5.3 | 4.1 | 3.2 | 3.3 | 1.9 | 2.8 | 3.8 | 3.7 | 3.1 | .0  | .0  | .0  | .0  | .0  | .9  | .9  | 2.0 |  |
| .6   | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 300. | *   | 5.6 | 4.9 | 4.2 | 3.7 | 3.7 | 1.9 | 2.6 | 4.0 | 3.6 | 3.0 | .0  | .0  | .0  | .0  | .0  | .8  | .8  | 2.3 |  |
| .7   | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 310. | *   | 5.8 | 5.1 | 4.5 | 3.9 | 3.6 | 1.7 | 2.4 | 4.0 | 3.5 | 3.0 | .0  | .0  | .0  | .0  | .0  | .8  | .8  | 2.4 |  |
| .9   | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 320. | *   | 5.9 | 5.4 | 5.0 | 4.1 | 3.2 | 1.7 | 2.3 | 3.9 | 3.5 | 3.3 | .0  | .0  | .0  | .0  | .0  | .8  | .8  | 2.4 |  |
| 1.1  | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 330. | *   | 6.0 | 5.6 | 5.4 | 4.2 | 2.9 | 1.9 | 2.4 | 3.9 | 3.6 | 3.6 | .1  | .1  | .1  | .0  | .0  | .8  | .9  | 2.5 |  |
| 1.3  | .7  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 340. | *   | 6.1 | 5.4 | 5.4 | 4.3 | 2.7 | 1.7 | 2.3 | 4.0 | 3.9 | 3.9 | .3  | .3  | .3  | .0  | .0  | .8  | 1.3 | 2.9 |  |
| 1.8  | 1.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 350. | *   | 5.3 | 4.8 | 5.0 | 3.4 | 2.1 | 1.2 | 2.0 | 3.7 | 3.6 | 3.6 | 1.1 | 1.2 | 1.3 | .4  | .1  | .9  | 2.0 | 3.8 |  |
| 3.0  | 2.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 360. | *   | 3.7 | 3.6 | 3.8 | 2.3 | 1.2 | .5  | 1.0 | 2.4 | 2.4 | 2.4 | 2.9 | 3.2 | 3.3 | 1.3 | .7  | 1.6 | 3.3 | 5.6 |  |
| 4.7  | 4.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |

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|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 6.1 | 5.7 | 5.8 | 4.3 | 3.7 | 4.1 | 5.5 | 6.4 | 5.5 | 5.1 | 6.4 | 6.0 | 6.0 | 4.6 | 4.1 | 4.1 | 5.7 | 7.0 |
| 5.6   | 5.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | *   | 340 | 270 | 210 | 340 | 300 | 230 | 210 | 190 | 190 | 200 | 150 | 160 | 30  | 150 | 130 | 40  | 20  | 10  |
| 10    | 20  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

THE HIGHEST CONCENTRATION OF 7.00 PPM OCCURRED AT RECEPTOR REC18.

PAGE

4

JOB: NorthI25EvansStation31stUS85PMPA

RUN: NorthI25EvansStation31stUS85PMPA

DATE : 11/22/10  
TIME : 9:51:19

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |       | * CO/LINK (PPM)   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|--------|-------|-------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |       | * ANGLE (DEGREES) |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|        |       | REC1              | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 |
| REC19  | REC20 | 340               | 270  | 210  | 340  | 300  | 230  | 210  | 190  | 190  | 200   | 150   | 160   | 30    | 150   | 130   | 40    | 20    | 10    |
| LINK # | *     |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 10     | 20    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .0     | 1 *   | 1.7               | 1.8  | 2.3  | .0   | .0   | .4   | 1.0  | 1.9  | 1.5  | .7    | 1.0   | 1.2   | .0    | .9    | .7    | .1    | .0    | .0    |
|        | .4    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .0     | 2 *   | .9                | 1.6  | 1.8  | .0   | .0   | .2   | .5   | .7   | .5   | .3    | .5    | .5    | .0    | .2    | .4    | .0    | .0    | .0    |
|        | .1    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .9     | 3 *   | .9                | .0   | .0   | 1.4  | .8   | .5   | .3   | .7   | 1.1  | 1.8   | .2    | .0    | 1.1   | .0    | .0    | .6    | .9    | 1.0   |
|        | .8    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 1.8    | 4 *   | 1.4               | .0   | .0   | 1.1  | .8   | .3   | .1   | .0   | .1   | .4    | 2.3   | 1.6   | 2.8   | .0    | .0    | .8    | 1.5   | 2.3   |
|        | .9    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .5     | 5 *   | .5                | .0   | .0   | .1   | .5   | .1   | .0   | .0   | .0   | .1    | 1.2   | .2    | 1.8   | .0    | .0    | .3    | .5    | .7    |
|        | .3    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 1.3    | 6 *   | .1                | 1.0  | 1.3  | .0   | .0   | .4   | .9   | 1.1  | 1.1  | .9    | .5    | 1.5   | .0    | 1.5   | 1.0   | .3    | .2    | .9    |
|        | 2.1   |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .0     | 7 *   | .0                | .3   | .4   | .0   | .0   | .1   | .2   | .2   | .2   | .1    | .1    | .3    | .0    | .2    | .2    | .0    | .0    | .0    |
|        | .1    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .1     | 8 *   | .2                | .0   | .0   | .1   | .2   | .0   | .0   | .0   | .0   | .1    | .1    | .0    | .3    | .0    | .0    | .1    | .1    | .2    |
|        | .1    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .0     | 9 *   | .1                | .0   | .0   | .3   | .3   | .8   | .7   | .6   | .4   | .2    | .1    | .0    | .0    | .0    | .0    | .1    | .0    | .0    |
|        | .1    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .0     | 10 *  | .1                | .0   | .0   | .6   | .5   | .6   | 1.2  | .9   | .4   | .1    | .0    | .0    | .0    | .0    | .0    | .1    | .0    | .0    |
|        | .1    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .3     | 11 *  | .1                | .4   | .0   | .0   | .0   | .3   | .1   | .0   | .0   | .1    | .3    | .5    | .0    | .8    | .8    | .4    | .5    | .5    |
|        | .2    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .2     | 12 *  | .0                | .2   | .0   | .0   | .0   | .1   | .1   | .0   | .0   | .1    | .0    | .1    | .0    | .2    | .2    | .4    | .4    | .3    |
|        | .1    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|        | 13 *  | .0                | .3   | .0   | .0   | .0   | .1   | .0   | .0   | .0   | .1    | .0    | .1    | .0    | .5    | .6    | .6    | 1.3   | .9    |

evanpav2.out

|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| .4   | .1 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 14 * |    | .1 | .0 | .0 | .4 | .4 | .1 | .2 | .2 | .1 | .1 | .1 | .0 | .0 | .0 | .0 | .1 | .0 | .0 |
| .0   | .1 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 15 * |    | .0 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .3 | .2 | .2 | .3 | .2 |
| .1   | .0 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 16 * |    | .0 | .0 | .0 | .3 | .2 | .1 | .2 | .1 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0   | .0 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

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'Receptor 14', 1295 , 53 , 5
'Receptor 15', 1582 , 53 , 5
'Receptor 16', 1622 , 53 , 5
'Receptor 17', 1662 , 53 , 5
'Receptor 18', 1702 , 53 , 5
'Receptor 19', 1702 , 13 , 5
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'Receptor 22', 1778 , -67 , 5
'Receptor 23', 1778 , -27 , 5
'Receptor 24', 1778 , 13 , 5
'Receptor 25', 1778 , 53 , 5
'Receptor 26', 1818 , 53 , 5
'Receptor 27', 1858 , 53 , 5
'Receptor 28', 1898 , 53 , 5
'Receptor 29', 1904 , 196 , 5
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'Receptor 37', 1708 , 267 , 5
'Receptor 38', 1708 , 227 , 5
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'Receptor 40', 1668 , 187 , 5
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'Receptor 42', 1588 , 187 , 5
'Receptor 43', 1295 , 187 , 5
'Receptor 44', 1255 , 187 , 5
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'Receptor 46', 1175 , 187 , 5
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'Receptor 50', 1087 , 307 , 5
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'Receptor 53', 1087 , 187 , 5
'Receptor 54', 1047 , 187 , 5
'Receptor 55', 1007 , 187 , 5
'Receptor 56', 967 , 187 , 5
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100 , 32 , 2 , 3320 , 143.34 , 1600 , 1 , 3
2
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2
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100 , 43 , 2 , 2155 , 143.34 , 1600 , 1 , 3
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2
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100 , 43 , 2 , 2805 , 143.34 , 1600 , 1 , 3
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100 , 89 , 2 , 320 , 143.34 , 1600 , 1 , 3

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100 , 93 , 2 , 85 , 143.34 , 1600 , 1 , 3  
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1  
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2  
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100 , 81 , 2 , 5 , 143.34 , 1600 , 1 , 3  
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2  
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100 , 81 , 2 , 15 , 143.34 , 1600 , 1 , 3  
1  
'i25sbrampdep','AG', 1740 , 124 , 1740 , -876 , 1710 , 22.5 , 0 , 44  
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'pkgnbapp','AG', 1149 , -376 , 1149 , 124 , 285 , 23 , 0 , 32  
2  
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100 , 81 , 2 , 20 , 143.34 , 1600 , 1 , 3  
1  
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2  
'pkgnbleftturn','AG', 1137 , 63 , 1137 , -37 , 0 , 12 , 1  
100 , 81 , 2 , 55 , 143.34 , 1600 , 1 , 3  
1  
'i25sbrampapp','AG', 1740 , 1124 , 1740 , 124 , 1590 , 22.8 , 0 , 44  
2  
'i25sbrampleftturn','AG', 1758 , 177 , 1758 , 377 , 0 , 12 , 1  
100 , 74 , 2 , 485 , 143.34 , 1600 , 1 , 3  
1 , 0 , 4 , 1000 , 0 , 'Y', 10 , 0 , 36



JOB: I25HarmonywithPkgStationNoBuild

RUN: I25HarmonywithPkgStationNoBuild

DATE : 11/22/10  
TIME : 11:28:16

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

| V/C QUEUE | LINK DESCRIPTION      | * X1   | Y1     | X2     | Y2     | * LENGTH (FT) | BRG TYPE (DEG) | VPH   | EF (G/MI) | H (FT) | W (FT) |
|-----------|-----------------------|--------|--------|--------|--------|---------------|----------------|-------|-----------|--------|--------|
| 1.08      | 1. harmebapp1         | 240.0  | 91.0   | 1140.0 | 91.0   | 900.          | 90. AG         | 3425. | 48.8      | .0     | 56.0   |
| 59.4      | 2. harmebapp1 q       | 1097.0 | 91.0   | -72.5  | 90.7   | 1169.         | 270. AG        | 369.  | 100.0     | .0     | 36.0   |
| .03       | 3. harmebleftturn     | 1097.0 | 109.0  | 1090.9 | 109.0  | 6.            | 270. AG        | 123.  | 100.0     | .0     | 12.0   |
|           | 4. harmebdep/app      | 1131.0 | 91.0   | 1740.0 | 91.0   | 609.          | 90. AG         | 3545. | 48.8      | .0     | 56.0   |
| .85       | 5. harmebdep/app q    | 1718.0 | 91.0   | 1535.5 | 91.0   | 182.          | 270. AG        | 496.  | 100.0     | .0     | 36.0   |
| 9.3       | 6. harmebdep          | 1740.0 | 85.0   | 2240.0 | 85.0   | 500.          | 90. AG         | 2640. | 48.8      | .0     | 44.0   |
|           | 7. harmwbapp1         | 2240.0 | 143.0  | 1740.0 | 143.0  | 500.          | 270. AG        | 3125. | 48.8      | .0     | 44.0   |
| 1.65      | 8. harmwbque1         | 1774.0 | 143.0  | 7791.3 | 143.0  | 6017.         | 90. AG         | 331.  | 100.0     | .0     | 24.0   |
| 305.7     | 9. harmwbleftturn     | 1774.0 | 125.0  | 4124.8 | 125.0  | 2351.         | 90. AG         | 342.  | 100.0     | .0     | 12.0   |
| 2.86      | 10. harmwbdep/app     | 1740.0 | 149.0  | 1131.0 | 149.0  | 609.          | 270. AG        | 3910. | 48.8      | .0     | 56.0   |
| 119.4     | 11. harmwbdep/app q   | 1165.0 | 149.0  | 2409.4 | 149.0  | 1244.         | 90. AG         | 265.  | 100.0     | .0     | 36.0   |
| 1.08      | 12. harmwbleftturn2   | 1165.0 | 131.0  | 1632.5 | 131.0  | 467.          | 90. AG         | 358.  | 100.0     | .0     | 12.0   |
| 63.2      | 13. harmwbdep         | 1131.0 | 149.0  | 240.0  | 149.0  | 891.          | 270. AG        | 3845. | 48.8      | .0     | 56.0   |
| 1.77      | 14. pkgsbapp          | 1113.0 | 1124.0 | 1113.0 | 124.0  | 1000.         | 180. AG        | 30.   | 22.5      | .0     | 32.0   |
| 23.7      | 15. pkgsbapp q        | 1113.0 | 177.0  | 1113.0 | 179.2  | 2.            | 360. AG        | 311.  | 100.0     | .0     | 12.0   |
| .02       | 16. pkgsbdep          | 1125.0 | 124.0  | 1125.0 | -376.0 | 500.          | 180. AG        | 160.  | 22.5      | .0     | 32.0   |
|           | 17. pkgsbleftturn     | 1125.0 | 177.0  | 1125.0 | 183.6  | 7.            | 360. AG        | 311.  | 100.0     | .0     | 12.0   |
| .06       | 18. i25sbrampdep      | 1740.0 | 124.0  | 1740.0 | -876.0 | 1000.         | 180. AG        | 1710. | 22.5      | .0     | 44.0   |
|           | 19. pkgnbapp          | 1149.0 | -376.0 | 1149.0 | 124.0  | 500.          | 360. AG        | 285.  | 23.0      | .0     | 32.0   |
| .08       | 20. pkgnbapp q        | 1149.0 | 63.0   | 1149.0 | 54.1   | 9.            | 180. AG        | 311.  | 100.0     | .0     | 12.0   |
| .5        | 21. pkgnbdep          | 1149.0 | 124.0  | 1149.0 | 1124.0 | 1000.         | 360. AG        | 100.  | 23.0      | .0     | 32.0   |
|           | 22. pkgnbleftturn     | 1137.0 | 63.0   | 1137.0 | 38.6   | 24.           | 180. AG        | 311.  | 100.0     | .0     | 12.0   |
| .23       | 23. i25sbrampapp      | 1740.0 | 1124.0 | 1740.0 | 124.0  | 1000.         | 180. AG        | 1590. | 22.8      | .0     | 44.0   |
| 1.38      | 24. i25sbrampleftturn | 1758.0 | 177.0  | 1758.0 | 1808.3 | 1631.         | 360. AG        | 285.  | 100.0     | .0     | 12.0   |
| 82.9      |                       |        |        |        |        |               |                |       |           |        |        |

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JOB: I25HarmonywithPkgStationNoBuild

RUN: I25HarmonywithPkgStationNoBuild

DATE : 11/22/10  
TIME : 11:28:16

ADDITIONAL QUEUE LINK PARAMETERS

| LINK DESCRIPTION    | * CYCLE LENGTH (SEC) | RED TIME (SEC) | CLEARANCE LOST TIME (SEC) | APPROACH VOL (VPH) | SATURATION FLOW RATE (VPH) | IDLE EM FAC (gm/hr) | SIGNAL TYPE | ARRIVAL RATE |
|---------------------|----------------------|----------------|---------------------------|--------------------|----------------------------|---------------------|-------------|--------------|
| 2. harmebapp1 q     | 100                  | 32             | 2.0                       | 3320               | 1600                       | 143.34              | 1           | 3            |
| 3. harmebleftturn   | 100                  | 32             | 2.0                       | 35                 | 1600                       | 143.34              | 1           | 3            |
| 5. harmebdep/app q  | 100                  | 43             | 2.0                       | 2155               | 1600                       | 143.34              | 1           | 3            |
| 8. harmwbque1       | 100                  | 43             | 2.0                       | 2805               | 1600                       | 143.34              | 1           | 3            |
| 9. harmwbleftturn   | 100                  | 89             | 2.0                       | 320                | 1600                       | 143.34              | 1           | 3            |
| 11. harmwbdep/app q | 100                  | 23             | 2.0                       | 3780               | 1600                       | 143.34              | 1           | 3            |
| 12. harmwbleftturn2 | 100                  | 93             | 2.0                       | 85                 | 1600                       | 143.34              | 1           | 3            |
| 15. pkgsbapp q      | 100                  | 81             | 2.0                       | 5                  | 1600                       | 143.34              | 1           | 3            |
| 17. pkgsbleftturn   | 100                  | 81             | 2.0                       | 15                 | 1600                       | 143.34              | 1           | 3            |

|                        |   |     |    |     |     |      |        |   |   |
|------------------------|---|-----|----|-----|-----|------|--------|---|---|
| 20. pkgnbapp q         | * | 100 | 81 | 2.0 | 20  | 1600 | 143.34 | 1 | 3 |
| 22. pkgnbleftturn      | * | 100 | 81 | 2.0 | 55  | 1600 | 143.34 | 1 | 3 |
| 24. i25sbramplleftturn | * | 100 | 74 | 2.0 | 485 | 1600 | 143.34 | 1 | 3 |

RECEPTOR LOCATIONS

| RECEPTOR     |    | * | COORDINATES (FT) |       |     | * |
|--------------|----|---|------------------|-------|-----|---|
|              |    | * | X                | Y     | Z   | * |
| 1. Receptor  | 1  | * | 978.0            | 53.0  | 5.0 | * |
| 2. Receptor  | 2  | * | 1018.0           | 53.0  | 5.0 | * |
| 3. Receptor  | 3  | * | 1058.0           | 53.0  | 5.0 | * |
| 4. Receptor  | 4  | * | 1098.0           | 53.0  | 5.0 | * |
| 5. Receptor  | 5  | * | 1098.0           | 13.0  | 5.0 | * |
| 6. Receptor  | 6  | * | 1098.0           | -27.0 | 5.0 | * |
| 7. Receptor  | 7  | * | 1098.0           | -67.0 | 5.0 | * |
| 8. Receptor  | 8  | * | 1175.0           | -67.0 | 5.0 | * |
| 9. Receptor  | 9  | * | 1175.0           | -27.0 | 5.0 | * |
| 10. Receptor | 10 | * | 1175.0           | 13.0  | 5.0 | * |
| 11. Receptor | 11 | * | 1175.0           | 53.0  | 5.0 | * |
| 12. Receptor | 12 | * | 1215.0           | 53.0  | 5.0 | * |
| 13. Receptor | 13 | * | 1255.0           | 53.0  | 5.0 | * |
| 14. Receptor | 14 | * | 1295.0           | 53.0  | 5.0 | * |
| 15. Receptor | 15 | * | 1582.0           | 53.0  | 5.0 | * |
| 16. Receptor | 16 | * | 1622.0           | 53.0  | 5.0 | * |
| 17. Receptor | 17 | * | 1662.0           | 53.0  | 5.0 | * |
| 18. Receptor | 18 | * | 1702.0           | 53.0  | 5.0 | * |
| 19. Receptor | 19 | * | 1702.0           | 13.0  | 5.0 | * |
| 20. Receptor | 20 | * | 1702.0           | -27.0 | 5.0 | * |
| 21. Receptor | 21 | * | 1702.0           | -67.0 | 5.0 | * |
| 22. Receptor | 22 | * | 1778.0           | -67.0 | 5.0 | * |
| 23. Receptor | 23 | * | 1778.0           | -27.0 | 5.0 | * |
| 24. Receptor | 24 | * | 1778.0           | 13.0  | 5.0 | * |
| 25. Receptor | 25 | * | 1778.0           | 53.0  | 5.0 | * |
| 26. Receptor | 26 | * | 1818.0           | 53.0  | 5.0 | * |
| 27. Receptor | 27 | * | 1858.0           | 53.0  | 5.0 | * |
| 28. Receptor | 28 | * | 1898.0           | 53.0  | 5.0 | * |
| 29. Receptor | 29 | * | 1904.0           | 196.0 | 5.0 | * |
| 30. Receptor | 30 | * | 1864.0           | 196.0 | 5.0 | * |
| 31. Receptor | 31 | * | 1824.0           | 196.0 | 5.0 | * |
| 32. Receptor | 32 | * | 1784.0           | 196.0 | 5.0 | * |
| 33. Receptor | 33 | * | 1784.0           | 236.0 | 5.0 | * |

□  
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PAGE

JOB: I25HarmonywithPkgStationNoBuild

RUN: I25HarmonywithPkgStationNoBuild

DATE : 11/22/10  
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RECEPTOR LOCATIONS

| RECEPTOR     |    | * | COORDINATES (FT) |       |     | * |
|--------------|----|---|------------------|-------|-----|---|
|              |    | * | X                | Y     | Z   | * |
| 34. Receptor | 34 | * | 1784.0           | 276.0 | 5.0 | * |
| 35. Receptor | 35 | * | 1784.0           | 316.0 | 5.0 | * |
| 36. Receptor | 36 | * | 1708.0           | 307.0 | 5.0 | * |
| 37. Receptor | 37 | * | 1708.0           | 267.0 | 5.0 | * |
| 38. Receptor | 38 | * | 1708.0           | 227.0 | 5.0 | * |
| 39. Receptor | 39 | * | 1708.0           | 187.0 | 5.0 | * |
| 40. Receptor | 40 | * | 1668.0           | 187.0 | 5.0 | * |
| 41. Receptor | 41 | * | 1628.0           | 187.0 | 5.0 | * |
| 42. Receptor | 42 | * | 1588.0           | 187.0 | 5.0 | * |
| 43. Receptor | 43 | * | 1295.0           | 187.0 | 5.0 | * |
| 44. Receptor | 44 | * | 1255.0           | 187.0 | 5.0 | * |
| 45. Receptor | 45 | * | 1215.0           | 187.0 | 5.0 | * |
| 46. Receptor | 46 | * | 1175.0           | 187.0 | 5.0 | * |
| 47. Receptor | 47 | * | 1175.0           | 227.0 | 5.0 | * |
| 48. Receptor | 48 | * | 1175.0           | 267.0 | 5.0 | * |
| 49. Receptor | 49 | * | 1175.0           | 307.0 | 5.0 | * |
| 50. Receptor | 50 | * | 1087.0           | 307.0 | 5.0 | * |
| 51. Receptor | 51 | * | 1087.0           | 267.0 | 5.0 | * |
| 52. Receptor | 52 | * | 1087.0           | 227.0 | 5.0 | * |
| 53. Receptor | 53 | * | 1087.0           | 187.0 | 5.0 | * |
| 54. Receptor | 54 | * | 1047.0           | 187.0 | 5.0 | * |
| 55. Receptor | 55 | * | 1007.0           | 187.0 | 5.0 | * |
| 56. Receptor | 56 | * | 967.0            | 187.0 | 5.0 | * |

□  
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PAGE

JOB: I25HarmonywithPkgStationNoBuild

RUN: I25HarmonywithPkgStationNoBuild

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

| WIND ANGLE (DEGR) | * CONCENTRATION (PPM) | REC1 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 | REC19 | REC20 |
|-------------------|-----------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | 6.0                   | 8.6  | 8.6  | 8.6  | 8.1  | 5.7  | 4.6  | 3.9  | 4.0  | 4.8  | 6.0   | 8.4   | 8.7   | 8.7   | 8.7   | 10.1  | 10.2  | 10.1  | 10.7  |       |       |
| 7.4               | 6.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 10.               | 6.1                   | 8.4  | 8.4  | 8.4  | 8.2  | 5.9  | 4.9  | 4.4  | 4.2  | 4.8  | 5.9   | 8.4   | 8.6   | 8.6   | 8.6   | 10.2  | 10.3  | 10.3  | 10.9  |       |       |
| 7.5               | 6.1                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 20.               | 5.6                   | 8.4  | 8.3  | 8.3  | 8.4  | 6.5  | 4.9  | 4.2  | 4.0  | 4.7  | 6.2   | 8.5   | 8.6   | 8.6   | 8.6   | 10.0  | 10.1  | 10.1  | 10.0  |       |       |
| 7.1               | 5.6                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 30.               | 5.5                   | 8.8  | 9.0  | 9.0  | 9.1  | 6.8  | 5.4  | 4.7  | 4.3  | 5.1  | 6.4   | 9.0   | 9.0   | 9.0   | 9.1   | 10.4  | 10.4  | 10.2  | 9.6   |       |       |
| 6.5               | 5.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 40.               | 5.3                   | 9.6  | 9.7  | 9.6  | 9.9  | 7.1  | 5.4  | 4.6  | 4.4  | 5.5  | 6.7   | 9.6   | 9.5   | 9.5   | 9.5   | 10.7  | 10.9  | 10.6  | 9.7   |       |       |
| 6.3               | 5.3                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 50.               | 5.5                   | 10.4 | 10.5 | 10.6 | 10.7 | 7.5  | 5.8  | 4.7  | 4.7  | 5.6  | 7.0   | 10.2  | 10.2  | 10.2  | 10.2  | 11.3  | 11.0  | 10.8  | 9.8   |       |       |
| 6.6               | 5.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 60.               | 5.5                   | 11.5 | 11.5 | 11.6 | 11.7 | 7.9  | 6.0  | 5.0  | 4.9  | 6.0  | 7.3   | 11.2  | 11.2  | 11.1  | 11.1  | 11.8  | 11.5  | 11.0  | 10.3  |       |       |
| 6.9               | 5.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 70.               | 4.8                   | 12.8 | 12.7 | 13.0 | 13.3 | 8.2  | 6.0  | 4.8  | 4.8  | 5.9  | 7.6   | 12.3  | 12.3  | 12.1  | 12.1  | 12.0  | 11.9  | 11.0  | 10.7  |       |       |
| 6.6               | 4.8                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 80.               | 3.5                   | 12.4 | 12.6 | 12.7 | 12.7 | 6.9  | 5.0  | 3.7  | 3.3  | 4.7  | 6.8   | 12.0  | 11.9  | 11.7  | 11.6  | 11.0  | 10.6  | 9.9   | 9.7   |       |       |
| 5.2               | 3.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 90.               | 2.0                   | 8.6  | 8.7  | 8.8  | 8.7  | 4.2  | 2.6  | 1.6  | 1.5  | 2.2  | 3.9   | 8.0   | 7.8   | 7.7   | 7.8   | 7.0   | 6.8   | 6.5   | 6.6   |       |       |
| 3.2               | 2.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 100.              | 1.3                   | 3.9  | 3.9  | 3.9  | 4.0  | 1.4  | .9   | .6   | .4   | .7   | 1.2   | 3.5   | 3.3   | 3.3   | 3.3   | 3.1   | 2.9   | 2.9   | 3.1   |       |       |
| 1.6               | 1.3                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 110.              | 1.0                   | 1.0  | 1.0  | 1.2  | 1.2  | .4   | .3   | .3   | .2   | .2   | .3    | 1.0   | .9    | .9    | .9    | 1.0   | 1.1   | 1.2   | 1.4   |       |       |
| 1.0               | 1.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 120.              | .3                    | .3   | .4   | .5   | .6   | .4   | .4   | .3   | .2   | .2   | .2    | .4    | .4    | .4    | .4    | .5    | .6    | .8    | 1.2   |       |       |
| 1.1               | 1.1                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 130.              | .3                    | .3   | .4   | .5   | .3   | .3   | .3   | .3   | .2   | .2   | .2    | .3    | .3    | .3    | .3    | .5    | .6    | .8    | 1.1   |       |       |
| 1.1               | 1.1                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 140.              | .3                    | .3   | .4   | .3   | .3   | .3   | .3   | .3   | .1   | .1   | .1    | .2    | .3    | .3    | .3    | .5    | .6    | .8    | 1.2   |       |       |
| 1.2               | 1.2                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 150.              | .1                    | .1   | .2   | .4   | .4   | .3   | .3   | .3   | .1   | .1   | .1    | .1    | .1    | .1    | .2    | .5    | .6    | .8    | 1.3   |       |       |
| 1.3               | 1.3                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 160.              | .0                    | .1   | .2   | .3   | .3   | .3   | .3   | .2   | .0   | .0   | .0    | .0    | .0    | .1    | .1    | .4    | .6    | .8    | 1.5   |       |       |
| 1.4               | 1.4                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 170.              | .0                    | .0   | .2   | .2   | .2   | .2   | .2   | .2   | .1   | .1   | .1    | .1    | .1    | .0    | .0    | .0    | .3    | .5    | .7    | 1.4   |       |
| 1.4               | 1.4                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 180.              | .0                    | .0   | .0   | .2   | .2   | .2   | .2   | .2   | .2   | .2   | .2    | .2    | .2    | .0    | .0    | .1    | .2    | .4    | 1.0   |       |       |
| 1.0               | 1.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 190.              | .0                    | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .3   | .3   | .4    | .4    | .1    | .0    | .0    | .0    | .1    | .1    | .4    |       |       |
| .4                | .4                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 200.              | .0                    | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .4   | .4   | .4    | .4    | .2    | .1    | .0    | .0    | .0    | .0    | .1    |       |       |
| .1                | .1                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 210.              | .0                    | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .4   | .4   | .4    | .4    | .2    | .1    | .1    | .0    | .0    | .0    | .0    |       |       |
| .0                | .0                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 220.              | .1                    | .1   | .1   | .1   | .0   | .0   | .0   | .0   | .3   | .3   | .3    | .3    | .3    | .2    | .2    | .1    | .1    | .1    | .1    |       |       |
| .0                | .0                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 230.              | .1                    | .1   | .1   | .1   | .0   | .0   | .0   | .0   | .3   | .3   | .3    | .4    | .3    | .2    | .2    | .1    | .1    | .1    | .1    |       |       |
| .0                | .0                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 240.              | .2                    | .2   | .2   | .2   | .0   | .0   | .0   | .0   | .3   | .3   | .3    | .6    | .4    | .3    | .2    | .2    | .2    | .2    | .2    |       |       |
| .0                | .0                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 250.              | .7                    | .7   | .7   | .7   | .1   | .0   | .0   | .0   | .3   | .3   | .4    | 1.4   | 1.1   | 1.0   | 1.0   | .9    | .8    | .8    | .9    |       |       |
| .2                | .0                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 260.              | 3.0                   | 3.0  | 3.0  | 3.1  | .9   | .4   | .1   | .4   | .8   | 1.2  | 3.9   | 3.4   | 3.4   | 3.4   | 3.4   | 3.3   | 3.3   | 3.4   | 3.6   |       |       |
| 1.3               | .7                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 270.              | 7.1                   | 7.2  | 7.3  | 7.4  | 3.1  | 1.7  | 1.0  | 1.4  | 2.1  | 3.6  | 8.5   | 8.0   | 7.8   | 8.1   | 8.1   | 8.3   | 8.5   | 8.7   |       |       |       |
| 4.2               | 2.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 280.              | 10.8                  | 11.0 | 11.2 | 11.3 | 5.9  | 3.8  | 2.6  | 3.1  | 4.3  | 6.4  | 12.1  | 11.7  | 11.5  | 11.4  | 11.9  | 12.2  | 12.7  | 13.1  |       |       |       |
| 7.1               | 4.9                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 290.              | 11.8                  | 11.8 | 11.8 | 11.9 | 7.2  | 5.3  | 4.0  | 4.5  | 5.7  | 7.6  | 12.5  | 11.9  | 11.7  | 11.7  | 12.3  | 12.9  | 13.3  | 13.4  |       |       |       |
| 8.2               | 6.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 300.              | 11.0                  | 11.0 | 11.0 | 11.0 | 7.0  | 5.4  | 4.5  | 4.8  | 5.7  | 7.5  | 11.5  | 10.7  | 10.7  | 10.6  | 11.6  | 12.1  | 12.3  | 12.2  |       |       |       |
| 7.8               | 6.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 310.              | 10.1                  | 10.1 | 10.1 | 10.0 | 6.7  | 5.3  | 4.4  | 4.7  | 5.5  | 7.1  | 10.4  | 9.9   | 9.7   | 9.9   | 10.7  | 11.1  | 11.3  | 11.2  |       |       |       |

|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 7.5  | 5.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |
| 320. | *   | 9.2 | 9.2 | 9.2 | 9.3 | 6.1 | 4.9 | 4.1 | 4.3 | 5.3 | 6.7 | 9.5 | 9.1 | 9.2 | 9.1 | 10.2 | 10.5 | 10.5 | 10.3 |
| 7.1  | 5.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |
| 330. | *   | 8.8 | 8.8 | 8.8 | 8.7 | 6.0 | 4.7 | 4.0 | 4.3 | 5.0 | 6.5 | 8.8 | 8.5 | 8.7 | 8.9 | 10.0 | 10.1 | 10.0 | 9.8  |
| 6.8  | 5.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |
| 340. | *   | 8.3 | 8.3 | 8.3 | 8.3 | 5.8 | 4.4 | 3.7 | 3.9 | 4.9 | 6.2 | 8.6 | 8.3 | 8.3 | 8.4 | 9.6  | 9.6  | 9.4  | 9.4  |
| 6.7  | 5.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |
| 350. | *   | 8.5 | 8.5 | 8.5 | 8.2 | 5.7 | 4.5 | 3.8 | 4.1 | 5.0 | 6.3 | 8.4 | 8.3 | 8.5 | 8.5 | 9.8  | 9.8  | 9.7  | 9.9  |
| 7.0  | 5.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |
| 360. | *   | 8.6 | 8.6 | 8.6 | 8.1 | 5.7 | 4.6 | 3.9 | 4.0 | 4.8 | 6.0 | 8.4 | 8.7 | 8.7 | 8.7 | 10.1 | 10.2 | 10.1 | 10.7 |
| 7.4  | 6.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |

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|       |     |      |      |      |      |     |     |     |     |     |     |      |      |      |      |      |      |      |      |
|-------|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| MAX   | *   | 12.8 | 12.7 | 13.0 | 13.3 | 8.2 | 6.0 | 5.0 | 4.9 | 6.0 | 7.6 | 12.5 | 12.3 | 12.1 | 12.1 | 12.3 | 12.9 | 13.3 | 13.4 |
| 8.2   | 6.1 |      |      |      |      |     |     |     |     |     |     |      |      |      |      |      |      |      |      |
| DEGR. | *   | 70   | 70   | 70   | 70   | 70  | 60  | 60  | 60  | 60  | 70  | 290  | 70   | 70   | 70   | 290  | 290  | 290  | 290  |
| 290   | 10  |      |      |      |      |     |     |     |     |     |     |      |      |      |      |      |      |      |      |

□ PAGE  
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JOB: I25HarmonywithPkgStationNoBuild RUN: I25HarmonywithPkgStationNoBuild

MODEL RESULTS  
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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

|         |       |               |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---------|-------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| WIND    | *     | CONCENTRATION |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| ANGLE   | *     | (PPM)         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| (DEGR.) | *     | REC21         | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 |
| REC39   | REC40 |               |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

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|      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0.   | *    | 5.2 | 4.6 | 5.0 | 6.2 | 8.5 | 8.0 | 7.7 | 7.5 | .2  | .4  | .7  | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 1.6  | .6   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 10.  | *    | 5.2 | 4.0 | 4.4 | 5.7 | 7.7 | 7.4 | 7.4 | 7.2 | .0  | .1  | .2  | .6  | .6  | .6  | .6  | 2.2 | 2.2 | 2.2 |
| 2.2  | 1.1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 20.  | *    | 4.8 | 3.3 | 3.9 | 5.1 | 7.3 | 7.1 | 7.1 | 7.1 | .0  | .0  | .0  | .2  | .2  | .2  | .2  | 2.2 | 2.2 | 2.2 |
| 2.2  | 1.2  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30.  | *    | 4.7 | 3.3 | 3.9 | 5.0 | 7.4 | 7.3 | 7.3 | 7.3 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 1.9 | 1.9 | 1.9 |
| 1.9  | 1.2  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 40.  | *    | 4.6 | 3.4 | 4.3 | 5.2 | 7.7 | 7.7 | 7.7 | 7.7 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 1.8 | 1.8 | 1.8 |
| 1.8  | 1.1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 50.  | *    | 4.7 | 3.5 | 4.4 | 5.6 | 8.4 | 8.4 | 8.4 | 8.4 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 1.6 | 1.6 | 1.6 |
| 1.6  | 1.1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 60.  | *    | 4.6 | 3.3 | 4.3 | 5.8 | 9.1 | 9.0 | 9.0 | 8.8 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 1.5 | 1.5 | 1.5 |
| 1.5  | 1.0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 70.  | *    | 3.8 | 2.4 | 3.5 | 5.4 | 9.4 | 9.3 | 9.0 | 8.8 | .1  | .1  | .1  | .1  | .0  | .0  | .0  | 1.4 | 1.4 | 1.4 |
| 1.8  | 1.5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 80.  | *    | 2.6 | 1.4 | 2.2 | 3.8 | 8.3 | 8.0 | 7.8 | 7.4 | 1.0 | 1.0 | 1.2 | 1.4 | .4  | .2  | .1  | 1.5 | 1.7 | 2.1 |
| 3.3  | 3.1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 90.  | *    | 1.6 | .4  | 1.0 | 2.0 | 5.1 | 4.9 | 4.7 | 4.5 | 3.2 | 3.4 | 3.6 | 3.8 | 1.8 | .8  | .5  | 2.3 | 2.7 | 3.7 |
| 6.8  | 7.0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 100. | *    | 1.1 | .1  | .3  | .5  | 2.0 | 1.9 | 1.8 | 1.7 | 5.6 | 5.9 | 6.3 | 6.5 | 3.5 | 2.0 | 1.3 | 3.1 | 4.0 | 5.5 |
| 9.8  | 10.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 110. | *    | 1.0 | .0  | .0  | .0  | .5  | .5  | .4  | .4  | 7.1 | 7.3 | 7.5 | 7.7 | 4.9 | 3.1 | 2.2 | 4.2 | 5.4 | 7.0 |
| 11.1 | 11.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 120. | *    | 1.1 | .0  | .0  | .0  | .1  | .1  | .1  | .1  | 7.5 | 7.7 | 7.8 | 7.8 | 5.4 | 3.9 | 3.1 | 4.9 | 5.9 | 7.3 |
| 10.7 | 11.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 130. | *    | 1.1 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 7.4 | 7.5 | 7.5 | 7.5 | 5.2 | 4.2 | 3.4 | 5.2 | 6.1 | 7.1 |
| 10.3 | 10.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 140. | *    | 1.2 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 6.9 | 6.9 | 6.9 | 6.9 | 4.9 | 4.0 | 3.4 | 5.2 | 5.6 | 6.7 |
| 9.8  | 10.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 150. | *    | 1.3 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 6.7 | 6.7 | 6.7 | 6.7 | 4.8 | 3.8 | 3.3 | 5.2 | 5.7 | 6.7 |
| 9.8  | 10.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 160. | *    | 1.4 | .1  | .1  | .1  | .1  | .0  | .0  | .0  | 6.5 | 6.5 | 6.5 | 6.5 | 4.7 | 3.7 | 3.2 | 5.2 | 5.6 | 6.9 |
| 10.1 | 9.7  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 170. | *    | 1.4 | .4  | .4  | .4  | .4  | .1  | .1  | .0  | 6.6 | 6.7 | 6.7 | 6.8 | 4.9 | 4.2 | 3.7 | 5.4 | 6.1 | 7.4 |
| 10.6 | 10.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 180. | *    | .9  | .9  | 1.0 | 1.0 | 1.0 | .4  | .2  | .1  | 6.7 | 6.8 | 7.0 | 7.1 | 5.5 | 4.7 | 4.4 | 5.1 | 6.0 | 7.4 |
| 10.3 | 10.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 190. | *    | .4  | 1.4 | 1.4 | 1.4 | 1.4 | .7  | .5  | .3  | 6.9 | 7.1 | 7.3 | 7.5 | 6.1 | 5.5 | 5.0 | 4.7 | 5.6 | 6.8 |
| 9.8  | 9.5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 200. | *    | .1  | 1.4 | 1.4 | 1.4 | 1.5 | .8  | .6  | .4  | 7.1 | 7.3 | 7.3 | 7.6 | 6.5 | 5.8 | 5.1 | 4.2 | 5.2 | 6.5 |

harmnbv2.out

|      |      |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|
| 9.4  | 9.4  |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 210. | *    | .0  | 1.3 | 1.3 | 1.3 | 1.3  | .8   | .6   | .5   | 7.3  | 7.4  | 7.7  | 8.2  | 6.9 | 6.4 | 6.0 | 4.6 | 5.2 | 6.7 |
| 9.6  | 9.8  |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 220. | *    | .0  | 1.2 | 1.2 | 1.2 | 1.2  | .7   | .5   | .4   | 7.4  | 7.7  | 8.1  | 8.5  | 7.5 | 6.9 | 6.0 | 4.5 | 5.4 | 6.9 |
| 10.2 | 10.3 |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 230. | *    | .0  | 1.1 | 1.1 | 1.1 | 1.1  | .7   | .5   | .4   | 8.3  | 8.3  | 8.7  | 9.9  | 8.0 | 6.9 | 6.1 | 4.8 | 5.7 | 7.4 |
| 11.0 | 11.3 |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 240. | *    | .0  | 1.1 | 1.1 | 1.1 | 1.2  | .7   | .7   | .5   | 9.2  | 9.2  | 9.8  | 10.9 | 8.7 | 7.3 | 6.4 | 5.0 | 6.2 | 7.9 |
| 12.0 | 12.1 |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 250. | *    | .0  | 1.0 | 1.0 | 1.2 | 1.6  | 1.3  | 1.2  | 1.2  | 9.9  | 10.3 | 10.8 | 12.1 | 9.2 | 7.4 | 6.4 | 5.1 | 6.2 | 8.3 |
| 13.3 | 13.4 |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 260. | *    | .3  | 1.4 | 1.8 | 2.3 | 4.7  | 4.3  | 4.1  | 4.0  | 10.3 | 10.5 | 11.1 | 12.1 | 8.4 | 6.5 | 5.1 | 3.8 | 5.2 | 7.4 |
| 13.3 | 13.2 |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 270. | *    | 1.8 | 2.6 | 3.6 | 5.4 | 9.8  | 9.5  | 9.1  | 8.9  | 7.4  | 7.6  | 8.0  | 8.9  | 5.6 | 4.0 | 3.1 | 1.7 | 2.7 | 4.4 |
| 9.2  | 9.1  |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 280. | *    | 3.6 | 4.9 | 6.1 | 8.3 | 13.7 | 12.9 | 12.5 | 12.0 | 3.3  | 3.5  | 3.8  | 4.4  | 2.6 | 2.0 | 1.8 | .3  | .5  | 1.4 |
| 3.8  | 3.9  |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 290. | *    | 4.7 | 6.0 | 7.2 | 9.3 | 13.5 | 12.7 | 12.0 | 11.5 | .9   | 1.0  | 1.3  | 2.0  | 1.7 | 1.5 | 1.5 | .0  | .0  | .2  |
| 1.0  | .9   |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 300. | *    | 4.8 | 6.0 | 7.2 | 8.9 | 12.2 | 11.0 | 10.5 | 10.2 | .6   | .8   | .9   | 1.5  | 1.5 | 1.5 | 1.5 | .0  | .0  | .0  |
| .2   | .2   |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 310. | *    | 4.6 | 6.0 | 6.9 | 8.2 | 11.1 | 9.7  | 9.2  | 9.1  | .6   | .8   | 1.0  | 1.5  | 1.5 | 1.5 | 1.5 | .0  | .0  | .0  |
| .1   | .1   |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 320. | *    | 4.5 | 5.6 | 6.5 | 7.6 | 10.0 | 8.8  | 8.7  | 8.5  | .6   | .8   | 1.1  | 1.7  | 1.7 | 1.7 | 1.7 | .0  | .0  | .0  |
| .1   | .1   |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 330. | *    | 4.6 | 5.6 | 6.1 | 7.1 | 9.2  | 8.3  | 8.1  | 8.0  | .7   | .8   | 1.1  | 1.9  | 1.9 | 1.9 | 1.9 | .0  | .0  | .0  |
| .0   | .0   |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 340. | *    | 4.2 | 5.1 | 5.6 | 6.8 | 8.7  | 8.0  | 8.0  | 7.7  | .7   | .8   | 1.2  | 2.0  | 2.0 | 2.0 | 2.0 | .2  | .2  | .2  |
| .2   | .0   |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 350. | *    | 4.8 | 5.2 | 5.8 | 6.7 | 8.9  | 8.1  | 7.9  | 7.8  | .5   | .7   | 1.1  | 2.0  | 2.0 | 2.0 | 2.0 | .7  | .7  | .7  |
| .7   | .2   |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| 360. | *    | 5.2 | 4.6 | 5.0 | 6.2 | 8.5  | 8.0  | 7.7  | 7.5  | .2   | .4   | .7   | 1.5  | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 1.6  | .6   |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |

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|       |      |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
|-------|------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|
| MAX   | *    | 5.2 | 6.0 | 7.2 | 9.3 | 13.7 | 12.9 | 12.5 | 12.0 | 10.3 | 10.5 | 11.1 | 12.1 | 9.2 | 7.4 | 6.4 | 5.4 | 6.2 | 8.3 |
| 13.3  | 13.4 |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |
| DEGR. | *    | 0   | 290 | 300 | 290 | 280  | 280  | 280  | 280  | 260  | 260  | 260  | 250  | 250 | 250 | 240 | 170 | 240 | 250 |
| 250   | 250  |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |     |     |     |

□ PAGE 6

JOB: I25HarmonywithPkgStationNoBuild RUN: I25HarmonywithPkgStationNoBuild

MODEL RESULTS  
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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

| WIND ANGLE (DEGR) | * CONCENTRATION (PPM) | REC41 | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
|-------------------|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | *                     | .4    | .2    | .0    | .0    | .0    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 10.               | *                     | .8    | .5    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 20.               | *                     | .9    | .7    | .2    | .2    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | .0    | .0    | .0    |
| 30.               | *                     | .9    | .7    | .2    | .2    | .2    | .2    | .2    | .2    | .1    | .1    | .1    | .1    | .2    | .1    | .1    | .1    |
| 40.               | *                     | .9    | .7    | .4    | .4    | .4    | .3    | .2    | .2    | .2    | .2    | .2    | .2    | .2    | .3    | .3    | .3    |
| 50.               | *                     | .8    | .7    | .4    | .4    | .4    | .4    | .3    | .3    | .3    | .2    | .2    | .2    | .2    | .3    | .3    | .3    |
| 60.               | *                     | .8    | .8    | .5    | .5    | .5    | .5    | .3    | .3    | .3    | .2    | .2    | .2    | .3    | .4    | .4    | .4    |
| 70.               | *                     | 1.4   | 1.4   | 1.2   | 1.2   | 1.2   | 1.1   | .3    | .3    | .3    | .2    | .2    | .3    | 1.1   | 1.1   | 1.1   | .9    |
| 80.               | *                     | 3.4   | 3.5   | 3.9   | 3.9   | 4.0   | 3.9   | 1.4   | .8    | .5    | .5    | .9    | 1.4   | 3.9   | 3.9   | 3.9   | 3.9   |
| 90.               | *                     | 7.2   | 7.4   | 8.5   | 8.7   | 8.7   | 9.0   | 4.2   | 2.6   | 1.7   | 1.6   | 2.8   | 4.3   | 9.0   | 9.0   | 9.2   | 9.1   |
| 100.              | *                     | 10.8  | 11.1  | 12.7  | 12.8  | 12.8  | 13.2  | 7.0   | 4.8   | 3.6   | 3.8   | 5.0   | 7.3   | 13.0  | 12.5  | 12.5  | 12.5  |
| 110.              | *                     | 11.8  | 12.0  | 13.2  | 13.3  | 13.3  | 13.2  | 8.1   | 6.0   | 4.7   | 4.8   | 6.2   | 8.1   | 12.9  | 12.5  | 12.3  | 12.2  |
| 120.              | *                     | 11.3  | 11.6  | 12.2  | 12.1  | 12.0  | 12.1  | 7.9   | 6.2   | 4.9   | 5.0   | 6.0   | 7.5   | 11.3  | 11.2  | 10.9  | 11.0  |
| 130.              | *                     | 10.8  | 11.1  | 11.0  | 10.9  | 10.9  | 10.9  | 7.4   | 5.8   | 4.9   | 4.8   | 5.7   | 7.0   | 10.1  | 10.2  | 10.0  | 10.0  |
| 140.              | *                     | 10.3  | 10.5  | 10.1  | 10.1  | 10.1  | 10.1  | 6.8   | 5.4   | 4.5   | 4.3   | 5.1   | 6.4   | 9.3   | 9.4   | 9.4   | 9.3   |
| 150.              | *                     | 10.1  | 10.5  | 9.6   | 9.6   | 9.5   | 9.5   | 6.5   | 5.1   | 4.4   | 4.2   | 4.8   | 6.3   | 8.8   | 8.8   | 8.7   | 8.7   |
| 160.              | *                     | 9.8   | 10.1  | 9.2   | 9.2   | 9.2   | 9.1   | 6.3   | 4.9   | 3.9   | 3.8   | 4.6   | 6.0   | 8.6   | 8.3   | 8.2   | 8.1   |
| 170.              | *                     | 10.0  | 10.1  | 9.1   | 9.1   | 9.1   | 9.0   | 6.4   | 5.0   | 3.9   | 3.9   | 4.7   | 5.9   | 8.5   | 8.2   | 8.2   | 8.2   |
| 180.              | *                     | 10.1  | 10.2  | 9.3   | 9.3   | 9.4   | 9.2   | 6.3   | 5.0   | 4.1   | 4.0   | 4.7   | 5.9   | 8.6   | 8.5   | 8.5   | 8.5   |
| 190.              | *                     | 9.8   | 9.7   | 9.1   | 9.1   | 9.1   | 9.3   | 6.4   | 5.1   | 4.2   | 3.7   | 4.5   | 5.7   | 8.2   | 8.3   | 8.3   | 8.3   |
| 200.              | *                     | 9.6   | 9.6   | 9.1   | 9.0   | 9.2   | 9.2   | 6.4   | 4.8   | 3.9   | 3.9   | 4.5   | 5.8   | 8.2   | 8.1   | 8.1   | 8.1   |
| 210.              | *                     | 10.0  | 9.7   | 9.6   | 9.5   | 9.7   | 9.2   | 6.1   | 4.6   | 3.9   | 3.9   | 4.7   | 6.0   | 8.5   | 8.5   | 8.5   | 8.5   |

Table with 17 columns and 17 rows of numerical data. Values range from 0.0 to 13.2.

MAX DEGR. \* 13.2 13.3 13.2 13.3 13.3 13.2 8.1 6.2 4.9 5.0 6.2 8.1 13.0 12.5 12.5 12.5

THE HIGHEST CONCENTRATION OF 13.70 PPM OCCURRED AT RECEPTOR REC25.

PAGE

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JOB: I25HarmonywithPkgStationNoBuild

RUN: I25HarmonywithPkgStationNoBuild

DATE : 11/22/10
TIME : 11:28:16

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

Matrix table with columns for RECEPTOR (REC1-REC18) and LINK # (1-21). Values represent CO/LINK (PPM) at various angles (DEGREES).

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| .0 | .0 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 22 | *  | .0 | .0 | .1 | .2 | .1 | .0 | .0 | .0 | .0 | .2 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 23 | *  | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .0 | .1 | .1 | .1 | .0 | .0 | .0 | .0 | .0 |
| .0 | .7 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 24 | *  | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .0 | .1 | .1 | .1 | .0 | .0 | .0 | .0 | .0 |
| .0 | .3 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

8

JOB: I25HarmonywithPkgStationNoBuild

RUN: I25HarmonywithPkgStationNoBuild

DATE : 11/22/10  
TIME : 11:28:16

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |       | * CO/LINK (PPM)   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |       | * ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|        |       | REC21             | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 |
| REC39  | REC40 |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| LINK # | *     | 0                 | 290   | 300   | 290   | 280   | 280   | 280   | 280   | 260   | 260   | 260   | 250   | 250   | 250   | 240   | 170   | 240   | 250   |
| 250    | 250   |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| -----* |       |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .5     | 1 *   | .0                | .6    | .1    | .3    | .7    | .7    | .6    | .6    | .7    | .8    | .8    | .4    | .5    | .6    | .3    | .0    | .3    | .6    |
|        | .6    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .1     | 2 *   | .0                | .1    | .0    | .1    | .2    | .1    | .1    | .1    | .2    | .2    | .2    | .1    | .1    | .1    | .0    | .0    | .0    | .1    |
|        | .1    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 3 *   | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 3.0    | 4 *   | 1.6               | 1.8   | 2.7   | 3.8   | 5.9   | 4.6   | 3.7   | 2.9   | 2.1   | 2.2   | 2.2   | 2.9   | 2.0   | 1.5   | 1.5   | .7    | 1.9   | 2.1   |
|        | 2.9   |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .2     | 5 *   | .3                | .1    | .4    | .6    | .9    | .7    | .5    | .4    | .2    | .2    | .2    | .4    | .1    | .0    | .1    | .1    | .1    | .1    |
|        | .1    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 6 *   | .2                | .0    | .0    | .0    | .8    | 2.0   | 2.9   | 3.5   | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .6    | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 7 *   | .3                | .0    | .0    | .0    | .0    | .0    | .1    | .3    | 1.5   | 1.0   | .4    | .2    | .0    | .0    | .0    | .7    | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 8 *   | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .2    | .1    | .0    | .0    | .0    | .0    | .0    | .1    | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 9 *   | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 7.8    | 10 *  | 1.3               | 1.3   | 2.1   | 2.4   | 2.6   | 2.7   | 2.7   | 2.5   | 3.2   | 3.8   | 4.7   | 5.4   | 3.8   | 2.6   | 2.3   | 1.1   | 3.0   | 4.0   |
|        | 7.8   |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .9     | 11 *  | .2                | .1    | .3    | .3    | .3    | .3    | .3    | .3    | .7    | .7    | .7    | .7    | .5    | .3    | .3    | .3    | .4    | .5    |
|        | .9    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .5     | 12 *  | .0                | .2    | .3    | .3    | .3    | .3    | .3    | .2    | .2    | .3    | .3    | .3    | .3    | .3    | .2    | .0    | .3    | .4    |
|        | .6    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .3     | 13 *  | .0                | .8    | .2    | .5    | 1.0   | .9    | .8    | .8    | .7    | .7    | .8    | .3    | .4    | .5    | .2    | .0    | .2    | .5    |
|        | .4    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 14 *  | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 15 *  | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 16 *  | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 17 *  | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 18 *  | .4                | 1.0   | 1.1   | 1.0   | 1.0   | .6    | .5    | .3    | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .6    | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 19 *  | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 20 *  | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 21 *  | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 22 *  | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 23 *  | .6                | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .3    | .4    | .6    | .9    | .9    | .9    | .9    | 1.1   | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 24 *  | .3                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .2    | .5    | .6    | .6    | .6    | .1    | .0    | .0    |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

9

JOB: I25HarmonywithPkgStationNoBuild

RUN: I25HarmonywithPkgStationNoBuild

DATE : 11/22/10  
TIME : 11:28:16

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

| LINK # | * | CO/LINK (PPM)   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|---|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |   | ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|        |   | REC41           | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
|        | * | 260             | 250   | 110   | 110   | 110   | 100   | 110   | 120   | 120   | 120   | 110   | 110   | 100   | 100   | 100   |       |
| 1      | * | 1.2             | .7    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .3    |
| 2      | * | .2              | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 3      | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 4      | * | 2.0             | 2.8   | 2.7   | 2.8   | 2.9   | 2.2   | 2.0   | 1.9   | 1.5   | 1.6   | 1.6   | 2.2   | 2.4   | 2.4   | 2.4   | 2.3   |
| 5      | * | .0              | .0    | .3    | .2    | .2    | .2    | .2    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | .1    |
| 6      | * | .0              | .0    | .5    | .4    | .3    | .6    | .4    | .2    | .2    | .2    | .4    | .3    | .5    | .4    | .4    | .4    |
| 7      | * | .0              | .0    | .3    | .3    | .3    | .6    | .3    | .1    | .2    | .1    | .3    | .2    | .5    | .4    | .4    | .4    |
| 8      | * | .0              | .0    | .1    | .1    | .1    | .2    | .1    | .0    | .0    | .0    | .1    | .1    | .2    | .2    | .2    | .2    |
| 9      | * | .0              | .0    | .1    | .1    | .1    | .2    | .1    | .0    | .0    | .0    | .1    | .1    | .2    | .2    | .1    | .1    |
| 10     | * | 7.4             | 7.7   | 7.6   | 7.7   | 7.8   | 7.6   | 4.0   | 3.0   | 2.3   | 2.4   | 2.8   | 4.1   | 6.3   | 4.9   | 3.9   | 3.1   |
| 11     | * | .8              | .9    | .9    | .9    | .9    | .9    | .5    | .4    | .3    | .3    | .4    | .5    | .7    | .6    | .5    | .4    |
| 12     | * | .5              | .6    | .5    | .6    | .6    | .5    | .4    | .3    | .2    | .2    | .3    | .4    | .5    | .4    | .4    | .3    |
| 13     | * | 1.1             | .5    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | 1.3   | 2.8   | 3.9   | 4.8   |
| 14     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 15     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .0    | .0    | .0    |
| 16     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 17     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .0    | .0    | .0    |
| 18     | * | .0              | .0    | .2    | .2    | .1    | .1    | .1    | .2    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | .1    |
| 19     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 20     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 21     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 22     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 23     | * | .0              | .0    | .0    | .0    | .0    | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 24     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |



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'I25HarmonywithPkgStationPMpackageA', 60 , 175 , 0 , 0 , 56 , 0.3048 , 1 , 1
'Receptor 1', 979 , 26 , 5
'Receptor 2', 1019 , 26 , 5
'Receptor 3', 1059 , 26 , 5
'Receptor 4', 1099 , 26 , 5
'Receptor 5', 1099 , -14 , 5
'Receptor 6', 1099 , -54 , 5
'Receptor 7', 1099 , -94 , 5
'Receptor 8', 1187 , -96 , 5
'Receptor 9', 1187 , -56 , 5
'Receptor 10', 1187 , -16 , 5
'Receptor 11', 1187 , 24 , 5
'Receptor 12', 1227 , 24 , 5
'Receptor 13', 1267 , 24 , 5
'Receptor 14', 1307 , 24 , 5
'Receptor 15', 1582 , 24 , 5
'Receptor 16', 1622 , 24 , 5
'Receptor 17', 1662 , 24 , 5
'Receptor 18', 1702 , 24 , 5
'Receptor 19', 1702 , -16 , 5
'Receptor 20', 1702 , -56 , 5
'Receptor 21', 1702 , -96 , 5
'Receptor 22', 1778 , -84 , 5
'Receptor 23', 1778 , -44 , 5
'Receptor 24', 1778 , -4 , 5
'Receptor 25', 1778 , 36 , 5
'Receptor 26', 1818 , 36 , 5
'Receptor 27', 1858 , 36 , 5
'Receptor 28', 1898 , 36 , 5
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'Receptor 30', 1858 , 196 , 5
'Receptor 31', 1818 , 196 , 5
'Receptor 32', 1778 , 196 , 5
'Receptor 33', 1778 , 236 , 5
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'Receptor 37', 1708 , 288 , 5
'Receptor 38', 1708 , 248 , 5
'Receptor 39', 1708 , 208 , 5
'Receptor 40', 1668 , 208 , 5
'Receptor 41', 1628 , 208 , 5
'Receptor 42', 1588 , 208 , 5
'Receptor 43', 1301 , 208 , 5
'Receptor 44', 1261 , 208 , 5
'Receptor 45', 1221 , 208 , 5
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'Receptor 47', 1181 , 248 , 5
'Receptor 48', 1181 , 288 , 5
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'Receptor 51', 1093 , 279.9 , 5
'Receptor 52', 1093 , 233.9 , 5
'Receptor 53', 1093 , 202 , 5
'Receptor 54', 1053 , 202 , 5
'Receptor 55', 1013 , 202 , 5
'Receptor 56', 973 , 202 , 5
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100 , 40 , 2 , 1660 , 143.34 , 1600 , 1 , 3
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100 , 82 , 2 , 20 , 143.34 , 1600 , 1 , 3
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2
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'harmebdep/app q', 'AG', 1712 , 62 , 1177 , 62 , 0 , 36 , 3
100 , 45 , 2 , 1070 , 143.34 , 1600 , 1 , 3
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'harmebdep/app2 q', 'AG', 1712 , 98 , 1177 , 98 , 0 , 36 , 3
100 , 45 , 2 , 1070 , 143.34 , 1600 , 1 , 3

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'harmwbapp1','AG', 2240 , 158 , 1740 , 158 , 2880 , 23.9 , 0 , 56
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'harmwbque1','AG', 1774 , 158 , 2240 , 158 , 0 , 36 , 3
100 , 23 , 2 , 2480 , 143.34 , 1600 , 1 , 3
2
'harmwbltturn','AG', 1774 , 128 , 1970 , 128 , 0 , 24 , 2
100 , 77 , 2 , 400 , 143.34 , 1600 , 1 , 3
1
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2
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100 , 40 , 2 , 1875 , 143.34 , 1600 , 1 , 3
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100 , 40 , 2 , 1875 , 143.34 , 1600 , 1 , 3
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1
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'pkgsbapp q','AG', 1125 , 198 , 1125 , 1124 , 0 , 24 , 2
100 , 70 , 2 , 30 , 143.34 , 1600 , 1 , 3
1
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'pkgsbleftturn','AG', 1143 , 198 , 1143 , 398 , 0 , 12 , 1
100 , 60 , 2 , 130 , 143.34 , 1600 , 1 , 3
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'i25sbrampdep','AG', 1740 , 124 , 1740 , -876 , 1955 , 22.5 , 0 , 56
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2
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100 , 85 , 2 , 15 , 143.34 , 1600 , 1 , 3
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100 , 85 , 2 , 35 , 143.34 , 1600 , 1 , 3
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100 , 78 , 2 , 430 , 143.34 , 1600 , 1 , 3
1 , 0 , 4 , 1000 , 0 , 'Y', 10 , 0 , 36
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JOB: I25HarmonywithPkgStationPMpackageA

RUN: I25HarmonywithPkgStationPMpackageA

DATE : 11/22/10  
TIME : 11:26:56

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

| V/C QUEUE | LINK DESCRIPTION      | * | LINK COORDINATES (FT) |        |        |        | * | LENGTH | BRG TYPE | VPH    | EF    | H       | W |
|-----------|-----------------------|---|-----------------------|--------|--------|--------|---|--------|----------|--------|-------|---------|---|
| (VEH)     |                       | * | X1                    | Y1     | X2     | Y2     | * | (FT)   | (DEG)    | (G/MI) | (FT)  | (FT)    |   |
|           | 1. harmebapp1         | * | 240.0                 | 88.0   | 1140.0 | 88.0   | * | 900.   | 90. AG   | 1698.  | 48.8  | .0 44.0 |   |
|           | 2. harmebapp1 q       | * | 1109.0                | 88.0   | 872.2  | 87.9   | * | 237.   | 270. AG  | 308.   | 100.0 | .0 24.0 |   |
| .93       | 12.0                  |   |                       |        |        |        |   |        |          |        |       |         |   |
|           | 3. harmebleftturn     | * | 1109.0                | 106.0  | 1100.0 | 106.0  | * | 9.     | 270. AG  | 315.   | 100.0 | .0 12.0 |   |
| .09       | .5                    |   |                       |        |        |        |   |        |          |        |       |         |   |
|           | 4. harmebapp2         | * | 240.0                 | 64.0   | 1140.0 | 64.0   | * | 900.   | 90. AG   | 1698.  | 48.8  | .0 44.0 |   |
|           | 5. harmebapp2 q       | * | 1109.0                | 64.0   | 872.2  | 63.9   | * | 237.   | 270. AG  | 308.   | 100.0 | .0 24.0 |   |
| .93       | 12.0                  |   |                       |        |        |        |   |        |          |        |       |         |   |
|           | 6. harmebdep/app      | * | 1140.0                | 62.0   | 1740.0 | 62.0   | * | 600.   | 90. AG   | 1848.  | 48.8  | .0 56.0 |   |
|           | 7. harmebdep/app q    | * | 1712.0                | 62.0   | 1624.4 | 62.0   | * | 88.    | 270. AG  | 519.   | 100.0 | .0 36.0 |   |
| .44       | 4.4                   |   |                       |        |        |        |   |        |          |        |       |         |   |
|           | 8. harmebdep/app2     | * | 1140.0                | 98.0   | 1740.0 | 98.0   | * | 600.   | 90. AG   | 1848.  | 48.8  | .0 56.0 |   |
|           | 9. harmebdep/app2 q   | * | 1712.0                | 98.0   | 1624.4 | 98.0   | * | 88.    | 270. AG  | 519.   | 100.0 | .0 36.0 |   |
| .44       | 4.4                   |   |                       |        |        |        |   |        |          |        |       |         |   |
|           | 10. harmebdep         | * | 1740.0                | 74.0   | 2240.0 | 74.0   | * | 500.   | 90. AG   | 1285.  | 48.8  | .0 56.0 |   |
|           | 11. harmebdep2        | * | 1740.0                | 104.0  | 2240.0 | 104.0  | * | 500.   | 90. AG   | 1285.  | 48.8  | .0 44.0 |   |
|           | 12. harmwbapp1        | * | 2240.0                | 158.0  | 1740.0 | 158.0  | * | 500.   | 270. AG  | 2880.  | 23.9  | .0 56.0 |   |
|           | 13. harmwbque1        | * | 1774.0                | 158.0  | 1877.9 | 158.0  | * | 104.   | 90. AG   | 265.   | 100.0 | .0 36.0 |   |
| .71       | 5.3                   |   |                       |        |        |        |   |        |          |        |       |         |   |
|           | 14. harmwbleftturn    | * | 1774.0                | 128.0  | 1858.9 | 128.0  | * | 85.    | 90. AG   | 592.   | 100.0 | .0 24.0 |   |
| .66       | 4.3                   |   |                       |        |        |        |   |        |          |        |       |         |   |
|           | 15. harmwbdep/app     | * | 1740.0                | 152.0  | 1140.0 | 152.0  | * | 600.   | 270. AG  | 1938.  | 23.9  | .0 44.0 |   |
|           | 16. harmwbdep/app q   | * | 1171.0                | 152.0  | 1932.2 | 152.0  | * | 761.   | 90. AG   | 308.   | 100.0 | .0 24.0 |   |
| 1.05      | 38.7                  |   |                       |        |        |        |   |        |          |        |       |         |   |
|           | 17. harmwbdep/app2    | * | 1740.0                | 176.0  | 1140.0 | 176.0  | * | 600.   | 270. AG  | 1938.  | 23.9  | .0 44.0 |   |
|           | 18. harmwbdep/app2 q  | * | 1171.0                | 176.0  | 1932.2 | 176.0  | * | 761.   | 90. AG   | 308.   | 100.0 | .0 24.0 |   |
| 1.05      | 38.7                  |   |                       |        |        |        |   |        |          |        |       |         |   |
|           | 19. harmwbleftturn2   | * | 1171.0                | 134.0  | 1201.6 | 134.0  | * | 31.    | 90. AG   | 308.   | 100.0 | .0 12.0 |   |
| .27       | 1.6                   |   |                       |        |        |        |   |        |          |        |       |         |   |
|           | 20. harmwbdep         | * | 1140.0                | 146.0  | 240.0  | 146.0  | * | 900.   | 270. AG  | 1915.  | 23.9  | .0 44.0 |   |
|           | 21. harmwbdep2        | * | 1140.0                | 170.0  | 240.0  | 170.0  | * | 900.   | 270. AG  | 1915.  | 23.9  | .0 44.0 |   |
|           | 22. pkgsbapp          | * | 1125.0                | 1124.0 | 1125.0 | 124.0  | * | 1000.  | 180. AG  | 205.   | 22.5  | .0 44.0 |   |
|           | 23. pkgsbapp q        | * | 1125.0                | 198.0  | 1125.0 | 203.7  | * | 6.     | 360. AG  | 538.   | 100.0 | .0 24.0 |   |
| .04       | .3                    |   |                       |        |        |        |   |        |          |        |       |         |   |
|           | 24. pkgsbdep          | * | 1125.0                | 124.0  | 1125.0 | -376.0 | * | 500.   | 180. AG  | 155.   | 22.5  | .0 32.0 |   |
|           | 25. pkgsbleftturn     | * | 1143.0                | 198.0  | 1143.0 | 240.7  | * | 43.    | 360. AG  | 231.   | 100.0 | .0 12.0 |   |
| .23       | 2.2                   |   |                       |        |        |        |   |        |          |        |       |         |   |
|           | 26. i25sbrampdep      | * | 1740.0                | 124.0  | 1740.0 | -876.0 | * | 1000.  | 180. AG  | 1955.  | 22.5  | .0 56.0 |   |
|           | 27. pkgnbapp          | * | 1155.0                | -376.0 | 1155.0 | 124.0  | * | 500.   | 360. AG  | 185.   | 23.0  | .0 44.0 |   |
|           | 28. pkgnbapp q        | * | 1155.0                | 34.0   | 1155.0 | 30.7   | * | 3.     | 180. AG  | 654.   | 100.0 | .0 24.0 |   |
| .04       | .2                    |   |                       |        |        |        |   |        |          |        |       |         |   |
|           | 29. pkgnbdep          | * | 1155.0                | 124.0  | 1155.0 | 1124.0 | * | 1000.  | 360. AG  | 90.    | 23.0  | .0 32.0 |   |
|           | 30. pkgnbleftturn     | * | 1137.0                | 34.0   | 1137.0 | 17.7   | * | 16.    | 180. AG  | 327.   | 100.0 | .0 12.0 |   |
| .20       | .8                    |   |                       |        |        |        |   |        |          |        |       |         |   |
|           | 31. i25sbrampapp      | * | 1740.0                | 1124.0 | 1740.0 | 124.0  | * | 1000.  | 180. AG  | 1555.  | 22.5  | .0 56.0 |   |
|           | 32. i25sbrampleftturn | * | 1758.0                | 198.0  | 1758.0 | 1902.6 | * | 1705.  | 360. AG  | 300.   | 100.0 | .0 12.0 |   |
| 1.49      | 86.6                  |   |                       |        |        |        |   |        |          |        |       |         |   |

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JOB: I25HarmonywithPkgStationPMpackageA

RUN: I25HarmonywithPkgStationPMpackageA

DATE : 11/22/10  
TIME : 11:26:56

ADDITIONAL QUEUE LINK PARAMETERS

| LINK DESCRIPTION | * | CYCLE LENGTH | RED TIME | CLEARANCE LOST TIME | APPROACH VOL | SATURATION FLOW RATE | IDLE EM FAC | SIGNAL TYPE | ARRIVAL RATE |
|------------------|---|--------------|----------|---------------------|--------------|----------------------|-------------|-------------|--------------|
|------------------|---|--------------|----------|---------------------|--------------|----------------------|-------------|-------------|--------------|

|                       | * | (SEC) | (SEC) | harmmpga2.out<br>(SEC) | (VPH) | (VPH) | (gm/hr) |   |   |
|-----------------------|---|-------|-------|------------------------|-------|-------|---------|---|---|
| 2. harmebapp1 q       | * | 100   | 40    | 2.0                    | 1660  | 1600  | 143.34  | 1 | 3 |
| 3. harmeb1tturn       | * | 100   | 82    | 2.0                    | 20    | 1600  | 143.34  | 1 | 3 |
| 5. harmebapp2 q       | * | 100   | 40    | 2.0                    | 1660  | 1600  | 143.34  | 1 | 3 |
| 7. harmebdep/app q    | * | 100   | 45    | 2.0                    | 1070  | 1600  | 143.34  | 1 | 3 |
| 9. harmebdep/app2 q   | * | 100   | 45    | 2.0                    | 1070  | 1600  | 143.34  | 1 | 3 |
| 13. harmwbque1        | * | 100   | 23    | 2.0                    | 2480  | 1600  | 143.34  | 1 | 3 |
| 14. harmwb1tturn      | * | 100   | 77    | 2.0                    | 400   | 1600  | 143.34  | 1 | 3 |
| 16. harmwbdep/app q   | * | 100   | 40    | 2.0                    | 1875  | 1600  | 143.34  | 1 | 3 |
| 18. harmwbdep/app2 q  | * | 100   | 40    | 2.0                    | 1875  | 1600  | 143.34  | 1 | 3 |
| 19. harmwb1tturn2     | * | 100   | 80    | 2.0                    | 70    | 1600  | 143.34  | 1 | 3 |
| 23. pkgsbapp q        | * | 100   | 70    | 2.0                    | 30    | 1600  | 143.34  | 1 | 3 |
| 25. pkgsbleftturn     | * | 100   | 60    | 2.0                    | 130   | 1600  | 143.34  | 1 | 3 |
| 28. pkgnbapp q        | * | 100   | 85    | 2.0                    | 15    | 1600  | 143.34  | 1 | 3 |
| 30. pkgnbleftturn     | * | 100   | 85    | 2.0                    | 35    | 1600  | 143.34  | 1 | 3 |
| 32. i25sbrampleftturn | * | 100   | 78    | 2.0                    | 430   | 1600  | 143.34  | 1 | 3 |

RECEPTOR LOCATIONS

| RECEPTOR        | * | COORDINATES (FT) |       |     | * |
|-----------------|---|------------------|-------|-----|---|
|                 | * | X                | Y     | Z   | * |
| 1. Receptor 1   | * | 979.0            | 26.0  | 5.0 | * |
| 2. Receptor 2   | * | 1019.0           | 26.0  | 5.0 | * |
| 3. Receptor 3   | * | 1059.0           | 26.0  | 5.0 | * |
| 4. Receptor 4   | * | 1099.0           | 26.0  | 5.0 | * |
| 5. Receptor 5   | * | 1099.0           | -14.0 | 5.0 | * |
| 6. Receptor 6   | * | 1099.0           | -54.0 | 5.0 | * |
| 7. Receptor 7   | * | 1099.0           | -94.0 | 5.0 | * |
| 8. Receptor 8   | * | 1187.0           | -96.0 | 5.0 | * |
| 9. Receptor 9   | * | 1187.0           | -56.0 | 5.0 | * |
| 10. Receptor 10 | * | 1187.0           | -16.0 | 5.0 | * |
| 11. Receptor 11 | * | 1187.0           | 24.0  | 5.0 | * |
| 12. Receptor 12 | * | 1227.0           | 24.0  | 5.0 | * |
| 13. Receptor 13 | * | 1267.0           | 24.0  | 5.0 | * |
| 14. Receptor 14 | * | 1307.0           | 24.0  | 5.0 | * |
| 15. Receptor 15 | * | 1582.0           | 24.0  | 5.0 | * |
| 16. Receptor 16 | * | 1622.0           | 24.0  | 5.0 | * |
| 17. Receptor 17 | * | 1662.0           | 24.0  | 5.0 | * |
| 18. Receptor 18 | * | 1702.0           | 24.0  | 5.0 | * |
| 19. Receptor 19 | * | 1702.0           | -16.0 | 5.0 | * |
| 20. Receptor 20 | * | 1702.0           | -56.0 | 5.0 | * |
| 21. Receptor 21 | * | 1702.0           | -96.0 | 5.0 | * |
| 22. Receptor 22 | * | 1778.0           | -84.0 | 5.0 | * |
| 23. Receptor 23 | * | 1778.0           | -44.0 | 5.0 | * |
| 24. Receptor 24 | * | 1778.0           | -4.0  | 5.0 | * |
| 25. Receptor 25 | * | 1778.0           | 36.0  | 5.0 | * |
| 26. Receptor 26 | * | 1818.0           | 36.0  | 5.0 | * |
| 27. Receptor 27 | * | 1858.0           | 36.0  | 5.0 | * |
| 28. Receptor 28 | * | 1898.0           | 36.0  | 5.0 | * |
| 29. Receptor 29 | * | 1898.0           | 196.0 | 5.0 | * |
| 30. Receptor 30 | * | 1858.0           | 196.0 | 5.0 | * |

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JOB: I25HarmonywithPkgStationPMpackageA

RUN: I25HarmonywithPkgStationPMpackageA

DATE : 11/22/10

TIME : 11:26:56

RECEPTOR LOCATIONS

| RECEPTOR        | * | COORDINATES (FT) |       |     | * |
|-----------------|---|------------------|-------|-----|---|
|                 | * | X                | Y     | Z   | * |
| 31. Receptor 31 | * | 1818.0           | 196.0 | 5.0 | * |
| 32. Receptor 32 | * | 1778.0           | 196.0 | 5.0 | * |
| 33. Receptor 33 | * | 1778.0           | 236.0 | 5.0 | * |
| 34. Receptor 34 | * | 1778.0           | 276.0 | 5.0 | * |
| 35. Receptor 35 | * | 1778.0           | 316.0 | 5.0 | * |
| 36. Receptor 36 | * | 1708.0           | 328.0 | 5.0 | * |
| 37. Receptor 37 | * | 1708.0           | 288.0 | 5.0 | * |
| 38. Receptor 38 | * | 1708.0           | 248.0 | 5.0 | * |
| 39. Receptor 39 | * | 1708.0           | 208.0 | 5.0 | * |
| 40. Receptor 40 | * | 1668.0           | 208.0 | 5.0 | * |
| 41. Receptor 41 | * | 1628.0           | 208.0 | 5.0 | * |
| 42. Receptor 42 | * | 1588.0           | 208.0 | 5.0 | * |
| 43. Receptor 43 | * | 1301.0           | 208.0 | 5.0 | * |
| 44. Receptor 44 | * | 1261.0           | 208.0 | 5.0 | * |
| 45. Receptor 45 | * | 1221.0           | 208.0 | 5.0 | * |

|                 |   |        |       |     |   |
|-----------------|---|--------|-------|-----|---|
| 46. Receptor 46 | * | 1181.0 | 208.0 | 5.0 | * |
| 47. Receptor 47 | * | 1181.0 | 248.0 | 5.0 | * |
| 48. Receptor 48 | * | 1181.0 | 288.0 | 5.0 | * |
| 49. Receptor 49 | * | 1181.0 | 316.0 | 5.0 | * |
| 50. Receptor 50 | * | 1093.0 | 330.4 | 5.0 | * |
| 51. Receptor 51 | * | 1093.0 | 279.9 | 5.0 | * |
| 52. Receptor 52 | * | 1093.0 | 233.9 | 5.0 | * |
| 53. Receptor 53 | * | 1093.0 | 202.0 | 5.0 | * |
| 54. Receptor 54 | * | 1053.0 | 202.0 | 5.0 | * |
| 55. Receptor 55 | * | 1013.0 | 202.0 | 5.0 | * |
| 56. Receptor 56 | * | 973.0  | 202.0 | 5.0 | * |

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JOB: I25HarmonywithPkgStationPMpackageA

RUN: I25HarmonywithPkgStationPMpackageA

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
ANGLE \* (PPM)  
(DEGR)\* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18  
REC19 REC20

| *-----* |               |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
|---------|---------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| ANGLE   | CONCENTRATION | REC1 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 | REC19 | REC20 |
| 0.      | *             | 6.1  | 6.1  | 6.2  | 5.9  | 4.1  | 3.4  | 2.8  | 3.0  | 3.4  | 4.4   | 5.8   | 5.9   | 6.0   | 6.0   | 6.3   | 7.3   | 8.6   | 9.0   |       |       |
| 6.6     | 5.6           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 10.     | *             | 6.0  | 6.1  | 6.0  | 5.7  | 4.1  | 3.6  | 3.2  | 2.8  | 3.3  | 4.2   | 5.8   | 5.9   | 5.9   | 5.9   | 6.4   | 8.0   | 9.0   | 9.2   |       |       |
| 6.7     | 5.9           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 20.     | *             | 6.1  | 6.1  | 6.2  | 6.0  | 4.5  | 3.5  | 3.1  | 2.9  | 3.6  | 4.3   | 6.0   | 6.0   | 6.0   | 6.0   | 6.8   | 8.3   | 8.6   | 8.5   |       |       |
| 6.2     | 5.2           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 30.     | *             | 6.5  | 6.5  | 6.7  | 6.3  | 4.8  | 4.0  | 3.3  | 3.2  | 3.6  | 4.6   | 6.2   | 6.2   | 6.3   | 6.3   | 7.2   | 8.8   | 8.7   | 8.0   |       |       |
| 5.7     | 4.5           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 40.     | *             | 6.9  | 7.0  | 6.9  | 6.8  | 4.8  | 4.0  | 3.4  | 3.4  | 3.9  | 4.8   | 6.6   | 6.6   | 6.6   | 6.6   | 8.0   | 9.2   | 8.7   | 7.6   |       |       |
| 5.2     | 4.3           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 50.     | *             | 7.5  | 7.4  | 7.4  | 7.1  | 5.4  | 4.2  | 3.6  | 3.5  | 4.0  | 5.1   | 6.9   | 6.9   | 6.9   | 6.9   | 8.5   | 9.1   | 8.8   | 7.4   |       |       |
| 5.0     | 4.0           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 60.     | *             | 8.2  | 7.9  | 7.8  | 7.5  | 5.6  | 4.4  | 3.7  | 3.7  | 4.1  | 5.1   | 7.6   | 7.6   | 7.6   | 7.6   | 8.9   | 9.0   | 7.9   | 6.7   |       |       |
| 4.4     | 3.5           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 70.     | *             | 8.6  | 8.3  | 8.0  | 8.4  | 5.5  | 4.3  | 3.6  | 3.2  | 4.1  | 5.4   | 7.9   | 7.8   | 8.1   | 8.2   | 8.4   | 7.9   | 6.9   | 6.0   |       |       |
| 3.6     | 2.9           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 80.     | *             | 7.5  | 7.3  | 7.5  | 7.8  | 4.6  | 3.0  | 2.3  | 1.9  | 3.0  | 4.3   | 7.5   | 7.3   | 7.2   | 7.3   | 6.5   | 5.9   | 5.2   | 4.8   |       |       |
| 2.8     | 2.1           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 90.     | *             | 4.6  | 4.8  | 4.9  | 5.4  | 2.6  | 1.4  | 1.0  | .8   | 1.1  | 2.1   | 4.7   | 4.7   | 4.5   | 4.5   | 3.6   | 3.4   | 3.1   | 3.2   |       |       |
| 2.0     | 1.6           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 100.    | *             | 1.8  | 1.8  | 2.2  | 2.4  | 1.0  | .6   | .4   | .2   | .4   | .7    | 1.8   | 1.8   | 1.9   | 1.9   | 1.5   | 1.5   | 1.5   | 1.7   |       |       |
| 1.3     | 1.2           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 110.    | *             | .6   | .5   | .8   | 1.0  | .4   | .4   | .4   | .2   | .2   | .2    | .5    | .5    | .5    | .5    | .8    | .8    | 1.0   | 1.3   |       |       |
| 1.2     | 1.2           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 120.    | *             | .2   | .2   | .4   | .6   | .4   | .4   | .4   | .2   | .2   | .2    | .3    | .3    | .3    | .3    | .6    | .7    | .9    | 1.3   |       |       |
| 1.3     | 1.3           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 130.    | *             | .1   | .3   | .4   | .4   | .4   | .4   | .4   | .2   | .2   | .2    | .3    | .3    | .3    | .3    | .6    | .7    | .9    | 1.4   |       |       |
| 1.4     | 1.4           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 140.    | *             | .1   | .2   | .3   | .3   | .3   | .3   | .3   | .2   | .2   | .2    | .2    | .2    | .2    | .2    | .5    | .7    | .9    | 1.5   |       |       |
| 1.5     | 1.5           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 150.    | *             | .0   | .0   | .3   | .3   | .3   | .2   | .2   | .1   | .1   | .1    | .1    | .1    | .1    | .2    | .2    | .6    | .7    | 1.0   | 1.7   |       |
| 1.6     | 1.6           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 160.    | *             | .0   | .0   | .2   | .2   | .2   | .2   | .2   | .0   | .0   | .0    | .0    | .0    | .0    | .1    | .1    | .5    | .7    | 1.0   | 1.9   |       |
| 1.8     | 1.8           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 170.    | *             | .0   | .0   | .0   | .2   | .2   | .2   | .2   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .4    | .6    | .9    | 1.9   |       |       |
| 1.9     | 1.9           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 180.    | *             | .0   | .0   | .0   | .1   | .1   | .1   | .1   | .1   | .1   | .1    | .1    | .1    | .0    | .0    | .0    | .1    | .3    | .5    | 1.3   |       |
| 1.3     | 1.3           |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 190.    | *             | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .1   | .2   | .2    | .3    | .1    | .0    | .0    | .0    | .1    | .2    | .6    |       |       |
| .6      | .6            |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 200.    | *             | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .3   | .3   | .3    | .3    | .1    | .0    | .0    | .0    | .0    | .0    | .2    |       |       |
| .2      | .2            |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 210.    | *             | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .3   | .3   | .3    | .3    | .1    | .1    | .0    | .0    | .0    | .0    | .1    |       |       |
| .1      | .1            |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 220.    | *             | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .2   | .2   | .2    | .2    | .1    | .1    | .0    | .0    | .0    | .0    | .0    |       |       |
| .0      | .0            |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 230.    | *             | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .2   | .2   | .2    | .2    | .2    | .2    | .1    | .1    | .1    | .1    | .1    |       |       |
| .0      | .0            |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 240.    | *             | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .2   | .2   | .2    | .2    | .2    | .2    | .1    | .1    | .1    | .1    | .1    |       |       |

|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 250. | *   | .3  | .3  | .3  | .3  | .0  | .0  | .0  | .2  | .2  | .2  | .6  | .5  | .5  | .4  | .4  | .4  | .4  | .4  |
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 260. | *   | 1.3 | 1.4 | 1.5 | 1.5 | .5  | .2  | .0  | .3  | .4  | .7  | 2.1 | 1.9 | 1.8 | 1.7 | 2.0 | 1.9 | 1.9 | 2.0 |
| .7   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 270. | *   | 3.5 | 3.6 | 3.8 | 4.1 | 1.7 | 1.0 | .4  | .7  | 1.2 | 2.0 | 5.0 | 4.9 | 4.7 | 4.5 | 4.8 | 4.9 | 5.1 | 5.2 |
| 2.6  | 1.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 280. | *   | 6.0 | 6.1 | 6.5 | 6.7 | 3.5 | 2.1 | 1.4 | 1.7 | 2.6 | 3.9 | 7.5 | 7.4 | 7.1 | 6.9 | 7.3 | 7.5 | 7.6 | 8.0 |
| 4.7  | 3.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 290. | *   | 6.9 | 7.4 | 7.6 | 7.6 | 4.5 | 3.1 | 2.3 | 2.8 | 3.6 | 5.1 | 8.2 | 7.5 | 7.6 | 7.4 | 7.7 | 7.7 | 8.1 | 8.5 |
| 5.1  | 3.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 300. | *   | 7.1 | 7.3 | 7.5 | 7.5 | 4.8 | 3.7 | 2.9 | 3.2 | 3.9 | 5.1 | 7.5 | 6.9 | 6.7 | 6.7 | 7.3 | 7.3 | 7.6 | 8.4 |
| 5.2  | 4.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 310. | *   | 6.7 | 6.8 | 6.9 | 6.9 | 4.8 | 3.6 | 3.0 | 3.3 | 3.7 | 4.9 | 6.6 | 6.2 | 6.3 | 6.4 | 6.6 | 6.6 | 7.4 | 8.3 |
| 5.3  | 3.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 320. | *   | 6.4 | 6.4 | 6.4 | 6.4 | 4.4 | 3.5 | 3.0 | 3.0 | 3.7 | 4.5 | 5.7 | 5.8 | 6.0 | 6.1 | 6.3 | 6.3 | 7.4 | 8.2 |
| 5.2  | 3.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 330. | *   | 6.3 | 6.3 | 6.3 | 6.3 | 4.3 | 3.4 | 2.9 | 3.0 | 3.5 | 4.1 | 5.3 | 5.7 | 6.0 | 5.9 | 6.0 | 6.0 | 7.5 | 8.1 |
| 5.5  | 4.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 340. | *   | 6.0 | 6.0 | 6.0 | 6.0 | 4.0 | 3.3 | 2.7 | 3.0 | 3.4 | 3.9 | 5.4 | 5.7 | 5.7 | 5.7 | 5.8 | 6.0 | 7.6 | 8.1 |
| 5.7  | 4.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 350. | *   | 6.1 | 6.1 | 6.1 | 6.0 | 4.1 | 3.1 | 2.5 | 3.0 | 3.4 | 4.2 | 5.6 | 5.9 | 5.8 | 5.8 | 5.8 | 6.4 | 8.0 | 8.4 |
| 5.9  | 4.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 360. | *   | 6.1 | 6.1 | 6.2 | 5.9 | 4.1 | 3.4 | 2.8 | 3.0 | 3.4 | 4.4 | 5.8 | 5.9 | 6.0 | 6.0 | 6.3 | 7.3 | 8.6 | 9.0 |
| 6.6  | 5.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 8.6 | 8.3 | 8.0 | 8.4 | 5.6 | 4.4 | 3.7 | 3.7 | 4.1 | 5.4 | 8.2 | 7.8 | 8.1 | 8.2 | 8.9 | 9.2 | 9.0 | 9.2 |
| 6.7   | 5.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | *   | 70  | 70  | 70  | 70  | 60  | 60  | 60  | 60  | 60  | 70  | 290 | 70  | 70  | 70  | 60  | 40  | 10  | 10  |
| 10    | 10  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

□ PAGE  
5

JOB: I25HarmonywithPkgStationPMpackageA RUN: I25HarmonywithPkgStationPMpackageA

MODEL RESULTS  
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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
ANGLE \* (PPM)  
(DEGR)\* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32 REC33 REC34 REC35 REC36 REC37 REC38  
REC39 REC40

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|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0.   | *   | 4.8 | 4.3 | 4.7 | 5.3 | 6.7 | 6.2 | 5.4 | 4.7 | .3  | .4  | .8  | 2.0 | 2.0 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 |
| 1.8  | .8  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 10.  | *   | 5.3 | 3.2 | 3.7 | 4.5 | 6.0 | 5.5 | 4.9 | 4.2 | .0  | .2  | .2  | 1.0 | 1.0 | 1.0 | .9  | 2.4 | 2.4 | 2.4 |
| 2.4  | 1.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 20.  | *   | 4.7 | 2.6 | 3.1 | 4.1 | 5.5 | 5.0 | 4.5 | 4.0 | .0  | .0  | .0  | .2  | .2  | .2  | .2  | 2.3 | 2.3 | 2.3 |
| 2.3  | 1.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30.  | *   | 4.2 | 2.3 | 2.9 | 3.7 | 5.3 | 4.8 | 4.2 | 4.0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 2.0 | 2.0 | 2.0 |
| 2.0  | 1.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 40.  | *   | 3.8 | 2.0 | 2.6 | 3.5 | 5.2 | 4.6 | 4.3 | 4.1 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 1.8 | 1.8 | 1.8 |
| 1.8  | 1.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 50.  | *   | 3.5 | 1.8 | 2.3 | 3.3 | 5.0 | 4.6 | 4.4 | 4.4 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 1.7 | 1.7 | 1.7 |
| 1.7  | 1.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 60.  | *   | 2.9 | 1.6 | 2.1 | 2.9 | 5.0 | 4.8 | 4.5 | 4.5 | .1  | .1  | .1  | .1  | .0  | .0  | .0  | 1.5 | 1.5 | 1.5 |
| 1.5  | 1.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 70.  | *   | 2.3 | 1.0 | 1.6 | 2.5 | 4.6 | 4.6 | 4.5 | 4.2 | .2  | .2  | .3  | .3  | .0  | .0  | .0  | 1.4 | 1.4 | 1.4 |
| 1.5  | 1.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 80.  | *   | 1.6 | .3  | .9  | 1.6 | 3.9 | 3.7 | 3.6 | 3.3 | .7  | .8  | 1.0 | 1.2 | .1  | .0  | .0  | 1.4 | 1.4 | 1.5 |
| 2.0  | 1.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 90.  | *   | 1.4 | .1  | .3  | .7  | 2.3 | 2.1 | 2.0 | 1.9 | 1.9 | 2.3 | 2.6 | 2.9 | .7  | .2  | .1  | 1.6 | 1.7 | 2.2 |
| 3.7  | 3.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 100. | *   | 1.2 | .0  | .0  | .1  | .9  | .8  | .7  | .7  | 3.5 | 4.2 | 4.8 | 5.3 | 1.7 | .8  | .3  | 1.9 | 2.2 | 3.2 |
| 5.5  | 5.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 110. | *   | 1.2 | .0  | .0  | .0  | .2  | .2  | .2  | .2  | 4.6 | 5.4 | 6.0 | 6.8 | 3.0 | 1.7 | .9  | 2.5 | 3.1 | 4.5 |
| 7.1  | 7.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 120. | *   | 1.3 | .0  | .0  | .0  | .1  | .1  | .1  | .1  | 5.1 | 6.0 | 6.6 | 7.3 | 3.9 | 2.4 | 1.7 | 3.3 | 4.2 | 5.5 |
| 7.9  | 7.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 130. | *   | 1.4 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 5.3 | 5.9 | 6.7 | 7.3 | 4.2 | 2.9 | 2.0 | 4.0 | 4.8 | 5.8 |

|      |     |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|------|-----|-----|-----|------|-----|------|------|-----|-----|-----|-----|-----|-----|
| 7.7  | 7.4 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 140. | *   | 1.5 | .0  | .0  | .0  | .0   | .0  | .0  | .0  | 5.2  | 5.8 | 6.5  | 7.0  | 4.4 | 3.1 | 2.3 | 4.2 | 4.9 | 5.8 |
| 7.3  | 7.0 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 150. | *   | 1.6 | .1  | .1  | .1  | .1   | .0  | .0  | .0  | 5.0  | 5.6 | 6.5  | 6.8  | 4.6 | 3.3 | 2.6 | 4.5 | 5.0 | 5.7 |
| 7.2  | 6.8 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 160. | *   | 1.8 | .2  | .2  | .2  | .2   | .0  | .0  | .0  | 5.0  | 5.6 | 6.5  | 6.7  | 4.5 | 3.5 | 2.8 | 4.5 | 4.8 | 5.5 |
| 7.4  | 7.2 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 170. | *   | 1.8 | .6  | .6  | .6  | .6   | .2  | .1  | .0  | 5.1  | 6.0 | 6.7  | 6.9  | 4.9 | 3.9 | 3.5 | 4.9 | 5.3 | 6.2 |
| 8.0  | 7.6 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 180. | *   | 1.3 | 1.3 | 1.3 | 1.3 | 1.3  | .5  | .3  | .2  | 5.5  | 6.7 | 7.5  | 7.6  | 5.6 | 5.0 | 4.6 | 4.7 | 5.1 | 6.1 |
| 8.0  | 7.5 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 190. | *   | .6  | 1.8 | 1.9 | 1.9 | 1.9  | .9  | .6  | .4  | 5.7  | 7.0 | 7.5  | 7.9  | 6.4 | 5.6 | 5.5 | 3.9 | 4.5 | 5.6 |
| 7.6  | 7.0 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 200. | *   | .2  | 1.8 | 1.8 | 1.9 | 1.9  | 1.0 | .7  | .5  | 6.0  | 7.3 | 7.8  | 7.8  | 6.4 | 5.9 | 5.5 | 3.4 | 4.0 | 5.1 |
| 7.0  | 6.4 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 210. | *   | .1  | 1.6 | 1.6 | 1.6 | 1.7  | 1.0 | .7  | .6  | 6.8  | 7.9 | 7.9  | 8.2  | 6.9 | 6.3 | 5.7 | 3.4 | 3.7 | 5.0 |
| 7.0  | 6.4 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 220. | *   | .0  | 1.5 | 1.5 | 1.5 | 1.5  | .9  | .7  | .5  | 7.7  | 8.5 | 8.6  | 8.6  | 6.8 | 6.0 | 5.3 | 3.2 | 3.8 | 4.8 |
| 6.8  | 6.4 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 230. | *   | .0  | 1.4 | 1.4 | 1.4 | 1.4  | .8  | .6  | .5  | 8.7  | 8.8 | 8.8  | 8.8  | 7.2 | 6.1 | 5.4 | 3.4 | 3.9 | 4.8 |
| 7.0  | 6.8 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 240. | *   | .0  | 1.3 | 1.3 | 1.3 | 1.4  | .9  | .7  | .6  | 9.5  | 9.7 | 9.2  | 9.4  | 7.3 | 6.0 | 5.2 | 3.5 | 3.9 | 4.9 |
| 7.4  | 7.3 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 250. | *   | .0  | 1.2 | 1.2 | 1.3 | 2.1  | 1.6 | 1.1 | 1.0 | 10.2 | 9.9 | 10.0 | 10.1 | 7.4 | 5.8 | 5.3 | 3.3 | 4.2 | 5.3 |
| 8.1  | 8.0 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 260. | *   | .2  | 1.4 | 1.5 | 2.1 | 4.2  | 3.5 | 3.1 | 2.9 | 9.5  | 9.3 | 9.6  | 10.0 | 6.8 | 5.1 | 4.0 | 2.3 | 3.2 | 4.6 |
| 7.3  | 7.4 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 270. | *   | 1.0 | 2.4 | 2.9 | 4.5 | 8.1  | 7.1 | 6.4 | 6.2 | 6.6  | 6.5 | 6.9  | 7.4  | 4.5 | 3.5 | 2.9 | .8  | 1.4 | 2.3 |
| 4.7  | 4.7 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 280. | *   | 2.5 | 3.8 | 4.9 | 6.5 | 10.3 | 9.2 | 8.7 | 8.1 | 3.2  | 3.3 | 3.5  | 4.1  | 2.5 | 2.1 | 1.8 | .0  | .2  | .7  |
| 1.7  | 1.8 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 290. | *   | 3.3 | 4.6 | 5.6 | 7.4 | 10.4 | 9.1 | 8.1 | 8.0 | 1.1  | 1.3 | 1.5  | 2.2  | 1.7 | 1.7 | 1.7 | .0  | .0  | .0  |
| .3   | .3  |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 300. | *   | 3.3 | 5.1 | 5.9 | 7.4 | 9.3  | 8.0 | 7.2 | 7.0 | .7   | .8  | 1.0  | 1.8  | 1.7 | 1.7 | 1.7 | .0  | .0  | .0  |
| .0   | .0  |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 310. | *   | 3.1 | 5.1 | 5.9 | 7.2 | 8.4  | 6.9 | 6.4 | 6.5 | .6   | .8  | 1.1  | 1.8  | 1.9 | 1.9 | 1.9 | .1  | .1  | .1  |
| .1   | .0  |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 320. | *   | 3.2 | 5.2 | 5.7 | 6.7 | 7.4  | 6.1 | 6.1 | 6.0 | .7   | .8  | 1.1  | 2.0  | 2.0 | 2.0 | 2.0 | .1  | .1  | .1  |
| .1   | .0  |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 330. | *   | 3.3 | 5.1 | 5.6 | 6.1 | 6.9  | 6.0 | 6.1 | 6.0 | .8   | .9  | 1.3  | 2.2  | 2.2 | 2.2 | 2.2 | .1  | .1  | .1  |
| .1   | .0  |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 340. | *   | 3.4 | 5.0 | 5.2 | 5.7 | 6.6  | 6.3 | 6.2 | 5.7 | .7   | 1.0 | 1.3  | 2.5  | 2.5 | 2.5 | 2.5 | .3  | .3  | .3  |
| .3   | .0  |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 350. | *   | 4.2 | 5.0 | 5.2 | 5.7 | 6.9  | 6.2 | 6.0 | 5.3 | .6   | .8  | 1.2  | 2.6  | 2.6 | 2.6 | 2.6 | .9  | .9  | .9  |
| .9   | .3  |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| 360. | *   | 4.8 | 4.3 | 4.7 | 5.3 | 6.7  | 6.2 | 5.4 | 4.7 | .3   | .4  | .8   | 2.0  | 2.0 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 |
| 1.8  | .8  |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |

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|       |     |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|------|-----|-----|-----|------|-----|------|------|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 5.3 | 5.2 | 5.9 | 7.4 | 10.4 | 9.2 | 8.7 | 8.1 | 10.2 | 9.9 | 10.0 | 10.1 | 7.4 | 6.3 | 5.7 | 4.9 | 5.3 | 6.2 |
| 8.1   | 8.0 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |
| DEGR. | *   | 10  | 320 | 300 | 300 | 290  | 280 | 280 | 280 | 250  | 250 | 250  | 250  | 250 | 210 | 210 | 170 | 170 | 170 |
| 250   | 250 |     |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |     |

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JOB: I25HarmonywithPkgStationPMpackageA RUN: I25HarmonywithPkgStationPMpackageA

MODEL RESULTS  
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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

| WIND ANGLE (DEGR) | * CONCENTRATION (PPM) | REC41 | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
|-------------------|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | *                     | .4    | .2    | .0    | .0    | .0    | .2    | .2    | .2    | .2    | .1    | .1    | .1    | .1    | .1    | .0    | .0    |
| 10.               | *                     | .8    | .5    | .1    | .0    | .0    | .0    | .0    | .0    | .2    | .2    | .2    | .2    | .2    | .1    | .1    | .0    |
| 20.               | *                     | .9    | .7    | .2    | .2    | .1    | .1    | .1    | .1    | .1    | .2    | .2    | .3    | .3    | .1    | .1    | .1    |
| 30.               | *                     | .9    | .8    | .3    | .2    | .2    | .2    | .2    | .2    | .2    | .3    | .3    | .3    | .4    | .2    | .2    | .2    |
| 40.               | *                     | .9    | .6    | .3    | .3    | .3    | .2    | .2    | .2    | .2    | .4    | .4    | .4    | .5    | .3    | .3    | .3    |
| 50.               | *                     | .8    | .6    | .3    | .3    | .3    | .3    | .3    | .3    | .3    | .3    | .3    | .3    | .5    | .3    | .3    | .3    |
| 60.               | *                     | .7    | .6    | .3    | .3    | .3    | .3    | .3    | .3    | .3    | .3    | .3    | .3    | .6    | .4    | .3    | .3    |
| 70.               | *                     | .9    | .8    | .6    | .6    | .6    | .6    | .3    | .3    | .3    | .3    | .3    | .4    | 1.1   | .8    | .8    | .6    |

|      |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 80.  | * | 1.7 | 1.7 | 1.8 | 2.0 | 2.0 | 2.0 | .7  | .4  | .3  | .3  | .5  | 1.1 | 2.6 | 2.5 | 2.4 | 2.1 |
| 90.  | * | 3.6 | 3.6 | 4.4 | 4.3 | 4.3 | 4.4 | 2.2 | 1.2 | 1.1 | 1.1 | 1.6 | 3.1 | 5.7 | 4.9 | 5.0 | 4.6 |
| 100. | * | 6.0 | 6.0 | 7.0 | 7.0 | 7.2 | 7.3 | 4.3 | 2.7 | 2.1 | 2.1 | 3.2 | 5.3 | 7.9 | 7.3 | 6.9 | 6.5 |
| 110. | * | 7.3 | 7.0 | 7.9 | 7.8 | 8.0 | 8.2 | 5.2 | 3.8 | 3.4 | 3.4 | 4.4 | 6.3 | 8.1 | 7.1 | 6.9 | 6.6 |
| 120. | * | 7.4 | 7.5 | 7.6 | 7.5 | 7.5 | 7.5 | 5.2 | 4.3 | 3.8 | 3.6 | 4.5 | 5.8 | 6.9 | 6.3 | 6.0 | 5.9 |
| 130. | * | 7.0 | 7.4 | 6.9 | 7.0 | 7.0 | 7.0 | 4.9 | 4.0 | 3.4 | 3.4 | 4.2 | 5.3 | 6.0 | 5.6 | 5.4 | 5.6 |
| 140. | * | 7.1 | 7.4 | 6.6 | 6.5 | 6.5 | 6.5 | 4.7 | 3.8 | 3.3 | 3.3 | 3.9 | 5.0 | 5.3 | 5.0 | 5.1 | 5.3 |
| 150. | * | 7.5 | 7.5 | 6.3 | 6.3 | 6.3 | 6.3 | 4.6 | 3.6 | 3.3 | 3.2 | 3.7 | 4.0 | 4.7 | 5.2 | 5.2 | 5.2 |
| 160. | * | 7.5 | 7.0 | 5.9 | 5.9 | 5.9 | 6.0 | 4.2 | 3.3 | 3.0 | 2.7 | 3.2 | 3.5 | 4.6 | 5.0 | 4.8 | 4.8 |
| 170. | * | 7.3 | 6.6 | 5.9 | 5.9 | 5.9 | 6.1 | 4.1 | 3.2 | 2.7 | 2.6 | 3.1 | 3.7 | 4.8 | 4.8 | 4.8 | 4.8 |
| 180. | * | 7.0 | 6.4 | 6.0 | 6.0 | 6.0 | 6.0 | 3.9 | 3.4 | 3.0 | 2.5 | 2.8 | 3.9 | 4.8 | 4.8 | 4.8 | 4.8 |
| 190. | * | 6.3 | 5.9 | 5.8 | 5.8 | 6.0 | 5.7 | 3.9 | 3.5 | 3.0 | 2.5 | 2.9 | 3.7 | 4.8 | 4.9 | 4.9 | 4.9 |
| 200. | * | 5.9 | 5.8 | 5.8 | 6.0 | 6.2 | 5.6 | 4.0 | 3.2 | 2.8 | 2.5 | 3.0 | 3.8 | 4.9 | 4.9 | 4.9 | 4.9 |
| 210. | * | 6.1 | 6.1 | 6.1 | 6.2 | 6.4 | 5.5 | 4.0 | 3.4 | 3.0 | 2.5 | 3.0 | 3.8 | 5.1 | 5.1 | 5.1 | 5.0 |
| 220. | * | 6.3 | 6.3 | 6.3 | 6.7 | 6.4 | 5.3 | 4.2 | 3.5 | 3.1 | 2.5 | 3.2 | 4.1 | 5.3 | 5.3 | 5.2 | 5.0 |
| 230. | * | 6.8 | 6.7 | 6.9 | 6.9 | 6.6 | 5.8 | 4.5 | 3.4 | 2.9 | 2.5 | 3.1 | 4.1 | 5.5 | 5.5 | 5.3 | 5.2 |
| 240. | * | 7.2 | 7.3 | 7.4 | 6.9 | 6.7 | 6.1 | 4.5 | 3.3 | 3.0 | 2.3 | 3.1 | 4.2 | 5.8 | 5.7 | 5.5 | 5.4 |
| 250. | * | 8.2 | 8.0 | 7.4 | 6.8 | 6.5 | 6.3 | 4.2 | 3.0 | 2.5 | 1.9 | 2.8 | 4.0 | 5.9 | 5.8 | 5.6 | 5.4 |
| 260. | * | 7.5 | 7.2 | 6.0 | 5.6 | 5.5 | 5.3 | 3.1 | 2.1 | 1.6 | 1.1 | 1.9 | 3.0 | 4.9 | 4.8 | 4.7 | 4.7 |
| 270. | * | 4.5 | 4.5 | 3.5 | 3.4 | 3.3 | 3.3 | 1.6 | 1.0 | .7  | .3  | .7  | 1.5 | 2.9 | 2.9 | 2.8 | 2.8 |
| 280. | * | 1.7 | 1.5 | 1.3 | 1.2 | 1.3 | 1.5 | .6  | .3  | .2  | .0  | .1  | .4  | 1.2 | 1.2 | 1.1 | 1.0 |
| 290. | * | .3  | .3  | .2  | .4  | .3  | .6  | .2  | .2  | .2  | .0  | .0  | .0  | .3  | .3  | .2  | .2  |
| 300. | * | .0  | .0  | .0  | .1  | .2  | .5  | .2  | .2  | .2  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 310. | * | .0  | .0  | .0  | .1  | .1  | .4  | .2  | .2  | .2  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 320. | * | .0  | .0  | .0  | .1  | .1  | .3  | .2  | .2  | .2  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 330. | * | .0  | .0  | .1  | .1  | .1  | .3  | .2  | .2  | .2  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 340. | * | .0  | .0  | .0  | .1  | .1  | .2  | .2  | .2  | .2  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 350. | * | .1  | .0  | .0  | .0  | .1  | .2  | .2  | .2  | .2  | .1  | .1  | .1  | .1  | .0  | .0  | .0  |
| 360. | * | .4  | .2  | .0  | .0  | .0  | .2  | .2  | .2  | .2  | .1  | .1  | .1  | .1  | .1  | .0  | .0  |

|       |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | * | 8.2 | 8.0 | 7.9 | 7.8 | 8.0 | 8.2 | 5.2 | 4.3 | 3.8 | 3.6 | 4.5 | 6.3 | 8.1 | 7.3 | 6.9 | 6.6 |
| DEGR. | * | 250 | 250 | 110 | 110 | 110 | 110 | 110 | 120 | 120 | 120 | 120 | 110 | 110 | 100 | 100 | 110 |

THE HIGHEST CONCENTRATION OF 10.40 PPM OCCURRED AT RECEPTOR REC25.

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JOB: I25HarmonywithPkgStationPMpackageA

RUN: I25HarmonywithPkgStationPMpackageA

DATE : 11/22/10  
TIME : 11:26:56

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |        | * CO/LINK (PPM)<br>* ANGLE (DEGREES) |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|--------|--------|--------------------------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |        | REC1                                 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 |
| REC19  | REC20  | 70                                   | 70   | 70   | 70   | 60   | 60   | 60   | 60   | 60   | 70    | 290   | 70    | 70    | 70    | 60    | 40    | 10    | 10    |
| LINK # | LINK # | -----*                               |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .0     | 1      | 1.1                                  | .7   | .3   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | 2.0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 2      | .2                                   | .1   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .4    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 3      | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 4      | 2.3                                  | 2.0  | 1.4  | .6   | .0   | .0   | .0   | .0   | .0   | .0    | 2.4   | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 5      | .6                                   | .4   | .1   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .5    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 1.4    | 6      | .9                                   | 1.3  | 1.9  | 2.8  | 1.9  | 1.4  | 1.1  | 1.1  | 1.4  | 1.9   | 1.1   | 3.7   | 3.6   | 3.6   | 3.0   | 2.8   | 2.5   | 2.5   |
| .4     | 7      | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .1    | .0    | .0    | .1    | .1    | .9    | 1.3   | 1.3   | .8    |
| .9     | 8      | 1.2                                  | 1.5  | 1.8  | 2.1  | 1.5  | 1.2  | .9   | .9   | 1.1  | 1.3   | .0    | 1.9   | 1.9   | 1.9   | 1.4   | 1.6   | 1.7   | 1.5   |
| .2     | 9      | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .1   | .0   | .1    | .0    | .1    | .1    | .1    | .5    | .7    | .8    | .4    |
| .2     | 10     | .1                                   | .1   | .1   | .1   | .0   | .0   | .1   | .1   | .1   | .1    | .0    | .1    | .1    | .2    | .3    | .1    | .0    | .1    |
| .2     | 11     | .1                                   | .1   | .1   | .1   | .0   | .0   | .1   | .1   | .1   | .2    | .0    | .1    | .2    | .2    | .5    | .2    | .0    | .2    |
| .3     | 12     | .1                                   | .1   | .1   | .2   | .1   | .1   | .1   | .2   | .1   | .3    | .0    | .2    | .3    | .3    | .7    | .4    | .1    | .3    |
| .0     | 13     | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .0    | .0    |
| .0     | 14     | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .1    | .2    | .1    | .0    | .0    |



harmpga2.out

|     |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| .1  | .1   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 15 * | .6 | .6 | .6 | .6 | .5 | .4 | .3 | .3 | .4 | .4 | .0 | .5 | .5 | .5 | .2 | .4 | .5 | .4 |
| .3  | .2   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 16 * | .3 | .4 | .4 | .4 | .3 | .3 | .2 | .2 | .2 | .3 | .0 | .3 | .3 | .3 | .3 | .3 | .3 | .3 |
| .2  | .2   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 17 * | .5 | .5 | .5 | .5 | .5 | .4 | .3 | .3 | .3 | .3 | .0 | .4 | .4 | .3 | .1 | .2 | .4 | .3 |
| .2  | .2   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 18 * | .3 | .3 | .3 | .3 | .3 | .2 | .2 | .2 | .2 | .2 | .0 | .3 | .3 | .3 | .2 | .3 | .3 | .3 |
| .2  | .2   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 19 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 20 * | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 21 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .6 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 22 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 23 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 24 * | .0 | .0 | .1 | .1 | .1 | .1 | .1 | .0 | .0 | .0 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 25 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 26 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .1 | .0 | .0 | .1 | .1 | .3 | .2 | .0 | .8 |
| 1.0 | 1.2  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 27 * | .0 | .0 | .1 | .1 | .1 | .1 | .1 | .0 | .0 | .0 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 28 * | .0 | .0 | .0 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .2 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 29 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 30 * | .0 | .0 | .0 | .2 | .1 | .0 | .0 | .0 | .0 | .0 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 31 * | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .0 | .1 | .1 | .1 | .2 | .4 | .7 | .9 |
| .7  | .6   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|     | 32 * | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .0 | .0 | .1 | .1 | .1 | .0 | .1 | .4 | .4 |
| .4  | .3   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

PAGE

8

JOB: I25HarmonywithPkgStationPMpackageA

RUN: I25HarmonywithPkgStationPMpackageA

DATE : 11/22/10  
TIME : 11:26:56

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |       | * CO/LINK (PPM)   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|--------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|        |       | * ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| REC39  | REC40 | REC21             | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 |  |
| LINK # | *     | 10                | 320   | 300   | 300   | 290   | 280   | 280   | 280   | 250   | 250   | 250   | 250   | 250   | 210   | 210   | 170   | 170   | 170   |  |
| 250    | 250   |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| -----* |       |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .3     | 1 *   | .0                | .0    | .1    | .0    | .1    | .3    | .3    | .3    | .2    | .2    | .2    | .2    | .3    | .0    | .0    | .0    | .0    | .0    |  |
|        | .3    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 2 *   | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 3 *   | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .3     | 4 *   | .0                | .0    | .0    | .0    | .1    | .3    | .3    | .3    | .2    | .2    | .2    | .2    | .3    | .0    | .0    | .0    | .0    | .0    |  |
|        | .4    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 5 *   | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
|        | .1    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| 1.0    | 6 *   | .6                | 1.1   | 1.5   | 2.0   | 2.9   | 2.5   | 1.9   | 1.5   | 1.1   | 1.2   | 1.2   | 1.1   | .8    | .8    | .7    | .3    | .3    | .4    |  |
|        | .9    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 7 *   | .2                | .3    | .3    | .6    | .7    | .5    | .3    | .2    | .2    | .1    | .1    | .0    | .0    | .2    | .2    | .1    | .1    | .1    |  |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| 1.4    | 8 *   | .5                | .9    | 1.2   | 1.6   | 2.3   | 1.9   | 1.7   | 1.5   | 1.2   | 1.4   | 1.6   | 1.6   | 1.1   | .8    | .8    | .3    | .4    | .6    |  |
|        | 1.3   |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 9 *   | .1                | .2    | .1    | .3    | .5    | .3    | .3    | .2    | .2    | .2    | .2    | .2    | .0    | .3    | .2    | .1    | .1    | .1    |  |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 10 *  | .3                | .0    | .0    | .0    | .6    | .9    | 1.3   | 1.6   | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .3    | .3    | .3    |  |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 11 *  | .3                | .0    | .0    | .0    | .0    | .0    | .2    | .3    | .3    | .1    | .0    | .0    | .0    | .1    | .0    | .3    | .3    | .3    |  |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 12 *  | .3                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | 2.2   | 1.9   | 1.4   | .6    | .0    | .2    | .1    | .3    | .3    | .3    |  |
|        | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |

|     |      |     |     |     |     |     |    |    |    |     |     |     |     |     |     |     |     |     |
|-----|------|-----|-----|-----|-----|-----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| .0  | 13 * | .1  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .5  | .4  | .1  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 14 * | .1  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .3  | .1  | .0  | .0  | .0  | .0  | .0  | .1  | .1  |
| .0  | 15 * | .2  | .4  | .4  | .5  | .6  | .5 | .5 | .5 | .5  | .7  | 1.0 | 1.3 | .9  | .5  | .4  | .2  | .3  |
| 1.2 | 16 * | .2  | .2  | .2  | .3  | .4  | .3 | .3 | .3 | .8  | .8  | .8  | .8  | .5  | .3  | .3  | .2  | .3  |
| .7  | 17 * | .1  | .4  | .4  | .5  | .5  | .3 | .4 | .4 | .4  | .5  | .8  | 1.4 | 1.1 | .5  | .5  | .3  | .4  |
| 2.0 | 18 * | .2  | .2  | .2  | .3  | .3  | .2 | .2 | .2 | 1.5 | 1.5 | 1.5 | 1.5 | .6  | .4  | .3  | .3  | .4  |
| 1.0 | 19 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 20 * | .0  | .0  | .1  | .0  | .1  | .2 | .2 | .2 | .1  | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .0  |
| .1  | 21 * | .0  | .0  | .1  | .0  | .1  | .2 | .2 | .2 | .0  | .0  | .1  | .1  | .1  | .0  | .0  | .0  | .0  |
| .1  | 22 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 23 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 24 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 25 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 26 * | 1.3 | 1.5 | 1.3 | 1.3 | 1.2 | .8 | .6 | .4 | .2  | .1  | .1  | .0  | .0  | .2  | .1  | .7  | .8  |
| .0  | 27 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 28 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 29 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 30 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 31 * | .5  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .2  | .4  | .6  | .9  | .9  | 1.2 | 1.2 | 1.3 | 1.2 |
| .0  | 32 * | .3  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .1  | .7  | .8  | .9  | .1  | .1  |
| .0  | .0   |     |     |     |     |     |    |    |    |     |     |     |     |     |     |     |     |     |

PAGE

9

JOB: I25HarmonywithPkgStationPMpackageA

RUN: I25HarmonywithPkgStationPMpackageA

DATE : 11/22/10  
TIME : 11:26:56

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

| LINK # | * | CO/LINK (PPM) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|---|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |   | REC41         | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
|        |   | 250           | 250   | 110   | 110   | 110   | 110   | 110   | 120   | 120   | 120   | 120   | 110   | 110   | 100   | 100   | 110   |
| 1      | * | .4            | .4    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .2    |
| 2      | * | .1            | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 3      | * | .0            | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 4      | * | .4            | .5    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    |
| 5      | * | .1            | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 6      | * | .9            | .8    | .8    | .8    | .9    | 1.0   | .7    | .7    | .6    | .6    | .8    | .9    | 1.1   | .7    | .8    | 1.1   |
| 7      | * | .0            | .0    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | .0    | .1    | .1    | .1    | .0    | .0    | .0    |
| 8      | * | 1.3           | 1.2   | 1.2   | 1.3   | 1.3   | 1.4   | .9    | .9    | .8    | .8    | 1.0   | 1.1   | 1.5   | 1.1   | 1.1   | 1.2   |
| 9      | * | .0            | .0    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | .0    | .0    | .1    | .0    | .1    | .1    | .0    |
| 10     | * | .0            | .0    | .3    | .2    | .2    | .2    | .2    | .1    | .1    | .1    | .1    | .2    | .1    | .2    | .2    | .1    |
| 11     | * | .0            | .0    | .2    | .2    | .2    | .2    | .2    | .1    | .1    | .1    | .1    | .1    | .1    | .2    | .2    | .1    |
| 12     | * | .0            | .0    | .2    | .1    | .1    | .1    | .2    | .1    | .1    | .1    | .0    | .1    | .1    | .2    | .2    | .1    |
| 13     | * | .0            | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 14     | * | .0            | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 15     | * | 1.2           | 1.2   | 1.2   | 1.2   | 1.2   | 1.2   | .7    | .6    | .5    | .5    | .6    | .9    | 1.2   | 1.0   | .9    | .5    |
| 16     | * | .6            | .6    | .7    | .7    | .7    | .7    | .4    | .3    | .3    | .3    | .4    | .5    | .6    | .5    | .5    | .2    |
| 17     | * | 2.0           | 1.9   | 1.9   | 1.9   | 2.0   | 2.0   | 1.0   | .7    | .6    | .5    | .7    | 1.1   | 1.3   | 1.2   | .9    | .4    |
| 18     | * | 1.0           | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | .6    | .4    | .3    | .3    | .4    | .6    | .5    | .6    | .4    | .2    |
| 19     | * | .0            | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .0    | .0    | .0    |
| 20     | * | .1            | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .3    | .7    |
| 21     | * | .1            | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .7    | .8    | 1.1   | 1.6   |
| 22     | * | .0            | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .1    | .1    | .1    | .1    | .0    |
| 23     | * | .0            | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .2    | .1    | .0    | .0    |
| 24     | * | .0            | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 25     | * | .0            | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .3    | .1    | .1    | .0    | .0    |

harmppga2.out

|    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 26 | * | .0 | .0 | .2 | .2 | .2 | .2 | .1 | .2 | .2 | .2 | .2 | .1 | .2 | .1 | .1 | .1 |
| 27 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 28 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 29 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 30 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 31 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .1 | .0 | .0 |
| 32 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

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'I25HarmonywithPkgStationPMpackageB', 60 , 175 , 0 , 0 , 56 , 0.3048 , 1 , 1
'Receptor 1', 979 , 26 , 5
'Receptor 2', 1019 , 26 , 5
'Receptor 3', 1059 , 26 , 5
'Receptor 4', 1099 , 26 , 5
'Receptor 5', 1099 , -14 , 5
'Receptor 6', 1099 , -54 , 5
'Receptor 7', 1099 , -94 , 5
'Receptor 8', 1187 , -96 , 5
'Receptor 9', 1187 , -56 , 5
'Receptor 10', 1187 , -16 , 5
'Receptor 11', 1187 , 24 , 5
'Receptor 12', 1227 , 24 , 5
'Receptor 13', 1267 , 24 , 5
'Receptor 14', 1307 , 24 , 5
'Receptor 15', 1582 , 24 , 5
'Receptor 16', 1622 , 24 , 5
'Receptor 17', 1662 , 24 , 5
'Receptor 18', 1702 , 24 , 5
'Receptor 19', 1702 , -16 , 5
'Receptor 20', 1702 , -56 , 5
'Receptor 21', 1702 , -96 , 5
'Receptor 22', 1778 , -84 , 5
'Receptor 23', 1778 , -44 , 5
'Receptor 24', 1778 , -4 , 5
'Receptor 25', 1778 , 36 , 5
'Receptor 26', 1818 , 36 , 5
'Receptor 27', 1858 , 36 , 5
'Receptor 28', 1898 , 36 , 5
'Receptor 29', 1898 , 196 , 5
'Receptor 30', 1858 , 196 , 5
'Receptor 31', 1818 , 196 , 5
'Receptor 32', 1778 , 196 , 5
'Receptor 33', 1778 , 236 , 5
'Receptor 34', 1778 , 276 , 5
'Receptor 35', 1778 , 316 , 5
'Receptor 36', 1708 , 328 , 5
'Receptor 37', 1708 , 288 , 5
'Receptor 38', 1708 , 248 , 5
'Receptor 39', 1708 , 208 , 5
'Receptor 40', 1668 , 208 , 5
'Receptor 41', 1628 , 208 , 5
'Receptor 42', 1588 , 208 , 5
'Receptor 43', 1301 , 208 , 5
'Receptor 44', 1261 , 208 , 5
'Receptor 45', 1221 , 208 , 5
'Receptor 46', 1181 , 208 , 5
'Receptor 47', 1181 , 248 , 5
'Receptor 48', 1181 , 288 , 5
'Receptor 49', 1181 , 316 , 5
'Receptor 50', 1093 , 330.4 , 5
'Receptor 51', 1093 , 279.9 , 5
'Receptor 52', 1093 , 233.9 , 5
'Receptor 53', 1093 , 202 , 5
'Receptor 54', 1053 , 202 , 5
'Receptor 55', 1013 , 202 , 5
'Receptor 56', 973 , 202 , 5
'I25HarmonywithPkgStationPMpackageB', 32 , 1 , 1 , 'CO'
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100 , 34 , 2 , 1673 , 143.34 , 1600 , 1 , 3
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'harmeb1tturn', 'AG', 1109 , 106 , 909 , 106 , 0 , 12 , 1
100 , 31 , 2 , 30 , 143.34 , 1600 , 1 , 3
1
'harmebapp2', 'AG', 240 , 64 , 1140 , 64 , 1715 , 48.8 , 0 , 44
2
'harmebapp2 q', 'AG', 1109 , 64 , 240 , 64 , 0 , 24 , 2
100 , 34 , 2 , 1673 , 143.34 , 1600 , 1 , 3
1
'harmebdep/app', 'AG', 1140 , 62 , 1740 , 62 , 1800 , 48.8 , 0 , 56
2
'harmebdep/app q', 'AG', 1712 , 62 , 1177 , 62 , 0 , 36 , 3
100 , 45 , 2 , 1105 , 143.34 , 1600 , 1 , 3
1
'harmebdep/app2', 'AG', 1140 , 98 , 1740 , 98 , 1800 , 48.8 , 0 , 56
2
'harmebdep/app2 q', 'AG', 1712 , 98 , 1177 , 98 , 0 , 36 , 3
100 , 45 , 2 , 1105 , 143.34 , 1600 , 1 , 3

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'harmebdep','AG', 1740 , 74 , 2240 , 74 , 1335 , 48.8 , 0 , 56
1
'harmebdep2','AG', 1740 , 104 , 2240 , 104 , 1335 , 48.8 , 0 , 44
1
'harmwbapp1','AG', 2240 , 158 , 1740 , 158 , 2695 , 48.8 , 0 , 56
2
'harmwbque1','AG', 1774 , 158 , 2240 , 158 , 0 , 36 , 3
100 , 23 , 2 , 2215 , 143.34 , 1600 , 1 , 3
2
'harmwbltturn','AG', 1774 , 128 , 1970 , 128 , 0 , 24 , 2
100 , 77 , 2 , 480 , 143.34 , 1600 , 1 , 3
1
'harmwbdep/app','AG', 1740 , 152 , 1140 , 152 , 1595 , 48.8 , 0 , 44
2
'harmwbdep/app q','AG', 1171 , 152 , 1712 , 152 , 0 , 24 , 2
100 , 32 , 2 , 1533 , 143.34 , 1600 , 1 , 3
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'harmwbdep/app2','AG', 1740 , 176 , 1140 , 176 , 1595 , 48.8 , 0 , 44
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'harmwbdep/app2 q','AG', 1171 , 176 , 1740 , 176 , 0 , 24 , 2
100 , 32 , 2 , 1533 , 143.34 , 1600 , 1 , 3
2
'harmwbltturn2','AG', 1171 , 134 , 1471 , 134 , 0 , 12 , 1
100 , 28 , 2 , 70 , 143.34 , 1600 , 1 , 3
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1
'harmwbdep2','AG', 1140 , 170 , 240 , 170 , 1625 , 48.8 , 0 , 44
1
'pkgsbapp','AG', 1125 , 1124 , 1125 , 124 , 300 , 22.5 , 0 , 44
2
'pkgsbapp q','AG', 1125 , 198 , 1125 , 1124 , 0 , 24 , 2
100 , 76 , 2 , 30 , 143.34 , 1600 , 1 , 3
1
'pkgsbdep','AG', 1125 , 124 , 1125 , -376 , 155 , 22.5 , 0 , 32
2
'pkgsbleftturn','AG', 1143 , 198 , 1143 , 398 , 0 , 12 , 1
100 , 76 , 2 , 120 , 143.34 , 1600 , 1 , 3
1
'i25sbrampdep','AG', 1740 , 124 , 1740 , -876 , 1870 , 22.5 , 0 , 56
1
'pkgnbapp','AG', 1155 , -376 , 1155 , 124 , 185 , 23 , 0 , 44
2
'pkgnbapp q','AG', 1155 , 34 , 1155 , -376 , 0 , 24 , 2
100 , 85 , 2 , 15 , 143.34 , 1600 , 1 , 3
1
'pkgnbdep','AG', 1155 , 124 , 1155 , 1124 , 100 , 23 , 0 , 32
2
'pkgnbleftturn','AG', 1137 , 34 , 1137 , -66 , 0 , 12 , 1
100 , 85 , 2 , 35 , 143.34 , 1600 , 1 , 3
1
'i25sbrampapp','AG', 1740 , 1124 , 1740 , 124 , 1435 , 22.5 , 0 , 56
2
'i25sbrampleftturn','AG', 1758 , 198 , 1758 , 398 , 0 , 12 , 1
100 , 78 , 2 , 460 , 143.34 , 1600 , 1 , 3
1 , 0 , 4 , 1000 , 0 , 'Y', 10 , 0 , 36

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JOB: I25HarmonywithPkgStationPMpackageB

RUN: I25HarmonywithPkgStationPMpackageB

DATE : 11/22/10  
TIME : 11:27:33

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

| V/C QUEUE | LINK DESCRIPTION      | * | LINK COORDINATES (FT) |        |        |        | * | LENGTH | BRG TYPE | VPH   | EF     | H    | W    |
|-----------|-----------------------|---|-----------------------|--------|--------|--------|---|--------|----------|-------|--------|------|------|
| (VEH)     |                       | * | X1                    | Y1     | X2     | Y2     | * | (FT)   | (DEG)    |       | (G/MI) | (FT) | (FT) |
|           | 1. harmebapp1         | * | 240.0                 | 88.0   | 1140.0 | 88.0   | * | 900.   | 90. AG   | 1715. | 48.8   | .0   | 44.0 |
|           | 2. harmebapp1 q       | * | 1109.0                | 88.0   | 944.4  | 88.0   | * | 165.   | 270. AG  | 261.  | 100.0  | .0   | 24.0 |
| .84       | 8.4                   |   |                       |        |        |        |   |        |          |       |        |      |      |
|           | 3. harmebleftturn     | * | 1109.0                | 106.0  | 1103.9 | 106.0  | * | 5.     | 270. AG  | 119.  | 100.0  | .0   | 12.0 |
| .03       | .3                    |   |                       |        |        |        |   |        |          |       |        |      |      |
|           | 4. harmebapp2         | * | 240.0                 | 64.0   | 1140.0 | 64.0   | * | 900.   | 90. AG   | 1715. | 48.8   | .0   | 44.0 |
|           | 5. harmebapp2 q       | * | 1109.0                | 64.0   | 944.4  | 64.0   | * | 165.   | 270. AG  | 261.  | 100.0  | .0   | 24.0 |
| .84       | 8.4                   |   |                       |        |        |        |   |        |          |       |        |      |      |
|           | 6. harmebdep/app      | * | 1140.0                | 62.0   | 1740.0 | 62.0   | * | 600.   | 90. AG   | 1800. | 48.8   | .0   | 56.0 |
|           | 7. harmebdep/app q    | * | 1712.0                | 62.0   | 1621.4 | 62.0   | * | 91.    | 270. AG  | 519.  | 100.0  | .0   | 36.0 |
| .45       | 4.6                   |   |                       |        |        |        |   |        |          |       |        |      |      |
|           | 8. harmebdep/app2     | * | 1140.0                | 98.0   | 1740.0 | 98.0   | * | 600.   | 90. AG   | 1800. | 48.8   | .0   | 56.0 |
|           | 9. harmebdep/app2 q   | * | 1712.0                | 98.0   | 1621.4 | 98.0   | * | 91.    | 270. AG  | 519.  | 100.0  | .0   | 36.0 |
| .45       | 4.6                   |   |                       |        |        |        |   |        |          |       |        |      |      |
|           | 10. harmebdep         | * | 1740.0                | 74.0   | 2240.0 | 74.0   | * | 500.   | 90. AG   | 1335. | 48.8   | .0   | 56.0 |
|           | 11. harmebdep2        | * | 1740.0                | 104.0  | 2240.0 | 104.0  | * | 500.   | 90. AG   | 1335. | 48.8   | .0   | 44.0 |
|           | 12. harmwbapp1        | * | 2240.0                | 158.0  | 1740.0 | 158.0  | * | 500.   | 270. AG  | 2695. | 48.8   | .0   | 56.0 |
|           | 13. harmwbque1        | * | 1774.0                | 158.0  | 1866.8 | 158.0  | * | 93.    | 90. AG   | 265.  | 100.0  | .0   | 36.0 |
| .63       | 4.7                   |   |                       |        |        |        |   |        |          |       |        |      |      |
|           | 14. harmwbltturn      | * | 1774.0                | 128.0  | 1886.7 | 128.0  | * | 113.   | 90. AG   | 592.  | 100.0  | .0   | 24.0 |
| .79       | 5.7                   |   |                       |        |        |        |   |        |          |       |        |      |      |
|           | 15. harmwbdep/app     | * | 1740.0                | 152.0  | 1140.0 | 152.0  | * | 600.   | 270. AG  | 1595. | 48.8   | .0   | 44.0 |
|           | 16. harmwbdep/app q   | * | 1171.0                | 152.0  | 1305.0 | 152.0  | * | 134.   | 90. AG   | 246.  | 100.0  | .0   | 24.0 |
| .75       | 6.8                   |   |                       |        |        |        |   |        |          |       |        |      |      |
|           | 17. harmwbdep/app2    | * | 1740.0                | 176.0  | 1140.0 | 176.0  | * | 600.   | 270. AG  | 1595. | 48.8   | .0   | 44.0 |
|           | 18. harmwbdep/app2 q  | * | 1171.0                | 176.0  | 1305.0 | 176.0  | * | 134.   | 90. AG   | 246.  | 100.0  | .0   | 24.0 |
| .75       | 6.8                   |   |                       |        |        |        |   |        |          |       |        |      |      |
|           | 19. harmwbltturn2     | * | 1171.0                | 134.0  | 1181.7 | 134.0  | * | 11.    | 90. AG   | 108.  | 100.0  | .0   | 12.0 |
| .06       | .5                    |   |                       |        |        |        |   |        |          |       |        |      |      |
|           | 20. harmwbdep         | * | 1140.0                | 146.0  | 240.0  | 146.0  | * | 900.   | 270. AG  | 1625. | 48.8   | .0   | 44.0 |
|           | 21. harmwbdep2        | * | 1140.0                | 170.0  | 240.0  | 170.0  | * | 900.   | 270. AG  | 1625. | 48.8   | .0   | 44.0 |
|           | 22. pkgsbapp          | * | 1125.0                | 1124.0 | 1125.0 | 124.0  | * | 1000.  | 180. AG  | 300.  | 22.5   | .0   | 44.0 |
|           | 23. pkgsbapp q        | * | 1125.0                | 198.0  | 1125.0 | 204.2  | * | 6.     | 360. AG  | 584.  | 100.0  | .0   | 24.0 |
| .05       | .3                    |   |                       |        |        |        |   |        |          |       |        |      |      |
|           | 24. pkgsbdep          | * | 1125.0                | 124.0  | 1125.0 | -376.0 | * | 500.   | 180. AG  | 155.  | 22.5   | .0   | 32.0 |
|           | 25. pkgsbleftturn     | * | 1143.0                | 198.0  | 1143.0 | 247.9  | * | 50.    | 360. AG  | 292.  | 100.0  | .0   | 12.0 |
| .38       | 2.5                   |   |                       |        |        |        |   |        |          |       |        |      |      |
|           | 26. i25sbrampdep      | * | 1740.0                | 124.0  | 1740.0 | -876.0 | * | 1000.  | 180. AG  | 1870. | 22.5   | .0   | 56.0 |
|           | 27. pkgnbapp          | * | 1155.0                | -376.0 | 1155.0 | 124.0  | * | 500.   | 360. AG  | 185.  | 23.0   | .0   | 44.0 |
|           | 28. pkgnbapp q        | * | 1155.0                | 34.0   | 1155.0 | 30.7   | * | 3.     | 180. AG  | 654.  | 100.0  | .0   | 24.0 |
| .04       | .2                    |   |                       |        |        |        |   |        |          |       |        |      |      |
|           | 29. pkgnbdep          | * | 1155.0                | 124.0  | 1155.0 | 1124.0 | * | 1000.  | 360. AG  | 100.  | 23.0   | .0   | 32.0 |
|           | 30. pkgnbleftturn     | * | 1137.0                | 34.0   | 1137.0 | 17.7   | * | 16.    | 180. AG  | 327.  | 100.0  | .0   | 12.0 |
| .20       | .8                    |   |                       |        |        |        |   |        |          |       |        |      |      |
|           | 31. i25sbrampapp      | * | 1740.0                | 1124.0 | 1740.0 | 124.0  | * | 1000.  | 180. AG  | 1435. | 22.5   | .0   | 56.0 |
|           | 32. i25sbrampleftturn | * | 1758.0                | 198.0  | 1758.0 | 2219.3 | * | 2021.  | 360. AG  | 300.  | 100.0  | .0   | 12.0 |
| 1.60      | 102.7                 |   |                       |        |        |        |   |        |          |       |        |      |      |

PAGE

JOB: I25HarmonywithPkgStationPMpackageB

RUN: I25HarmonywithPkgStationPMpackageB

DATE : 11/22/10  
TIME : 11:27:33

ADDITIONAL QUEUE LINK PARAMETERS

| LINK DESCRIPTION | * | CYCLE LENGTH | RED TIME | CLEARANCE LOST TIME | APPROACH VOL | SATURATION FLOW RATE | IDLE EM FAC | SIGNAL TYPE | ARRIVAL RATE |
|------------------|---|--------------|----------|---------------------|--------------|----------------------|-------------|-------------|--------------|
|------------------|---|--------------|----------|---------------------|--------------|----------------------|-------------|-------------|--------------|

|                       | * | (SEC) | (SEC) | harmpgb2.out |       | (VPH) | (VPH)  | (gm/hr) |   |  |
|-----------------------|---|-------|-------|--------------|-------|-------|--------|---------|---|--|
|                       | * |       |       | (SEC)        | (VPH) |       |        |         |   |  |
| 2. harmebapp1 q       | * | 100   | 34    | 2.0          | 1673  | 1600  | 143.34 | 1       | 3 |  |
| 3. harmeb1tturn       | * | 100   | 31    | 2.0          | 30    | 1600  | 143.34 | 1       | 3 |  |
| 5. harmebapp2 q       | * | 100   | 34    | 2.0          | 1673  | 1600  | 143.34 | 1       | 3 |  |
| 7. harmebdep/app q    | * | 100   | 45    | 2.0          | 1105  | 1600  | 143.34 | 1       | 3 |  |
| 9. harmebdep/app2 q   | * | 100   | 45    | 2.0          | 1105  | 1600  | 143.34 | 1       | 3 |  |
| 13. harmwbque1        | * | 100   | 23    | 2.0          | 2215  | 1600  | 143.34 | 1       | 3 |  |
| 14. harmwb1tturn      | * | 100   | 77    | 2.0          | 480   | 1600  | 143.34 | 1       | 3 |  |
| 16. harmwbdep/app q   | * | 100   | 32    | 2.0          | 1533  | 1600  | 143.34 | 1       | 3 |  |
| 18. harmwbdep/app2 q  | * | 100   | 32    | 2.0          | 1533  | 1600  | 143.34 | 1       | 3 |  |
| 19. harmwb1tturn2     | * | 100   | 28    | 2.0          | 70    | 1600  | 143.34 | 1       | 3 |  |
| 23. pkgsbapp q        | * | 100   | 76    | 2.0          | 30    | 1600  | 143.34 | 1       | 3 |  |
| 25. pkgsbleftturn     | * | 100   | 76    | 2.0          | 120   | 1600  | 143.34 | 1       | 3 |  |
| 28. pkgnbapp q        | * | 100   | 85    | 2.0          | 15    | 1600  | 143.34 | 1       | 3 |  |
| 30. pkgnbleftturn     | * | 100   | 85    | 2.0          | 35    | 1600  | 143.34 | 1       | 3 |  |
| 32. i25sbrampleftturn | * | 100   | 78    | 2.0          | 460   | 1600  | 143.34 | 1       | 3 |  |

RECEPTOR LOCATIONS

| RECEPTOR        | * | COORDINATES (FT) |       |     | * |
|-----------------|---|------------------|-------|-----|---|
|                 | * | X                | Y     | Z   | * |
| 1. Receptor 1   | * | 979.0            | 26.0  | 5.0 | * |
| 2. Receptor 2   | * | 1019.0           | 26.0  | 5.0 | * |
| 3. Receptor 3   | * | 1059.0           | 26.0  | 5.0 | * |
| 4. Receptor 4   | * | 1099.0           | 26.0  | 5.0 | * |
| 5. Receptor 5   | * | 1099.0           | -14.0 | 5.0 | * |
| 6. Receptor 6   | * | 1099.0           | -54.0 | 5.0 | * |
| 7. Receptor 7   | * | 1099.0           | -94.0 | 5.0 | * |
| 8. Receptor 8   | * | 1187.0           | -96.0 | 5.0 | * |
| 9. Receptor 9   | * | 1187.0           | -56.0 | 5.0 | * |
| 10. Receptor 10 | * | 1187.0           | -16.0 | 5.0 | * |
| 11. Receptor 11 | * | 1187.0           | 24.0  | 5.0 | * |
| 12. Receptor 12 | * | 1227.0           | 24.0  | 5.0 | * |
| 13. Receptor 13 | * | 1267.0           | 24.0  | 5.0 | * |
| 14. Receptor 14 | * | 1307.0           | 24.0  | 5.0 | * |
| 15. Receptor 15 | * | 1582.0           | 24.0  | 5.0 | * |
| 16. Receptor 16 | * | 1622.0           | 24.0  | 5.0 | * |
| 17. Receptor 17 | * | 1662.0           | 24.0  | 5.0 | * |
| 18. Receptor 18 | * | 1702.0           | 24.0  | 5.0 | * |
| 19. Receptor 19 | * | 1702.0           | -16.0 | 5.0 | * |
| 20. Receptor 20 | * | 1702.0           | -56.0 | 5.0 | * |
| 21. Receptor 21 | * | 1702.0           | -96.0 | 5.0 | * |
| 22. Receptor 22 | * | 1778.0           | -84.0 | 5.0 | * |
| 23. Receptor 23 | * | 1778.0           | -44.0 | 5.0 | * |
| 24. Receptor 24 | * | 1778.0           | -4.0  | 5.0 | * |
| 25. Receptor 25 | * | 1778.0           | 36.0  | 5.0 | * |
| 26. Receptor 26 | * | 1818.0           | 36.0  | 5.0 | * |
| 27. Receptor 27 | * | 1858.0           | 36.0  | 5.0 | * |
| 28. Receptor 28 | * | 1898.0           | 36.0  | 5.0 | * |
| 29. Receptor 29 | * | 1898.0           | 196.0 | 5.0 | * |
| 30. Receptor 30 | * | 1858.0           | 196.0 | 5.0 | * |

□  
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JOB: I25HarmonywithPkgStationPMpackageB

RUN: I25HarmonywithPkgStationPMpackageB

DATE : 11/22/10

TIME : 11:27:33

RECEPTOR LOCATIONS

| RECEPTOR        | * | COORDINATES (FT) |       |     | * |
|-----------------|---|------------------|-------|-----|---|
|                 | * | X                | Y     | Z   | * |
| 31. Receptor 31 | * | 1818.0           | 196.0 | 5.0 | * |
| 32. Receptor 32 | * | 1778.0           | 196.0 | 5.0 | * |
| 33. Receptor 33 | * | 1778.0           | 236.0 | 5.0 | * |
| 34. Receptor 34 | * | 1778.0           | 276.0 | 5.0 | * |
| 35. Receptor 35 | * | 1778.0           | 316.0 | 5.0 | * |
| 36. Receptor 36 | * | 1708.0           | 328.0 | 5.0 | * |
| 37. Receptor 37 | * | 1708.0           | 288.0 | 5.0 | * |
| 38. Receptor 38 | * | 1708.0           | 248.0 | 5.0 | * |
| 39. Receptor 39 | * | 1708.0           | 208.0 | 5.0 | * |
| 40. Receptor 40 | * | 1668.0           | 208.0 | 5.0 | * |
| 41. Receptor 41 | * | 1628.0           | 208.0 | 5.0 | * |
| 42. Receptor 42 | * | 1588.0           | 208.0 | 5.0 | * |
| 43. Receptor 43 | * | 1301.0           | 208.0 | 5.0 | * |
| 44. Receptor 44 | * | 1261.0           | 208.0 | 5.0 | * |
| 45. Receptor 45 | * | 1221.0           | 208.0 | 5.0 | * |

|                 |   |        |       |     |   |
|-----------------|---|--------|-------|-----|---|
| 46. Receptor 46 | * | 1181.0 | 208.0 | 5.0 | * |
| 47. Receptor 47 | * | 1181.0 | 248.0 | 5.0 | * |
| 48. Receptor 48 | * | 1181.0 | 288.0 | 5.0 | * |
| 49. Receptor 49 | * | 1181.0 | 316.0 | 5.0 | * |
| 50. Receptor 50 | * | 1093.0 | 330.4 | 5.0 | * |
| 51. Receptor 51 | * | 1093.0 | 279.9 | 5.0 | * |
| 52. Receptor 52 | * | 1093.0 | 233.9 | 5.0 | * |
| 53. Receptor 53 | * | 1093.0 | 202.0 | 5.0 | * |
| 54. Receptor 54 | * | 1053.0 | 202.0 | 5.0 | * |
| 55. Receptor 55 | * | 1013.0 | 202.0 | 5.0 | * |
| 56. Receptor 56 | * | 973.0  | 202.0 | 5.0 | * |

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JOB: I25HarmonywithPkgStationPMpackageB

RUN: I25HarmonywithPkgStationPMpackageB

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
ANGLE \* (PPM)  
(DEGR)\* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18  
REC19 REC20

| WIND ANGLE (DEGR) | REC1 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 | REC19 | REC20 |
|-------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | 6.7  | 6.8  | 6.8  | 6.6  | 4.7  | 3.8  | 3.1  | 3.3  | 3.9  | 4.6   | 6.3   | 6.3   | 6.2   | 6.0   | 6.0   | 7.3   | 8.6   | 8.9   |       |       |
| 6.5               | 5.5  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 10.               | 6.8  | 6.8  | 6.8  | 6.6  | 4.7  | 3.9  | 3.5  | 3.0  | 3.6  | 4.6   | 6.1   | 6.2   | 6.1   | 5.9   | 6.3   | 7.9   | 8.8   | 8.9   |       |       |
| 6.9               | 5.8  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 20.               | 6.9  | 6.9  | 7.0  | 6.7  | 5.1  | 4.2  | 3.5  | 3.2  | 3.7  | 4.7   | 6.3   | 6.4   | 6.2   | 6.0   | 6.7   | 8.4   | 8.6   | 8.5   |       |       |
| 6.3               | 5.2  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 30.               | 7.2  | 7.4  | 7.4  | 6.7  | 5.1  | 4.3  | 3.6  | 3.4  | 3.9  | 4.7   | 6.6   | 6.4   | 6.2   | 6.3   | 7.2   | 8.9   | 8.8   | 8.1   |       |       |
| 6.0               | 4.7  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 40.               | 7.6  | 7.7  | 7.6  | 7.1  | 5.3  | 4.2  | 3.7  | 3.4  | 3.8  | 5.0   | 6.8   | 6.7   | 6.6   | 6.6   | 8.0   | 9.3   | 9.1   | 7.7   |       |       |
| 5.6               | 4.6  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 50.               | 8.2  | 8.0  | 8.1  | 7.3  | 5.7  | 4.3  | 3.7  | 3.5  | 4.1  | 5.1   | 7.2   | 7.1   | 7.1   | 7.2   | 8.8   | 9.2   | 8.9   | 7.8   |       |       |
| 5.4               | 4.3  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 60.               | 8.7  | 8.6  | 8.3  | 7.8  | 5.6  | 4.5  | 3.9  | 3.5  | 4.4  | 5.3   | 7.6   | 7.6   | 7.6   | 7.6   | 9.1   | 9.1   | 8.3   | 7.6   |       |       |
| 4.9               | 4.0  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 70.               | 9.0  | 8.5  | 8.3  | 8.4  | 5.6  | 4.4  | 3.8  | 3.3  | 4.2  | 5.6   | 8.0   | 8.3   | 8.2   | 8.3   | 8.9   | 8.3   | 7.7   | 6.6   |       |       |
| 4.2               | 3.2  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 80.               | 7.9  | 7.5  | 7.8  | 8.0  | 4.9  | 3.5  | 2.3  | 2.1  | 3.1  | 4.4   | 7.7   | 7.5   | 7.4   | 7.4   | 7.0   | 6.3   | 5.7   | 5.3   |       |       |
| 3.1               | 2.3  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 90.               | 4.6  | 4.9  | 5.1  | 5.5  | 2.6  | 1.7  | 1.2  | .8   | 1.2  | 2.2   | 4.9   | 4.9   | 4.6   | 4.6   | 3.9   | 3.5   | 3.2   | 3.3   |       |       |
| 1.9               | 1.5  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 100.              | 1.8  | 1.9  | 2.2  | 2.5  | 1.1  | .6   | .4   | .2   | .4   | .8    | 1.7   | 1.8   | 1.9   | 1.8   | 1.8   | 1.6   | 1.6   | 1.7   |       |       |
| 1.3               | 1.2  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 110.              | .5   | .5   | .8   | .9   | .4   | .4   | .4   | .2   | .2   | .2    | .5    | .5    | .5    | .5    | .7    | .8    | 1.0   | 1.2   |       |       |
| 1.1               | 1.1  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 120.              | .2   | .2   | .4   | .6   | .4   | .4   | .4   | .2   | .2   | .2    | .3    | .3    | .3    | .3    | .6    | .7    | .9    | 1.2   |       |       |
| 1.2               | 1.2  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 130.              | .1   | .2   | .4   | .4   | .4   | .4   | .4   | .2   | .2   | .2    | .3    | .3    | .3    | .3    | .6    | .7    | .9    | 1.3   |       |       |
| 1.3               | 1.3  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 140.              | .1   | .2   | .3   | .3   | .3   | .3   | .3   | .1   | .2   | .2    | .2    | .2    | .2    | .2    | .5    | .6    | .9    | 1.4   |       |       |
| 1.4               | 1.4  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 150.              | .0   | .0   | .2   | .3   | .3   | .2   | .2   | .1   | .1   | .1    | .1    | .1    | .1    | .2    | .2    | .5    | .7    | .9    | 1.6   |       |
| 1.6               | 1.6  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 160.              | .0   | .0   | .2   | .2   | .2   | .2   | .2   | .0   | .0   | .0    | .0    | .0    | .0    | .1    | .1    | .5    | .7    | 1.0   | 1.8   |       |
| 1.8               | 1.8  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 170.              | .0   | .0   | .0   | .2   | .2   | .2   | .2   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .4    | .5    | .8    | 1.8   |       |       |
| 1.8               | 1.8  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 180.              | .0   | .0   | .0   | .1   | .1   | .1   | .1   | .1   | .1   | .1    | .1    | .0    | .0    | .0    | .1    | .3    | .5    | 1.3   |       |       |
| 1.3               | 1.2  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 190.              | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .1   | .2   | .2    | .3    | .1    | .0    | .0    | .0    | .1    | .2    | .6    |       |       |
| .6                | .6   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 200.              | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .3   | .3   | .3    | .3    | .1    | .0    | .0    | .0    | .0    | .0    | .2    |       |       |
| .2                | .2   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 210.              | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .3   | .3   | .3    | .3    | .1    | .1    | .0    | .0    | .0    | .0    | .0    |       |       |
| .0                | .0   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 220.              | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .2   | .2   | .2    | .2    | .1    | .1    | .0    | .0    | .0    | .0    | .0    |       |       |
| .0                | .0   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 230.              | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .2   | .2   | .2    | .2    | .2    | .2    | .1    | .1    | .1    | .1    | .1    |       |       |
| .0                | .0   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 240.              | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .2   | .2   | .2    | .2    | .2    | .2    | .1    | .1    | .1    | .1    | .1    |       |       |



|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 250. | *   | .3  | .3  | .3  | .3  | .0  | .0  | .0  | .2  | .2  | .2  | .6  | .5  | .5  | .4  | .4  | .4  | .4  | .4  |
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 260. | *   | 1.4 | 1.4 | 1.5 | 1.5 | .5  | .2  | .0  | .3  | .4  | .7  | 2.2 | 1.9 | 1.9 | 1.8 | 1.9 | 2.0 | 1.9 | 1.9 |
| .9   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 270. | *   | 3.7 | 3.8 | 4.1 | 4.2 | 1.9 | 1.0 | .6  | .9  | 1.2 | 2.2 | 5.0 | 5.1 | 4.9 | 4.9 | 5.2 | 5.2 | 5.1 | 5.2 |
| 2.6  | 1.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 280. | *   | 6.1 | 6.4 | 6.9 | 7.0 | 3.8 | 2.5 | 1.6 | 1.9 | 2.8 | 4.2 | 8.0 | 8.0 | 7.8 | 7.6 | 8.1 | 7.8 | 8.0 | 8.3 |
| 4.7  | 3.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 290. | *   | 7.2 | 7.6 | 8.0 | 8.2 | 5.1 | 3.6 | 2.7 | 3.1 | 4.1 | 5.5 | 8.9 | 8.3 | 8.2 | 7.9 | 8.2 | 8.3 | 8.5 | 9.0 |
| 5.4  | 4.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 300. | *   | 7.2 | 7.6 | 8.0 | 8.1 | 5.4 | 4.0 | 3.2 | 3.6 | 4.4 | 5.8 | 8.3 | 7.7 | 7.6 | 7.4 | 7.6 | 7.4 | 7.8 | 8.8 |
| 5.3  | 4.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 310. | *   | 6.8 | 7.3 | 7.6 | 7.6 | 5.1 | 4.0 | 3.4 | 3.7 | 4.3 | 5.4 | 7.3 | 6.9 | 6.7 | 7.0 | 6.8 | 6.8 | 7.6 | 8.4 |
| 5.4  | 3.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 320. | *   | 6.6 | 6.9 | 7.1 | 7.1 | 5.1 | 3.9 | 3.2 | 3.5 | 4.3 | 5.0 | 6.3 | 6.6 | 6.6 | 6.6 | 6.3 | 6.3 | 7.5 | 8.3 |
| 5.4  | 3.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 330. | *   | 6.6 | 6.9 | 6.9 | 6.9 | 4.9 | 4.0 | 3.3 | 3.4 | 4.1 | 4.9 | 6.0 | 6.4 | 6.5 | 6.5 | 6.0 | 6.1 | 7.5 | 8.1 |
| 5.4  | 4.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 340. | *   | 6.4 | 6.6 | 6.6 | 6.6 | 4.6 | 3.7 | 3.2 | 3.5 | 4.0 | 4.4 | 6.0 | 6.0 | 6.2 | 6.3 | 5.8 | 6.1 | 7.6 | 8.1 |
| 5.7  | 4.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 350. | *   | 6.6 | 6.7 | 6.7 | 6.6 | 4.7 | 3.7 | 3.1 | 3.2 | 3.8 | 4.8 | 6.3 | 6.3 | 6.2 | 6.2 | 5.7 | 6.5 | 7.9 | 8.3 |
| 6.1  | 5.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 360. | *   | 6.7 | 6.8 | 6.8 | 6.6 | 4.7 | 3.8 | 3.1 | 3.3 | 3.9 | 4.6 | 6.3 | 6.3 | 6.2 | 6.0 | 6.0 | 7.3 | 8.6 | 8.9 |
| 6.5  | 5.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 9.0 | 8.6 | 8.3 | 8.4 | 5.7 | 4.5 | 3.9 | 3.7 | 4.4 | 5.8 | 8.9 | 8.3 | 8.2 | 8.3 | 9.1 | 9.3 | 9.1 | 9.0 |
| 6.9   | 5.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | *   | 70  | 60  | 60  | 70  | 50  | 60  | 60  | 310 | 60  | 300 | 290 | 70  | 290 | 70  | 60  | 40  | 40  | 290 |
| 10    | 10  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

□ PAGE  
5

JOB: I25HarmonywithPkgStationPMpackageB RUN: I25HarmonywithPkgStationPMpackageB

MODEL RESULTS  
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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
ANGLE \* (PPM)  
(DEGR)\* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32 REC33 REC34 REC35 REC36 REC37 REC38  
REC39 REC40

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|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0.   | *   | 4.8 | 4.3 | 4.8 | 5.3 | 7.0 | 6.6 | 6.1 | 5.3 | .3  | .4  | .8  | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 |
| 1.8  | .7  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 10.  | *   | 5.1 | 3.5 | 3.9 | 4.8 | 6.3 | 5.9 | 5.6 | 4.9 | .0  | .1  | .3  | .9  | .9  | .9  | .9  | 2.2 | 2.2 | 2.2 |
| 2.2  | 1.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 20.  | *   | 4.5 | 2.9 | 3.5 | 4.3 | 5.9 | 5.5 | 5.0 | 4.7 | .0  | .0  | .0  | .2  | .2  | .2  | .2  | 2.1 | 2.1 | 2.1 |
| 2.1  | 1.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30.  | *   | 4.3 | 2.6 | 3.3 | 4.1 | 5.8 | 5.5 | 5.0 | 4.8 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 1.8 | 1.8 | 1.8 |
| 1.8  | 1.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 40.  | *   | 4.1 | 2.6 | 3.0 | 4.0 | 5.7 | 5.3 | 5.0 | 5.0 | .1  | .1  | .1  | .1  | .0  | .0  | .0  | 1.7 | 1.7 | 1.7 |
| 1.7  | 1.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 50.  | *   | 3.8 | 2.4 | 3.1 | 3.9 | 6.0 | 5.6 | 5.4 | 5.4 | .1  | .1  | .1  | .1  | .0  | .0  | .0  | 1.6 | 1.6 | 1.6 |
| 1.6  | .9  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 60.  | *   | 3.3 | 2.0 | 2.7 | 3.8 | 5.9 | 5.7 | 5.6 | 5.5 | .1  | .1  | .1  | .1  | .0  | .0  | .0  | 1.4 | 1.4 | 1.4 |
| 1.4  | .9  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 70.  | *   | 2.4 | 1.2 | 1.9 | 3.2 | 5.7 | 5.4 | 5.3 | 4.9 | .4  | .4  | .4  | .5  | .0  | .0  | .0  | 1.3 | 1.3 | 1.3 |
| 1.5  | 1.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 80.  | *   | 1.7 | .4  | 1.0 | 1.9 | 4.5 | 4.2 | 4.0 | 3.8 | 1.2 | 1.3 | 1.5 | 1.5 | .2  | .1  | .0  | 1.4 | 1.5 | 1.6 |
| 2.3  | 2.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 90.  | *   | 1.3 | .1  | .3  | .8  | 2.4 | 2.4 | 2.1 | 2.0 | 3.2 | 3.4 | 3.6 | 3.9 | 1.1 | .3  | .1  | 1.5 | 1.7 | 2.4 |
| 4.1  | 4.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 100. | *   | 1.2 | .0  | .0  | .1  | .9  | .8  | .8  | .7  | 5.4 | 5.7 | 6.0 | 6.4 | 2.4 | 1.3 | .6  | 2.1 | 2.6 | 3.6 |
| 6.5  | 6.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 110. | *   | 1.1 | .0  | .0  | .0  | .2  | .2  | .2  | .2  | 6.6 | 6.8 | 7.2 | 7.7 | 3.8 | 2.3 | 1.5 | 2.9 | 3.6 | 5.0 |
| 7.9  | 8.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 120. | *   | 1.2 | .0  | .0  | .0  | .1  | .1  | .1  | .1  | 6.7 | 6.8 | 7.4 | 8.0 | 4.5 | 3.1 | 2.3 | 3.7 | 4.6 | 5.9 |
| 8.3  | 8.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 130. | *   | 1.3 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 6.4 | 6.4 | 7.4 | 7.9 | 4.8 | 3.5 | 2.7 | 4.3 | 5.0 | 5.9 |

|      |     |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|------|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|
| 8.1  | 7.8 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 140. | *   | 1.4 | .0  | .0  | .0  | .0   | .0  | .0  | .0  | 6.0  | 6.2  | 7.2  | 7.6  | 4.8 | 3.5 | 2.8 | 4.3 | 5.2 | 5.8 |
| 7.7  | 7.6 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 150. | *   | 1.6 | .0  | .0  | .0  | .0   | .0  | .0  | .0  | 5.7  | 6.1  | 7.1  | 7.3  | 4.9 | 3.6 | 2.9 | 4.7 | 5.2 | 5.8 |
| 7.7  | 7.3 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 160. | *   | 1.8 | .2  | .2  | .2  | .2   | .0  | .0  | .0  | 5.4  | 6.1  | 6.8  | 6.9  | 4.9 | 3.8 | 3.1 | 4.5 | 4.9 | 5.9 |
| 7.9  | 7.5 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 170. | *   | 1.8 | .6  | .6  | .6  | .6   | .2  | .1  | .0  | 5.6  | 6.7  | 7.2  | 7.2  | 5.1 | 4.3 | 3.5 | 5.0 | 5.5 | 6.3 |
| 8.1  | 7.8 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 180. | *   | 1.2 | 1.2 | 1.3 | 1.3 | 1.3  | .5  | .3  | .1  | 6.1  | 7.3  | 7.8  | 7.9  | 5.9 | 5.1 | 4.5 | 4.7 | 5.2 | 6.2 |
| 8.3  | 7.7 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 190. | *   | .6  | 1.8 | 1.8 | 1.8 | 1.8  | .8  | .5  | .4  | 6.3  | 7.6  | 7.8  | 8.2  | 6.3 | 5.8 | 5.4 | 4.1 | 4.7 | 5.8 |
| 7.7  | 7.2 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 200. | *   | .2  | 1.8 | 1.8 | 1.8 | 1.8  | 1.0 | .7  | .5  | 6.6  | 7.6  | 7.8  | 8.1  | 6.7 | 5.9 | 5.5 | 3.4 | 4.1 | 5.2 |
| 7.3  | 6.6 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 210. | *   | .0  | 1.6 | 1.6 | 1.6 | 1.6  | .9  | .7  | .5  | 7.2  | 8.1  | 8.2  | 8.2  | 6.8 | 6.3 | 5.6 | 3.4 | 4.0 | 5.0 |
| 7.2  | 6.6 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 220. | *   | .0  | 1.4 | 1.4 | 1.4 | 1.4  | .9  | .6  | .5  | 8.0  | 8.7  | 8.4  | 8.5  | 6.9 | 6.1 | 5.3 | 3.3 | 3.9 | 4.9 |
| 7.1  | 6.7 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 230. | *   | .0  | 1.3 | 1.3 | 1.3 | 1.3  | .8  | .6  | .5  | 9.0  | 9.1  | 8.9  | 8.8  | 7.2 | 6.2 | 5.3 | 3.5 | 3.9 | 5.0 |
| 7.4  | 7.1 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 240. | *   | .0  | 1.2 | 1.2 | 1.2 | 1.3  | .9  | .7  | .6  | 9.6  | 9.7  | 9.4  | 9.4  | 7.5 | 6.1 | 5.5 | 3.5 | 4.4 | 5.2 |
| 7.7  | 7.7 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 250. | *   | .0  | 1.1 | 1.1 | 1.2 | 2.0  | 1.6 | 1.1 | .9  | 10.5 | 10.2 | 9.9  | 10.3 | 7.8 | 6.3 | 5.5 | 3.7 | 4.5 | 5.6 |
| 8.4  | 8.6 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 260. | *   | .2  | 1.4 | 1.6 | 2.3 | 4.4  | 3.6 | 3.2 | 2.9 | 10.1 | 9.9  | 10.1 | 10.4 | 7.2 | 5.5 | 4.4 | 2.7 | 3.7 | 5.1 |
| 8.3  | 8.3 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 270. | *   | 1.1 | 2.5 | 3.1 | 4.5 | 8.1  | 7.0 | 6.6 | 6.4 | 7.2  | 7.1  | 7.5  | 8.0  | 5.0 | 3.7 | 3.0 | 1.1 | 1.7 | 2.8 |
| 5.6  | 5.5 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 280. | *   | 2.7 | 4.1 | 4.9 | 6.7 | 10.7 | 9.5 | 9.0 | 8.2 | 3.5  | 3.4  | 3.8  | 4.2  | 2.7 | 2.1 | 1.8 | .2  | .4  | .8  |
| 2.2  | 2.1 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 290. | *   | 3.4 | 4.8 | 5.7 | 7.8 | 10.6 | 9.1 | 8.6 | 8.3 | 1.1  | 1.2  | 1.6  | 2.2  | 1.7 | 1.6 | 1.6 | .0  | .0  | .0  |
| .5   | .5  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 300. | *   | 3.4 | 5.1 | 5.9 | 7.6 | 9.4  | 8.0 | 7.3 | 7.4 | .7   | .9   | 1.2  | 1.8  | 1.6 | 1.6 | 1.6 | .0  | .0  | .0  |
| .1   | .1  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 310. | *   | 3.4 | 5.0 | 6.0 | 7.0 | 8.5  | 7.0 | 6.6 | 6.8 | .7   | .9   | 1.1  | 1.7  | 1.8 | 1.8 | 1.8 | .1  | .1  | .1  |
| .1   | .0  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 320. | *   | 3.2 | 5.0 | 5.9 | 6.5 | 7.6  | 6.4 | 6.6 | 6.5 | .8   | .9   | 1.2  | 1.9  | 1.9 | 1.9 | 1.9 | .1  | .1  | .1  |
| .1   | .0  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 330. | *   | 3.4 | 5.4 | 5.6 | 6.1 | 7.0  | 6.3 | 6.4 | 6.4 | .7   | .9   | 1.2  | 2.1  | 2.1 | 2.1 | 2.1 | .1  | .1  | .1  |
| .1   | .0  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 340. | *   | 3.5 | 5.1 | 5.2 | 5.9 | 6.9  | 6.6 | 6.5 | 6.0 | .7   | .9   | 1.2  | 2.5  | 2.4 | 2.4 | 2.4 | .2  | .2  | .2  |
| .2   | .0  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 350. | *   | 4.1 | 4.9 | 5.2 | 5.7 | 7.2  | 6.7 | 6.4 | 5.8 | .6   | .8   | 1.2  | 2.5  | 2.5 | 2.5 | 2.5 | .8  | .8  | .8  |
| .9   | .2  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 360. | *   | 4.8 | 4.3 | 4.8 | 5.3 | 7.0  | 6.6 | 6.1 | 5.3 | .3   | .4   | .8   | 1.9  | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 |
| 1.8  | .7  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |

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|       |     |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|------|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 5.1 | 5.4 | 6.0 | 7.8 | 10.7 | 9.5 | 9.0 | 8.3 | 10.5 | 10.2 | 10.1 | 10.4 | 7.8 | 6.3 | 5.6 | 5.0 | 5.5 | 6.3 |
| 8.4   | 8.6 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| DEGR. | *   | 10  | 330 | 310 | 290 | 280  | 280 | 290 | 250 | 250  | 260  | 260  | 250  | 210 | 210 | 170 | 170 | 170 |     |
| 250   | 250 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |

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JOB: I25HarmonywithPkgStationPMpackageB RUN: I25HarmonywithPkgStationPMpackageB

MODEL RESULTS  
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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

| WIND ANGLE (DEGR) | * CONCENTRATION (PPM) | REC41 | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
|-------------------|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | *                     | .4    | .2    | .0    | .0    | .1    | .2    | .2    | .2    | .2    | .2    | .2    | .2    | .2    | .1    | .0    | .0    |
| 10.               | *                     | .7    | .5    | .1    | .1    | .0    | .0    | .0    | .0    | .3    | .3    | .3    | .3    | .3    | .1    | .1    | .1    |
| 20.               | *                     | .8    | .7    | .2    | .1    | .1    | .1    | .1    | .1    | .5    | .5    | .5    | .5    | .3    | .2    | .1    | .1    |
| 30.               | *                     | .8    | .7    | .2    | .2    | .2    | .2    | .2    | .2    | .4    | .4    | .4    | .4    | .5    | .2    | .2    | .2    |
| 40.               | *                     | .8    | .6    | .3    | .3    | .2    | .2    | .2    | .2    | .4    | .4    | .4    | .4    | .5    | .3    | .3    | .3    |
| 50.               | *                     | .8    | .6    | .3    | .3    | .3    | .2    | .2    | .2    | .4    | .4    | .4    | .4    | .7    | .4    | .3    | .3    |
| 60.               | *                     | .7    | .6    | .4    | .4    | .4    | .3    | .2    | .2    | .4    | .4    | .4    | .5    | .9    | .4    | .4    | .3    |
| 70.               | *                     | .9    | .8    | .8    | .8    | .8    | .7    | .2    | .2    | .2    | .4    | .4    | .7    | 1.5   | 1.1   | .8    | .8    |

|      |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 80.  | * | 1.9 | 1.9 | 2.1 | 2.1 | 2.1 | 2.2 | .7  | .4  | .3  | .5  | .6  | 1.6 | 3.5 | 2.9 | 2.8 | 2.8 |
| 90.  | * | 4.2 | 4.2 | 4.9 | 4.9 | 4.9 | 5.2 | 2.5 | 1.4 | 1.0 | 1.2 | 1.9 | 3.7 | 6.8 | 6.2 | 6.1 | 6.0 |
| 100. | * | 6.8 | 6.9 | 7.7 | 7.9 | 8.0 | 8.4 | 4.6 | 3.2 | 2.4 | 2.3 | 3.5 | 6.4 | 9.7 | 8.9 | 8.8 | 8.3 |
| 110. | * | 8.2 | 7.9 | 8.4 | 8.6 | 9.0 | 9.2 | 5.4 | 4.4 | 3.7 | 3.9 | 5.1 | 7.2 | 9.9 | 8.8 | 8.7 | 8.7 |
| 120. | * | 7.9 | 8.3 | 8.1 | 8.5 | 8.7 | 8.7 | 5.8 | 4.6 | 4.0 | 3.9 | 5.4 | 7.0 | 8.6 | 8.2 | 8.0 | 8.0 |
| 130. | * | 7.7 | 8.0 | 7.3 | 7.8 | 8.2 | 8.4 | 5.6 | 4.2 | 3.7 | 3.8 | 5.0 | 6.5 | 7.8 | 7.3 | 7.4 | 7.5 |
| 140. | * | 7.5 | 7.8 | 6.8 | 7.5 | 7.8 | 7.8 | 5.5 | 4.2 | 3.6 | 3.9 | 4.9 | 5.7 | 7.0 | 7.1 | 6.9 | 6.8 |
| 150. | * | 7.7 | 7.7 | 6.6 | 7.4 | 7.5 | 7.4 | 5.2 | 4.2 | 3.7 | 3.5 | 4.5 | 5.1 | 6.5 | 6.7 | 6.8 | 6.8 |
| 160. | * | 7.6 | 7.2 | 6.3 | 7.1 | 7.1 | 7.1 | 5.0 | 3.8 | 3.4 | 3.2 | 3.9 | 4.8 | 6.6 | 6.4 | 6.5 | 6.4 |
| 170. | * | 7.5 | 6.9 | 6.5 | 7.1 | 7.1 | 7.1 | 4.8 | 3.8 | 3.2 | 3.2 | 4.1 | 4.9 | 6.4 | 6.4 | 6.3 | 6.4 |
| 180. | * | 7.1 | 6.5 | 6.7 | 7.1 | 7.1 | 7.1 | 4.8 | 3.8 | 3.4 | 3.0 | 3.6 | 4.9 | 6.5 | 6.4 | 6.4 | 6.3 |
| 190. | * | 6.6 | 6.1 | 6.9 | 7.0 | 7.1 | 6.9 | 4.8 | 4.1 | 3.8 | 3.0 | 3.7 | 4.8 | 6.4 | 6.5 | 6.5 | 6.3 |
| 200. | * | 6.2 | 6.0 | 7.0 | 7.2 | 7.3 | 7.0 | 5.2 | 3.9 | 3.6 | 2.9 | 3.8 | 4.8 | 6.5 | 6.5 | 6.4 | 6.2 |
| 210. | * | 6.3 | 6.3 | 7.4 | 7.5 | 7.5 | 6.9 | 5.0 | 4.3 | 3.6 | 3.1 | 3.7 | 4.8 | 6.7 | 6.6 | 6.5 | 6.2 |
| 220. | * | 6.6 | 6.6 | 7.6 | 7.9 | 7.8 | 7.1 | 5.4 | 4.5 | 3.7 | 3.0 | 3.8 | 5.1 | 7.0 | 6.9 | 6.7 | 6.6 |
| 230. | * | 7.1 | 7.1 | 8.6 | 8.2 | 8.5 | 7.5 | 5.7 | 4.3 | 3.8 | 3.1 | 3.8 | 5.2 | 7.3 | 7.2 | 7.0 | 7.0 |
| 240. | * | 7.7 | 7.8 | 8.9 | 8.9 | 8.6 | 8.2 | 5.7 | 4.3 | 3.6 | 3.2 | 4.1 | 5.5 | 7.6 | 7.5 | 7.5 | 7.5 |
| 250. | * | 8.5 | 8.7 | 9.5 | 9.1 | 8.7 | 8.7 | 5.5 | 3.9 | 3.4 | 2.8 | 3.9 | 5.4 | 8.1 | 8.1 | 8.1 | 7.9 |
| 260. | * | 8.3 | 8.4 | 8.3 | 7.8 | 7.8 | 7.5 | 4.3 | 2.9 | 2.2 | 1.6 | 2.7 | 4.4 | 7.3 | 7.1 | 6.9 | 6.9 |
| 270. | * | 5.5 | 5.5 | 5.1 | 4.8 | 4.9 | 4.9 | 2.4 | 1.3 | .9  | .5  | 1.0 | 2.3 | 4.6 | 4.4 | 4.3 | 4.3 |
| 280. | * | 2.0 | 2.0 | 2.1 | 1.9 | 1.9 | 2.3 | .9  | .4  | .3  | .0  | .2  | .7  | 1.8 | 1.8 | 1.7 | 1.7 |
| 290. | * | .5  | .5  | .7  | .6  | .7  | .9  | .3  | .2  | .2  | .0  | .0  | .1  | .4  | .4  | .4  | .4  |
| 300. | * | .1  | .1  | .1  | .2  | .2  | .6  | .2  | .2  | .2  | .0  | .0  | .0  | .1  | .1  | .1  | .1  |
| 310. | * | .0  | .0  | .1  | .1  | .2  | .5  | .2  | .2  | .2  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 320. | * | .0  | .0  | .1  | .1  | .1  | .5  | .3  | .3  | .3  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 330. | * | .0  | .0  | .1  | .1  | .1  | .4  | .3  | .3  | .3  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 340. | * | .0  | .0  | .1  | .1  | .2  | .3  | .3  | .3  | .3  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 350. | * | .2  | .0  | .0  | .1  | .1  | .3  | .3  | .3  | .3  | .1  | .1  | .1  | .1  | .0  | .0  | .0  |
| 360. | * | .4  | .2  | .0  | .0  | .1  | .2  | .2  | .2  | .2  | .2  | .2  | .2  | .2  | .1  | .0  | .0  |

|       |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | * | 8.5 | 8.7 | 9.5 | 9.1 | 9.0 | 9.2 | 5.8 | 4.6 | 4.0 | 3.9 | 5.4 | 7.2 | 9.9 | 8.9 | 8.8 | 8.7 |
| DEGR. | * | 250 | 250 | 250 | 250 | 110 | 110 | 120 | 120 | 120 | 110 | 120 | 110 | 110 | 100 | 100 | 110 |

THE HIGHEST CONCENTRATION OF 10.70 PPM OCCURRED AT RECEPTOR REC25.

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JOB: I25HarmonywithPkgStationPMpackageB

RUN: I25HarmonywithPkgStationPMpackageB

DATE : 11/22/10

TIME : 11:27:33

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |        | * CO/LINK (PPM)   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|--------|--------|-------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |        | * ANGLE (DEGREES) |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|        |        | REC1              | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 |
| REC19  | REC20  |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| LINK # | LINK # | 70                | 60   | 60   | 70   | 50   | 60   | 60   | 310  | 60   | 300   | 290   | 70    | 290   | 70    | 60    | 40    | 40    | 290   |
| 10     | 10     |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| -----* |        | -----*            |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .0     | 1      | 1.1               | 1.2  | .7   | .0   | .0   | .0   | .0   | .9   | .0   | 1.4   | 2.0   | .0    | 1.3   | .0    | .0    | .0    | .0    | .2    |
| .0     | 2      | .2                | .2   | .0   | .0   | .0   | .0   | .0   | .1   | .0   | .2    | .3    | .0    | .2    | .0    | .0    | .0    | .0    | .0    |
| .0     | 3      | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 4      | 2.4               | 2.4  | 2.0  | .6   | .1   | .0   | .0   | 1.0  | .0   | 1.6   | 2.4   | .0    | 1.2   | .0    | .0    | .0    | .0    | .1    |
| .0     | 5      | .5                | .5   | .2   | .0   | .0   | .0   | .0   | .2   | .0   | .3    | .4    | .0    | .2    | .0    | .0    | .0    | .0    | .0    |
| 1.4    | 6      | .9                | .6   | 1.1  | 2.7  | 1.6  | 1.4  | 1.1  | .0   | 1.4  | .1    | 1.1   | 3.6   | 2.5   | 3.5   | 2.9   | 2.7   | 2.6   | 3.6   |
| .4     | 7      | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .1    | .9    | 1.3   | 1.1   | .7    |
| .9     | 8      | 1.2               | 1.0  | 1.5  | 2.0  | 1.4  | 1.1  | .9   | .0   | 1.1  | .0    | .0    | 1.9   | .6    | 1.8   | 1.3   | 1.6   | 1.3   | 1.9   |
| .2     | 9      | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .1    | .0    | .1    | .5    | .7    | .3    | .1    |
| .2     | 10     | .1                | .0   | .0   | .1   | .0   | .0   | .1   | .0   | .1   | .0    | .0    | .1    | .0    | .2    | .4    | .1    | .3    | .0    |
| .2     | 11     | .1                | .0   | .0   | .1   | .0   | .1   | .1   | .0   | .1   | .0    | .0    | .2    | .0    | .2    | .5    | .2    | .5    | .0    |
| .6     | 12     | .2                | .1   | .1   | .3   | .0   | .2   | .2   | .0   | .3   | .0    | .0    | .5    | .0    | .6    | 1.4   | .8    | 1.3   | .0    |
| .0     | 13     | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .1    | .0    |
|        | 14     | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .1    | .0    | .1    | .2    | .1    | .2    | .0    |

|      |     |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
|------|-----|-----|-----|-----|----|----|----|----|----|-----|-----|----|-----|----|----|----|----|----|----|
| .1   | .1  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 15 * | .9  | 1.0 | 1.1 | 1.0 | .9 | .7 | .6 | .0 | .6 | .0  | .0  | .9 | .0  | .8 | .3 | .6 | .3 | .9 |    |
| .4   | .3  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 16 * | .1  | .1  | .2  | .1  | .1 | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .1 |
| .0   | .0  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 17 * | .8  | .9  | .9  | .8  | .8 | .6 | .5 | .0 | .6 | .0  | .0  | .7 | .0  | .6 | .1 | .4 | .2 | .7 |    |
| .4   | .3  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 18 * | .1  | .1  | .1  | .0  | .1 | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .1 |
| .0   | .0  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 19 * | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0   | .0  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 20 * | .1  | .2  | .0  | .0  | .0 | .0 | .0 | .7 | .0 | 1.0 | 1.2 | .0 | 1.1 | .0 | .0 | .0 | .0 | .0 | .3 |
| .0   | .0  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 21 * | .1  | .1  | .0  | .0  | .0 | .0 | .0 | .6 | .0 | .9  | 1.0 | .0 | 1.0 | .0 | .0 | .0 | .0 | .0 | .3 |
| .0   | .0  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 22 * | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0   | .0  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 23 * | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0   | .0  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 24 * | .0  | .0  | .1  | .1  | .1 | .1 | .1 | .1 | .0 | .1  | .1  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0   | .0  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 25 * | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0   | .0  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 26 * | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .1 | .3 | .2 | .5 | .0 |    |
| 1.0  | 1.1 |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 27 * | .0  | .0  | .1  | .1  | .1 | .1 | .1 | .1 | .0 | .1  | .1  | .0 | .1  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0   | .0  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 28 * | .0  | .0  | .0  | .1  | .1 | .0 | .0 | .0 | .0 | .0  | .2  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0   | .0  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 29 * | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0   | .0  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 30 * | .0  | .0  | .0  | .2  | .2 | .0 | .0 | .0 | .0 | .1  | .1  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0   | .0  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 31 * | .1  | .1  | .1  | .1  | .1 | .1 | .1 | .0 | .1 | .0  | .0  | .1 | .0  | .1 | .2 | .4 | .3 | .0 |    |
| .7   | .6  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
| 32 * | .1  | .1  | .1  | .1  | .1 | .1 | .1 | .0 | .1 | .0  | .0  | .1 | .0  | .1 | .0 | .1 | .1 | .0 |    |
| .4   | .3  |     |     |     |    |    |    |    |    |     |     |    |     |    |    |    |    |    |    |

PAGE

8

JOB: I25HarmonywithPkgStationPMpackageB

RUN: I25HarmonywithPkgStationPMpackageB

DATE : 11/22/10  
TIME : 11:27:33

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |        | * CO/LINK (PPM)   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|--------|--------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|        |        | * ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| REC39  | REC40  | REC21             | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 |  |
| LINK # | LINK # | 10                | 330   | 310   | 290   | 280   | 280   | 280   | 290   | 250   | 250   | 260   | 260   | 250   | 210   | 210   | 170   | 170   | 170   |  |
| 250    | 250    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| -----* |        |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .3     | 1 *    | .0                | .0    | .0    | .2    | .4    | .3    | .3    | .1    | .2    | .2    | .4    | .4    | .3    | .0    | .0    | .0    | .0    | .0    |  |
| .0     | .3     |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 2 *    | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
| .0     | .0     |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .3     | 3 *    | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
| .0     | .0     |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .3     | 4 *    | .0                | .0    | .0    | .2    | .3    | .3    | .3    | .1    | .2    | .2    | .4    | .4    | .3    | .0    | .0    | .0    | .0    | .0    |  |
| .0     | .4     |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 5 *    | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
| .9     | .0     |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .9     | 6 *    | .6                | .9    | 1.4   | 2.2   | 3.4   | 2.4   | 1.8   | .8    | 1.1   | 1.1   | .8    | .7    | .8    | .8    | .7    | .3    | .3    | .4    |  |
| .0     | .9     |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 7 *    | .2                | .3    | .4    | .5    | .7    | .5    | .3    | .2    | .2    | .1    | .0    | .0    | .0    | .2    | .2    | .1    | .1    | .1    |  |
| 1.3    | .0     |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 8 *    | .4                | .8    | 1.2   | 1.5   | 2.0   | 1.9   | 1.7   | 1.1   | 1.2   | 1.4   | 1.2   | 1.2   | 1.1   | .8    | .7    | .3    | .4    | .6    |  |
| .0     | 1.3    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 9 *    | .1                | .3    | .2    | .2    | .3    | .3    | .3    | .2    | .2    | .2    | .1    | .0    | .0    | .3    | .2    | .1    | .1    | .1    |  |
| .0     | .0     |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 10 *   | .3                | .1    | .0    | .0    | .4    | .9    | 1.3   | 2.1   | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .3    | .3    | .3    |  |
| .0     | .0     |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 11 *   | .3                | .1    | .0    | .0    | .0    | .0    | .2    | .7    | .3    | .1    | .0    | .0    | .0    | .1    | .0    | .3    | .3    | .3    |  |
| .0     | .0     |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .0     | 12 *   | .5                | .1    | .0    | .0    | .0    | .0    | .0    | .2    | 4.2   | 3.6   | 1.9   | .7    | .0    | .4    | .2    | .7    | .7    | .6    |  |
| .0     | .0     |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |

|     |      |     |     |     |     |     |    |    |     |    |     |     |     |     |     |     |     |     |     |
|-----|------|-----|-----|-----|-----|-----|----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| .0  | 13 * | .1  | .0  | .0  | .0  | .0  | .0 | .0 | .0  | .5 | .4  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 14 * | .1  | .0  | .0  | .0  | .0  | .0 | .0 | .1  | .3 | .1  | .0  | .0  | .0  | .0  | .0  | .1  | .1  | .1  |
| 2.0 | 15 * | .3  | .6  | .8  | .8  | .7  | .8 | .8 | 1.0 | .8 | 1.2 | 1.9 | 2.2 | 1.5 | .8  | .7  | .4  | .5  | .8  |
| .0  | 16 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0  | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 3.3 | 17 * | .2  | .6  | .7  | .6  | .5  | .6 | .6 | .9  | .6 | .9  | 2.1 | 3.1 | 1.9 | .8  | .8  | .5  | .7  | 1.1 |
| .0  | 18 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0  | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 19 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0  | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .2  | 20 * | .0  | .0  | .0  | .2  | .4  | .4 | .4 | .1  | .1 | .1  | .3  | .4  | .2  | .0  | .0  | .0  | .0  | .0  |
| .1  | 21 * | .0  | .0  | .0  | .3  | .4  | .4 | .4 | .2  | .1 | .1  | .3  | .3  | .1  | .0  | .0  | .0  | .0  | .0  |
| .0  | 22 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0  | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 23 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0  | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 24 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0  | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 25 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0  | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 26 * | 1.2 | 1.5 | 1.3 | 1.1 | 1.2 | .7 | .6 | .4  | .2 | .1  | .0  | .0  | .0  | .2  | .1  | .6  | .8  | 1.0 |
| .0  | 27 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0  | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 28 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0  | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 29 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0  | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 30 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0  | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 31 * | .5  | .1  | .0  | .0  | .0  | .0 | .0 | .1  | .2 | .4  | .6  | .9  | .9  | 1.1 | 1.1 | 1.2 | 1.1 | .9  |
| .0  | 32 * | .3  | .0  | .0  | .0  | .0  | .0 | .0 | .0  | .0 | .0  | .1  | .1  | .7  | .8  | .9  | .1  | .1  | .0  |

PAGE

9

JOB: I25HarmonywithPkgStationPMpackageB

RUN: I25HarmonywithPkgStationPMpackageB

DATE : 11/22/10  
TIME : 11:27:33

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

| LINK # | * | CO/LINK (PPM)   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|---|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |   | ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|        |   | REC41           | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
|        |   | 250             | 250   | 250   | 250   | 110   | 110   | 120   | 120   | 120   | 110   | 120   | 110   | 110   | 100   | 100   | 110   |
| 1      | * | .4              | .4    | 1.1   | 1.2   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .2    |
| 2      | * | .0              | .0    | .1    | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 3      | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 4      | * | .4              | .5    | 1.1   | 1.1   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    |
| 5      | * | .0              | .0    | .1    | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 6      | * | .8              | .8    | .1    | .0    | .9    | .9    | .9    | .7    | .6    | .4    | .8    | .8    | 1.1   | .7    | .7    | 1.0   |
| 7      | * | .0              | .0    | .0    | .0    | .1    | .1    | .1    | .1    | .1    | .1    | .0    | .1    | .1    | .1    | .1    | .0    |
| 8      | * | 1.2             | 1.2   | .3    | .1    | 1.3   | 1.3   | 1.1   | .9    | .7    | .5    | 1.0   | 1.1   | 1.5   | 1.1   | 1.1   | 1.2   |
| 9      | * | .0              | .0    | .0    | .0    | .1    | .1    | .0    | .1    | .1    | .1    | .0    | .1    | .0    | .1    | .1    | .0    |
| 10     | * | .0              | .0    | .0    | .0    | .2    | .2    | .1    | .1    | .2    | .2    | .1    | .2    | .1    | .2    | .2    | .1    |
| 11     | * | .0              | .0    | .0    | .0    | .2    | .2    | .1    | .1    | .1    | .2    | .1    | .1    | .1    | .2    | .2    | .1    |
| 12     | * | .0              | .0    | .0    | .0    | .2    | .2    | .1    | .1    | .2    | .4    | .1    | .2    | .2    | .4    | .4    | .1    |
| 13     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 14     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .0    | .0    | .0    | .0    | .0    | .0    |
| 15     | * | 2.0             | 1.9   | 1.2   | .9    | 2.0   | 2.0   | 1.3   | 1.0   | .8    | .7    | 1.1   | 1.5   | 2.1   | 1.7   | 1.4   | .8    |
| 16     | * | .0              | .1    | .2    | .1    | .1    | .2    | .1    | .0    | .0    | .0    | .1    | .2    | .3    | .2    | .2    | .1    |
| 17     | * | 3.3             | 3.3   | 2.7   | 2.4   | 3.3   | 3.3   | 1.6   | 1.2   | 1.0   | .8    | 1.3   | 1.9   | 2.2   | 2.0   | 1.5   | .6    |
| 18     | * | .0              | .0    | .6    | .4    | .4    | .5    | .2    | .1    | .0    | .0    | .2    | .3    | .3    | .2    | .2    | .1    |
| 19     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 20     | * | .2              | .3    | 1.1   | 1.4   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .2    | .5    | 1.3   | .0    |
| 21     | * | .2              | .2    | .9    | 1.2   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | 1.2   | 1.4   | 1.9   | 2.8   |
| 22     | * | .0              | .0    | .0    | .1    | .0    | .0    | .0    | .0    | .0    | .2    | .2    | .2    | .2    | .1    | .1    | .1    |
| 23     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .2    | .1    | .0    | .0    |
| 24     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 25     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .2    | .3    | .1    | .1    | .1    | .1    | .0    |

harmpgb2.out

|    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 26 | * | .0 | .0 | .0 | .0 | .2 | .2 | .2 | .2 | .2 | .1 | .2 | .1 | .1 | .1 | .1 | .1 |
| 27 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 28 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 29 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 30 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 31 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .1 | .0 | .0 | .0 | .0 | .0 | .0 |
| 32 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

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'I25HarmonywithPkgStationPA', 60 , 175 , 0 , 0 , 56 , 0.3048 , 1 , 1
'Receptor 1', 979 , 26 , 5
'Receptor 2', 1019 , 26 , 5
'Receptor 3', 1059 , 26 , 5
'Receptor 4', 1099 , 26 , 5
'Receptor 5', 1099 , -14 , 5
'Receptor 6', 1099 , -54 , 5
'Receptor 7', 1099 , -94 , 5
'Receptor 8', 1187 , -96 , 5
'Receptor 9', 1187 , -56 , 5
'Receptor 10', 1187 , -16 , 5
'Receptor 11', 1187 , 24 , 5
'Receptor 12', 1227 , 24 , 5
'Receptor 13', 1267 , 24 , 5
'Receptor 14', 1307 , 24 , 5
'Receptor 15', 1582 , 24 , 5
'Receptor 16', 1622 , 24 , 5
'Receptor 17', 1662 , 24 , 5
'Receptor 18', 1702 , 24 , 5
'Receptor 19', 1702 , -16 , 5
'Receptor 20', 1702 , -56 , 5
'Receptor 21', 1702 , -96 , 5
'Receptor 22', 1778 , -84 , 5
'Receptor 23', 1778 , -44 , 5
'Receptor 24', 1778 , -4 , 5
'Receptor 25', 1778 , 36 , 5
'Receptor 26', 1818 , 36 , 5
'Receptor 27', 1858 , 36 , 5
'Receptor 28', 1898 , 36 , 5
'Receptor 29', 1898 , 196 , 5
'Receptor 30', 1858 , 196 , 5
'Receptor 31', 1818 , 196 , 5
'Receptor 32', 1778 , 196 , 5
'Receptor 33', 1778 , 236 , 5
'Receptor 34', 1778 , 276 , 5
'Receptor 35', 1778 , 316 , 5
'Receptor 36', 1708 , 328 , 5
'Receptor 37', 1708 , 288 , 5
'Receptor 38', 1708 , 248 , 5
'Receptor 39', 1708 , 208 , 5
'Receptor 40', 1668 , 208 , 5
'Receptor 41', 1628 , 208 , 5
'Receptor 42', 1588 , 208 , 5
'Receptor 43', 1301 , 208 , 5
'Receptor 44', 1261 , 208 , 5
'Receptor 45', 1221 , 208 , 5
'Receptor 46', 1181 , 208 , 5
'Receptor 47', 1181 , 248 , 5
'Receptor 48', 1181 , 288 , 5
'Receptor 49', 1181 , 316 , 5
'Receptor 50', 1093 , 330.4 , 5
'Receptor 51', 1093 , 279.9 , 5
'Receptor 52', 1093 , 233.9 , 5
'Receptor 53', 1093 , 202 , 5
'Receptor 54', 1053 , 202 , 5
'Receptor 55', 1013 , 202 , 5
'Receptor 56', 973 , 202 , 5
'I25HarmonywithPkgStationPA', 32 , 1 , 1 , 'CO'
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'harmebapp1', 'AG', 240 , 88 , 1140 , 88 , 1852 , 48.8 , 0 , 44
2
'harmebapp1 q', 'AG', 1109 , 88 , 240 , 88 , 0 , 24 , 2
100 , 41 , 2 , 1792 , 143.34 , 1600 , 1 , 3
2
'harmeb1tturn', 'AG', 1109 , 106 , 909 , 106 , 0 , 12 , 1
100 , 93 , 2 , 40 , 143.34 , 1600 , 1 , 3
1
'harmebapp2', 'AG', 240 , 64 , 1140 , 64 , 1852 , 48.8 , 0 , 44
2
'harmebapp2 q', 'AG', 1109 , 64 , 240 , 64 , 0 , 24 , 2
100 , 41 , 2 , 1792 , 143.34 , 1600 , 1 , 3
1
'harmebdep/app', 'AG', 1140 , 62 , 1740 , 62 , 1900 , 48.8 , 0 , 56
2
'harmebdep/app q', 'AG', 1712 , 62 , 1177 , 62 , 0 , 36 , 3
100 , 42 , 2 , 1000 , 143.34 , 1600 , 1 , 3
1
'harmebdep/app2', 'AG', 1140 , 98 , 1740 , 98 , 1900 , 48.8 , 0 , 56
2
'harmebdep/app2 q', 'AG', 1712 , 98 , 1177 , 98 , 0 , 36 , 3
100 , 42 , 2 , 1000 , 143.34 , 1600 , 1 , 3
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1
'harmebdep','AG', 1740 , 74 , 2240 , 74 , 1192 , 48.8 , 0 , 56
1
'harmebdep2','AG', 1740 , 104 , 2240 , 104 , 1192 , 48.8 , 0 , 44
1
'harmwbapp1','AG', 2240 , 158 , 1740 , 158 , 3205 , 23.9 , 0 , 56
2
'harmwbque1','AG', 1774 , 158 , 2240 , 158 , 0 , 36 , 3
100 , 25 , 2 , 2920 , 143.34 , 1600 , 1 , 3
2
'harmwbltturn','AG', 1774 , 128 , 1970 , 128 , 0 , 24 , 2
100 , 85 , 2 , 285 , 143.34 , 1600 , 1 , 3
1
'harmwbdep/app','AG', 1740 , 152 , 1140 , 152 , 2105 , 23.9 , 0 , 44
2
'harmwbdep/app q','AG', 1171 , 152 , 1712 , 152 , 0 , 24 , 2
100 , 41 , 2 , 2038 , 143.34 , 1600 , 1 , 3
1
'harmwbdep/app2','AG', 1740 , 176 , 1140 , 176 , 2105 , 23.9 , 0 , 44
2
'harmwbdep/app2 q','AG', 1171 , 176 , 1712 , 176 , 0 , 24 , 2
100 , 41 , 2 , 2038 , 143.34 , 1600 , 1 , 3
2
'harmwbltturn2','AG', 1171 , 134 , 1471 , 134 , 0 , 12 , 1
100 , 93 , 2 , 90 , 143.34 , 1600 , 1 , 3
1
'harmwbdep','AG', 1140 , 146 , 240 , 146 , 2132 , 23.9 , 0 , 44
1
'harmwbdep2','AG', 1140 , 170 , 240 , 170 , 2132 , 23.9 , 0 , 44
1
'pkgsbapp','AG', 1125 , 1124 , 1125 , 124 , 275 , 22.5 , 0 , 44
2
'pkgsbapp q','AG', 1125 , 198 , 1125 , 1124 , 0 , 24 , 2
100 , 72 , 2 , 30 , 143.34 , 1600 , 1 , 3
1
'pkgsbdep','AG', 1125 , 124 , 1125 , -376 , 200 , 22.5 , 0 , 32
2
'pkgsbleftturn','AG', 1143 , 198 , 1143 , 398 , 0 , 12 , 1
100 , 74 , 2 , 110 , 143.34 , 1600 , 1 , 3
1
'i25sbrampdep','AG', 1740 , 124 , 1740 , -876 , 2085 , 22.5 , 0 , 56
1
'pkgnbapp','AG', 1155 , -376 , 1155 , 124 , 285 , 22.8 , 0 , 44
2
'pkgnbapp q','AG', 1155 , 34 , 1155 , -376 , 0 , 24 , 2
100 , 81 , 2 , 20 , 143.34 , 1600 , 1 , 3
1
'pkgnbdep','AG', 1155 , 124 , 1155 , 1124 , 105 , 22.8 , 0 , 32
2
'pkgnbleftturn','AG', 1137 , 34 , 1137 , -66 , 0 , 12 , 1
100 , 83 , 2 , 55 , 143.34 , 1600 , 1 , 3
1
'i25sbrampapp','AG', 1740 , 1124 , 1740 , 124 , 1675 , 22.8 , 0 , 44
2
'i25sbrampleftturn','AG', 1758 , 198 , 1758 , 398 , 0 , 12 , 1
100 , 79 , 2 , 385 , 143.34 , 1600 , 1 , 3
1 , 0 , 4 , 1000 , 0 , 'Y', 10 , 0 , 36

```



JOB: I25HarmonywithPkgStationPA

RUN: I25HarmonywithPkgStationPA

DATE : 11/22/10  
TIME : 11:28:53

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

| V/C QUEUE | LINK DESCRIPTION      | * X1   | Y1     | X2     | Y2     | * LENGTH (FT) | BRG TYPE (DEG) | VPH   | EF (G/MI) | H (FT) | W (FT) |
|-----------|-----------------------|--------|--------|--------|--------|---------------|----------------|-------|-----------|--------|--------|
| 1.02      | 1. harmebapp1         | 240.0  | 88.0   | 1140.0 | 88.0   | 900.          | 90. AG         | 1852. | 48.8      | .0     | 44.0   |
|           | 2. harmebapp1 q       | 1109.0 | 88.0   | 603.3  | 87.9   | 506.          | 270. AG        | 315.  | 100.0     | .0     | 24.0   |
| .83       | 25.7                  |        |        |        |        |               |                |       |           |        |        |
|           | 3. harmebleftturn     | 1109.0 | 106.0  | 1075.7 | 106.0  | 33.           | 270. AG        | 358.  | 100.0     | .0     | 12.0   |
|           | 1.7                   |        |        |        |        |               |                |       |           |        |        |
| 1.02      | 4. harmebapp2         | 240.0  | 64.0   | 1140.0 | 64.0   | 900.          | 90. AG         | 1852. | 48.8      | .0     | 44.0   |
|           | 5. harmebapp2 q       | 1109.0 | 64.0   | 603.3  | 63.9   | 506.          | 270. AG        | 315.  | 100.0     | .0     | 24.0   |
|           | 25.7                  |        |        |        |        |               |                |       |           |        |        |
| .39       | 6. harmebdep/app      | 1140.0 | 62.0   | 1740.0 | 62.0   | 600.          | 90. AG         | 1900. | 48.8      | .0     | 56.0   |
|           | 7. harmebdep/app q    | 1712.0 | 62.0   | 1635.5 | 62.0   | 76.           | 270. AG        | 484.  | 100.0     | .0     | 36.0   |
|           | 3.9                   |        |        |        |        |               |                |       |           |        |        |
| .39       | 8. harmebdep/app2     | 1140.0 | 98.0   | 1740.0 | 98.0   | 600.          | 90. AG         | 1900. | 48.8      | .0     | 56.0   |
|           | 9. harmebdep/app2 q   | 1712.0 | 98.0   | 1635.5 | 98.0   | 76.           | 270. AG        | 484.  | 100.0     | .0     | 36.0   |
|           | 3.9                   |        |        |        |        |               |                |       |           |        |        |
| .86       | 10. harmebdep         | 1740.0 | 74.0   | 2240.0 | 74.0   | 500.          | 90. AG         | 1192. | 48.8      | .0     | 56.0   |
|           | 11. harmebdep2        | 1740.0 | 104.0  | 2240.0 | 104.0  | 500.          | 90. AG         | 1192. | 48.8      | .0     | 44.0   |
|           | 12. harmwbapp1        | 2240.0 | 158.0  | 1740.0 | 158.0  | 500.          | 270. AG        | 3205. | 23.9      | .0     | 56.0   |
|           | 13. harmwbque1        | 1774.0 | 158.0  | 1919.1 | 158.0  | 145.          | 90. AG         | 288.  | 100.0     | .0     | 36.0   |
|           | 7.4                   |        |        |        |        |               |                |       |           |        |        |
| .81       | 14. harmwbltturn      | 1774.0 | 128.0  | 1854.4 | 128.0  | 80.           | 90. AG         | 654.  | 100.0     | .0     | 24.0   |
|           | 4.1                   |        |        |        |        |               |                |       |           |        |        |
| 1.16      | 15. harmwbdep/app     | 1740.0 | 152.0  | 1140.0 | 152.0  | 600.          | 270. AG        | 2105. | 23.9      | .0     | 44.0   |
|           | 16. harmwbdep/app q   | 1171.0 | 152.0  | 2935.2 | 152.0  | 1764.         | 90. AG         | 315.  | 100.0     | .0     | 24.0   |
|           | 89.6                  |        |        |        |        |               |                |       |           |        |        |
| 1.16      | 17. harmwbdep/app2    | 1740.0 | 176.0  | 1140.0 | 176.0  | 600.          | 270. AG        | 2105. | 23.9      | .0     | 44.0   |
|           | 18. harmwbdep/app2 q  | 1171.0 | 176.0  | 2935.2 | 176.0  | 1764.         | 90. AG         | 315.  | 100.0     | .0     | 24.0   |
|           | 89.6                  |        |        |        |        |               |                |       |           |        |        |
| 1.88      | 19. harmwbltturn2     | 1171.0 | 134.0  | 1693.8 | 134.0  | 523.          | 90. AG         | 358.  | 100.0     | .0     | 12.0   |
|           | 26.6                  |        |        |        |        |               |                |       |           |        |        |
| .04       | 20. harmwbdep         | 1140.0 | 146.0  | 240.0  | 146.0  | 900.          | 270. AG        | 2132. | 23.9      | .0     | 44.0   |
|           | 21. harmwbdep2        | 1140.0 | 170.0  | 240.0  | 170.0  | 900.          | 270. AG        | 2132. | 23.9      | .0     | 44.0   |
|           | 22. pkgsbapp          | 1125.0 | 1124.0 | 1125.0 | 124.0  | 1000.         | 180. AG        | 275.  | 22.5      | .0     | 44.0   |
|           | 23. pkgsbapp q        | 1125.0 | 198.0  | 1125.0 | 203.9  | 6.            | 360. AG        | 554.  | 100.0     | .0     | 24.0   |
|           | .3                    |        |        |        |        |               |                |       |           |        |        |
| .31       | 24. pkgsbdep          | 1125.0 | 124.0  | 1125.0 | -376.0 | 500.          | 180. AG        | 200.  | 22.5      | .0     | 32.0   |
|           | 25. pkgsbleftturn     | 1143.0 | 198.0  | 1143.0 | 242.5  | 45.           | 360. AG        | 285.  | 100.0     | .0     | 12.0   |
|           | 2.3                   |        |        |        |        |               |                |       |           |        |        |
| .04       | 26. i25sbrampdep      | 1740.0 | 124.0  | 1740.0 | -876.0 | 1000.         | 180. AG        | 2085. | 22.5      | .0     | 56.0   |
|           | 27. pkgnbapp          | 1155.0 | -376.0 | 1155.0 | 124.0  | 500.          | 360. AG        | 285.  | 22.8      | .0     | 44.0   |
|           | 28. pkgnbapp q        | 1155.0 | 34.0   | 1155.0 | 29.6   | 4.            | 180. AG        | 623.  | 100.0     | .0     | 24.0   |
|           | .2                    |        |        |        |        |               |                |       |           |        |        |
| .26       | 29. pkgnbdep          | 1155.0 | 124.0  | 1155.0 | 1124.0 | 1000.         | 360. AG        | 105.  | 22.8      | .0     | 32.0   |
|           | 30. pkgnbleftturn     | 1137.0 | 34.0   | 1137.0 | 9.0    | 25.           | 180. AG        | 319.  | 100.0     | .0     | 12.0   |
|           | 1.3                   |        |        |        |        |               |                |       |           |        |        |
| 1.42      | 31. i25sbrampapp      | 1740.0 | 1124.0 | 1740.0 | 124.0  | 1000.         | 180. AG        | 1675. | 22.8      | .0     | 44.0   |
|           | 32. i25sbrampleftturn | 1758.0 | 198.0  | 1758.0 | 1590.3 | 1392.         | 360. AG        | 304.  | 100.0     | .0     | 12.0   |
|           | 70.7                  |        |        |        |        |               |                |       |           |        |        |

PAGE

JOB: I25HarmonywithPkgStationPA

RUN: I25HarmonywithPkgStationPA

DATE : 11/22/10  
TIME : 11:28:53

ADDITIONAL QUEUE LINK PARAMETERS

| LINK DESCRIPTION | * CYCLE LENGTH | RED TIME | CLEARANCE LOST TIME | APPROACH VOL | SATURATION FLOW RATE | IDLE EM FAC | SIGNAL TYPE | ARRIVAL RATE |
|------------------|----------------|----------|---------------------|--------------|----------------------|-------------|-------------|--------------|
|------------------|----------------|----------|---------------------|--------------|----------------------|-------------|-------------|--------------|

|                       | * | (SEC) | (SEC) | harmfav2.out<br>(SEC) | (VPH) | (VPH) | (gm/hr) |   |   |
|-----------------------|---|-------|-------|-----------------------|-------|-------|---------|---|---|
| 2. harmebapp1 q       | * | 100   | 41    | 2.0                   | 1792  | 1600  | 143.34  | 1 | 3 |
| 3. harmeb1tturn       | * | 100   | 93    | 2.0                   | 40    | 1600  | 143.34  | 1 | 3 |
| 5. harmebapp2 q       | * | 100   | 41    | 2.0                   | 1792  | 1600  | 143.34  | 1 | 3 |
| 7. harmebdep/app q    | * | 100   | 42    | 2.0                   | 1000  | 1600  | 143.34  | 1 | 3 |
| 9. harmebdep/app2 q   | * | 100   | 42    | 2.0                   | 1000  | 1600  | 143.34  | 1 | 3 |
| 13. harmwbque1        | * | 100   | 25    | 2.0                   | 2920  | 1600  | 143.34  | 1 | 3 |
| 14. harmwb1tturn      | * | 100   | 85    | 2.0                   | 285   | 1600  | 143.34  | 1 | 3 |
| 16. harmwbdep/app q   | * | 100   | 41    | 2.0                   | 2038  | 1600  | 143.34  | 1 | 3 |
| 18. harmwbdep/app2 q  | * | 100   | 41    | 2.0                   | 2038  | 1600  | 143.34  | 1 | 3 |
| 19. harmwb1tturn2     | * | 100   | 93    | 2.0                   | 90    | 1600  | 143.34  | 1 | 3 |
| 23. pkgsbapp q        | * | 100   | 72    | 2.0                   | 30    | 1600  | 143.34  | 1 | 3 |
| 25. pkgsbleftturn     | * | 100   | 74    | 2.0                   | 110   | 1600  | 143.34  | 1 | 3 |
| 28. pkgnbapp q        | * | 100   | 81    | 2.0                   | 20    | 1600  | 143.34  | 1 | 3 |
| 30. pkgnbleftturn     | * | 100   | 83    | 2.0                   | 55    | 1600  | 143.34  | 1 | 3 |
| 32. i25sbrampleftturn | * | 100   | 79    | 2.0                   | 385   | 1600  | 143.34  | 1 | 3 |

RECEPTOR LOCATIONS

| RECEPTOR        | * | COORDINATES (FT) |       |     | * |
|-----------------|---|------------------|-------|-----|---|
|                 | * | X                | Y     | Z   | * |
| 1. Receptor 1   | * | 979.0            | 26.0  | 5.0 | * |
| 2. Receptor 2   | * | 1019.0           | 26.0  | 5.0 | * |
| 3. Receptor 3   | * | 1059.0           | 26.0  | 5.0 | * |
| 4. Receptor 4   | * | 1099.0           | 26.0  | 5.0 | * |
| 5. Receptor 5   | * | 1099.0           | -14.0 | 5.0 | * |
| 6. Receptor 6   | * | 1099.0           | -54.0 | 5.0 | * |
| 7. Receptor 7   | * | 1099.0           | -94.0 | 5.0 | * |
| 8. Receptor 8   | * | 1187.0           | -96.0 | 5.0 | * |
| 9. Receptor 9   | * | 1187.0           | -56.0 | 5.0 | * |
| 10. Receptor 10 | * | 1187.0           | -16.0 | 5.0 | * |
| 11. Receptor 11 | * | 1187.0           | 24.0  | 5.0 | * |
| 12. Receptor 12 | * | 1227.0           | 24.0  | 5.0 | * |
| 13. Receptor 13 | * | 1267.0           | 24.0  | 5.0 | * |
| 14. Receptor 14 | * | 1307.0           | 24.0  | 5.0 | * |
| 15. Receptor 15 | * | 1582.0           | 24.0  | 5.0 | * |
| 16. Receptor 16 | * | 1622.0           | 24.0  | 5.0 | * |
| 17. Receptor 17 | * | 1662.0           | 24.0  | 5.0 | * |
| 18. Receptor 18 | * | 1702.0           | 24.0  | 5.0 | * |
| 19. Receptor 19 | * | 1702.0           | -16.0 | 5.0 | * |
| 20. Receptor 20 | * | 1702.0           | -56.0 | 5.0 | * |
| 21. Receptor 21 | * | 1702.0           | -96.0 | 5.0 | * |
| 22. Receptor 22 | * | 1778.0           | -84.0 | 5.0 | * |
| 23. Receptor 23 | * | 1778.0           | -44.0 | 5.0 | * |
| 24. Receptor 24 | * | 1778.0           | -4.0  | 5.0 | * |
| 25. Receptor 25 | * | 1778.0           | 36.0  | 5.0 | * |
| 26. Receptor 26 | * | 1818.0           | 36.0  | 5.0 | * |
| 27. Receptor 27 | * | 1858.0           | 36.0  | 5.0 | * |
| 28. Receptor 28 | * | 1898.0           | 36.0  | 5.0 | * |
| 29. Receptor 29 | * | 1898.0           | 196.0 | 5.0 | * |
| 30. Receptor 30 | * | 1858.0           | 196.0 | 5.0 | * |

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JOB: I25HarmonywithPkgStationPA

RUN: I25HarmonywithPkgStationPA

DATE : 11/22/10

TIME : 11:28:53

RECEPTOR LOCATIONS

| RECEPTOR        | * | COORDINATES (FT) |       |     | * |
|-----------------|---|------------------|-------|-----|---|
|                 | * | X                | Y     | Z   | * |
| 31. Receptor 31 | * | 1818.0           | 196.0 | 5.0 | * |
| 32. Receptor 32 | * | 1778.0           | 196.0 | 5.0 | * |
| 33. Receptor 33 | * | 1778.0           | 236.0 | 5.0 | * |
| 34. Receptor 34 | * | 1778.0           | 276.0 | 5.0 | * |
| 35. Receptor 35 | * | 1778.0           | 316.0 | 5.0 | * |
| 36. Receptor 36 | * | 1708.0           | 328.0 | 5.0 | * |
| 37. Receptor 37 | * | 1708.0           | 288.0 | 5.0 | * |
| 38. Receptor 38 | * | 1708.0           | 248.0 | 5.0 | * |
| 39. Receptor 39 | * | 1708.0           | 208.0 | 5.0 | * |
| 40. Receptor 40 | * | 1668.0           | 208.0 | 5.0 | * |
| 41. Receptor 41 | * | 1628.0           | 208.0 | 5.0 | * |
| 42. Receptor 42 | * | 1588.0           | 208.0 | 5.0 | * |
| 43. Receptor 43 | * | 1301.0           | 208.0 | 5.0 | * |
| 44. Receptor 44 | * | 1261.0           | 208.0 | 5.0 | * |
| 45. Receptor 45 | * | 1221.0           | 208.0 | 5.0 | * |

|                 |   |        |       |     |   |
|-----------------|---|--------|-------|-----|---|
| 46. Receptor 46 | * | 1181.0 | 208.0 | 5.0 | * |
| 47. Receptor 47 | * | 1181.0 | 248.0 | 5.0 | * |
| 48. Receptor 48 | * | 1181.0 | 288.0 | 5.0 | * |
| 49. Receptor 49 | * | 1181.0 | 316.0 | 5.0 | * |
| 50. Receptor 50 | * | 1093.0 | 330.4 | 5.0 | * |
| 51. Receptor 51 | * | 1093.0 | 279.9 | 5.0 | * |
| 52. Receptor 52 | * | 1093.0 | 233.9 | 5.0 | * |
| 53. Receptor 53 | * | 1093.0 | 202.0 | 5.0 | * |
| 54. Receptor 54 | * | 1053.0 | 202.0 | 5.0 | * |
| 55. Receptor 55 | * | 1013.0 | 202.0 | 5.0 | * |
| 56. Receptor 56 | * | 973.0  | 202.0 | 5.0 | * |

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JOB: I25HarmonywithPkgStationPA

RUN: I25HarmonywithPkgStationPA

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
ANGLE \* (PPM)  
(DEGR)\* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18  
REC19 REC20

| *-----*           |                     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
|-------------------|---------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| WIND ANGLE (DEGR) | CONCENTRATION (PPM) | REC1 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 | REC19 | REC20 |
| 0.                | *                   | 6.6  | 6.6  | 6.8  | 6.7  | 4.6  | 3.7  | 3.2  | 3.1  | 3.7  | 4.7   | 6.4   | 6.4   | 6.3   | 6.3   | 6.6   | 7.1   | 8.8   | 9.0   |       |       |
| 7.0               | 5.8                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 10.               | *                   | 6.6  | 6.6  | 6.5  | 6.6  | 4.5  | 3.9  | 3.6  | 3.2  | 3.7  | 4.5   | 6.1   | 6.2   | 6.2   | 6.2   | 6.7   | 7.8   | 9.1   | 9.1   |       |       |
| 6.8               | 5.8                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 20.               | *                   | 6.6  | 6.6  | 6.8  | 6.6  | 4.8  | 3.8  | 3.4  | 3.4  | 3.8  | 4.8   | 6.5   | 6.5   | 6.5   | 6.5   | 7.1   | 8.4   | 9.1   | 8.8   |       |       |
| 6.5               | 5.6                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 30.               | *                   | 7.0  | 7.1  | 7.5  | 7.0  | 5.2  | 4.3  | 3.9  | 3.5  | 4.0  | 5.0   | 6.7   | 6.7   | 6.8   | 6.8   | 7.7   | 8.6   | 9.1   | 8.4   |       |       |
| 5.9               | 4.8                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 40.               | *                   | 7.6  | 7.8  | 7.7  | 7.2  | 5.5  | 4.4  | 4.1  | 3.7  | 4.1  | 5.2   | 7.1   | 7.1   | 7.1   | 7.1   | 7.9   | 9.2   | 9.0   | 7.8   |       |       |
| 5.5               | 4.4                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 50.               | *                   | 8.1  | 8.3  | 8.3  | 7.7  | 6.2  | 4.7  | 4.0  | 3.9  | 4.5  | 5.6   | 7.8   | 7.8   | 7.8   | 7.7   | 8.7   | 9.3   | 8.8   | 7.6   |       |       |
| 5.3               | 4.3                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 60.               | *                   | 8.9  | 8.9  | 8.6  | 8.1  | 6.3  | 4.9  | 4.2  | 3.9  | 4.7  | 5.8   | 8.4   | 8.4   | 8.2   | 8.0   | 9.2   | 9.3   | 8.3   | 7.4   |       |       |
| 4.8               | 3.9                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 70.               | *                   | 9.4  | 9.4  | 9.0  | 8.9  | 6.0  | 4.6  | 3.8  | 3.6  | 4.6  | 5.6   | 8.6   | 8.7   | 8.8   | 9.0   | 8.8   | 8.3   | 7.5   | 6.7   |       |       |
| 4.3               | 3.4                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 80.               | *                   | 8.6  | 8.5  | 8.2  | 8.3  | 5.1  | 3.4  | 2.6  | 2.2  | 3.3  | 4.8   | 8.2   | 8.1   | 8.0   | 8.0   | 6.9   | 6.4   | 5.8   | 5.2   |       |       |
| 3.3               | 2.4                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 90.               | *                   | 5.4  | 5.3  | 5.1  | 5.7  | 2.7  | 1.6  | 1.2  | .9   | 1.2  | 2.2   | 5.1   | 5.0   | 5.0   | 4.8   | 3.9   | 3.6   | 3.2   | 3.4   |       |       |
| 2.2               | 1.7                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 100.              | *                   | 2.0  | 2.2  | 2.3  | 2.8  | 1.0  | .6   | .4   | .2   | .4   | .7    | 2.0   | 1.9   | 1.9   | 1.9   | 1.5   | 1.4   | 1.5   | 1.8   |       |       |
| 1.4               | 1.3                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 110.              | *                   | .7   | .7   | .9   | 1.1  | .4   | .4   | .4   | .2   | .2   | .2    | .5    | .5    | .5    | .6    | .8    | .8    | 1.1   | 1.4   |       |       |
| 1.3               | 1.3                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 120.              | *                   | .3   | .4   | .4   | .7   | .4   | .4   | .4   | .2   | .2   | .2    | .3    | .3    | .3    | .4    | .6    | .7    | 1.0   | 1.3   |       |       |
| 1.3               | 1.3                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 130.              | *                   | .3   | .4   | .4   | .5   | .4   | .4   | .4   | .2   | .2   | .2    | .3    | .3    | .3    | .4    | .7    | .8    | 1.0   | 1.5   |       |       |
| 1.5               | 1.5                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 140.              | *                   | .2   | .3   | .3   | .5   | .5   | .5   | .5   | .2   | .2   | .2    | .2    | .2    | .2    | .3    | .6    | .7    | 1.0   | 1.6   |       |       |
| 1.6               | 1.6                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 150.              | *                   | .1   | .2   | .3   | .5   | .5   | .5   | .4   | .1   | .1   | .1    | .1    | .1    | .1    | .2    | .6    | .8    | 1.0   | 1.8   |       |       |
| 1.8               | 1.8                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 160.              | *                   | .0   | .2   | .2   | .4   | .4   | .3   | .3   | .0   | .0   | .0    | .0    | .1    | .1    | .1    | .6    | .8    | 1.1   | 2.0   |       |       |
| 2.0               | 2.0                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 170.              | *                   | .0   | .0   | .2   | .3   | .3   | .3   | .3   | .1   | .1   | .1    | .1    | .0    | .0    | .0    | .4    | .6    | .9    | 2.0   |       |       |
| 2.0               | 2.0                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 180.              | *                   | .0   | .0   | .0   | .2   | .2   | .2   | .1   | .1   | .1   | .2    | .2    | .0    | .0    | .0    | .2    | .3    | .5    | 1.4   |       |       |
| 1.4               | 1.4                 |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 190.              | *                   | .0   | .0   | .0   | .1   | .1   | .1   | .0   | .3   | .3   | .3    | .3    | .1    | .0    | .0    | .0    | .1    | .2    | .6    |       |       |
| .6                | .6                  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 200.              | *                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .4   | .4   | .4    | .4    | .2    | .1    | .0    | .0    | .0    | .0    | .2    |       |       |
| .2                | .2                  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 210.              | *                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .3   | .3   | .3    | .4    | .2    | .1    | .1    | .0    | .0    | .0    | .1    |       |       |
| .1                | .1                  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 220.              | *                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .3   | .3   | .3    | .3    | .2    | .1    | .1    | .0    | .0    | .0    | .0    |       |       |
| .0                | .0                  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 230.              | *                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .3   | .3   | .3    | .3    | .3    | .2    | .2    | .1    | .1    | .1    | .1    |       |       |
| .0                | .0                  |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 240.              | *                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .3   | .3   | .3    | .4    | .3    | .2    | .2    | .1    | .1    | .1    | .1    |       |       |

|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 250. | *   | .3  | .3  | .3  | .3  | .0  | .0  | .0  | .3  | .3  | .3  | .8  | .7  | .5  | .6  | .4  | .4  | .4  | .4  |
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 260. | *   | 1.6 | 1.8 | 1.8 | 1.8 | .5  | .2  | .0  | .4  | .5  | .9  | 2.4 | 2.4 | 2.3 | 2.0 | 2.3 | 2.2 | 2.3 | 2.2 |
| .7   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 270. | *   | 4.4 | 4.5 | 4.6 | 4.8 | 2.0 | 1.1 | .5  | .9  | 1.6 | 2.6 | 5.8 | 5.5 | 5.4 | 5.0 | 5.2 | 5.4 | 5.4 | 5.5 |
| 2.9  | 1.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 280. | *   | 7.2 | 7.3 | 7.5 | 7.7 | 4.1 | 2.6 | 1.7 | 2.2 | 3.2 | 4.8 | 8.6 | 8.4 | 7.9 | 7.7 | 8.0 | 8.0 | 8.0 | 8.5 |
| 4.8  | 3.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 290. | *   | 8.4 | 8.4 | 8.5 | 8.5 | 5.4 | 3.8 | 2.9 | 3.3 | 4.4 | 5.8 | 9.0 | 8.6 | 8.0 | 7.9 | 8.5 | 8.4 | 8.7 | 9.0 |
| 5.7  | 4.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 300. | *   | 8.1 | 8.2 | 8.2 | 8.2 | 5.3 | 4.3 | 3.4 | 3.8 | 4.6 | 5.8 | 8.4 | 7.5 | 7.3 | 7.3 | 7.7 | 8.0 | 8.3 | 9.0 |
| 5.7  | 4.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 310. | *   | 7.5 | 7.5 | 7.5 | 7.5 | 5.1 | 4.1 | 3.5 | 3.6 | 4.3 | 5.5 | 7.3 | 6.9 | 6.7 | 6.7 | 7.4 | 7.4 | 7.9 | 8.9 |
| 5.6  | 4.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 320. | *   | 6.9 | 6.9 | 6.9 | 6.9 | 4.8 | 3.8 | 3.3 | 3.4 | 4.2 | 5.1 | 6.5 | 6.2 | 6.4 | 6.5 | 6.8 | 6.8 | 7.5 | 8.5 |
| 5.5  | 4.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 330. | *   | 6.8 | 6.8 | 6.8 | 6.9 | 4.6 | 3.7 | 3.3 | 3.5 | 3.8 | 4.6 | 6.0 | 6.2 | 6.3 | 6.5 | 6.5 | 6.5 | 7.5 | 8.3 |
| 5.7  | 4.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 340. | *   | 6.5 | 6.5 | 6.5 | 6.6 | 4.5 | 3.5 | 3.0 | 3.2 | 3.7 | 4.2 | 5.9 | 6.0 | 6.2 | 6.3 | 6.3 | 6.3 | 7.7 | 8.5 |
| 5.9  | 4.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 350. | *   | 6.5 | 6.5 | 6.5 | 6.5 | 4.6 | 3.6 | 2.9 | 3.3 | 3.6 | 4.4 | 6.2 | 6.2 | 6.3 | 6.2 | 6.2 | 6.4 | 8.1 | 8.6 |
| 6.3  | 5.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 360. | *   | 6.6 | 6.6 | 6.8 | 6.7 | 4.6 | 3.7 | 3.2 | 3.1 | 3.7 | 4.7 | 6.4 | 6.4 | 6.3 | 6.3 | 6.6 | 7.1 | 8.8 | 9.0 |
| 7.0  | 5.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 9.4 | 9.4 | 9.0 | 8.9 | 6.3 | 4.9 | 4.2 | 3.9 | 4.7 | 5.8 | 9.0 | 8.7 | 8.8 | 9.0 | 9.2 | 9.3 | 9.1 | 9.1 |
| 7.0   | 5.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | *   | 70  | 70  | 70  | 70  | 60  | 60  | 60  | 50  | 60  | 60  | 290 | 70  | 70  | 70  | 60  | 60  | 10  | 10  |
| 0     | 10  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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JOB: I25HarmonywithPkgStationPA RUN: I25HarmonywithPkgStationPA

MODEL RESULTS  
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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

|         |   |               |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---------|---|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| WIND    | * | CONCENTRATION |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| ANGLE   | * | (PPM)         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| (DEGR.) | * | REC21         | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 |
|         |   | REC39         | REC40 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

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|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0.   | *   | 5.2 | 4.4 | 4.7 | 5.2 | 6.6 | 6.1 | 5.5 | 4.9 | .2  | .4  | .8  | 1.9 | 1.9 | 1.8 | 1.8 | 1.6 | 1.6 | 1.6 |
| 1.6  | .7  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 10.  | *   | 5.4 | 3.4 | 3.8 | 4.6 | 6.0 | 5.4 | 5.0 | 4.5 | .0  | .2  | .2  | .8  | .8  | .8  | .8  | 2.3 | 2.3 | 2.3 |
| 2.3  | 1.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 20.  | *   | 4.9 | 2.7 | 3.3 | 4.0 | 5.5 | 5.0 | 4.6 | 4.4 | .0  | .0  | .0  | .2  | .2  | .2  | .2  | 2.3 | 2.3 | 2.3 |
| 2.3  | 1.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30.  | *   | 4.4 | 2.4 | 2.9 | 3.9 | 5.3 | 4.9 | 4.5 | 4.4 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 2.0 | 2.0 | 2.0 |
| 2.0  | 1.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 40.  | *   | 3.9 | 2.3 | 2.9 | 3.8 | 5.4 | 5.0 | 4.8 | 4.7 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 1.8 | 1.8 | 1.8 |
| 1.8  | 1.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 50.  | *   | 3.7 | 2.3 | 2.8 | 3.7 | 5.4 | 5.1 | 5.0 | 5.0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 1.7 | 1.7 | 1.7 |
| 1.7  | 1.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 60.  | *   | 3.3 | 1.9 | 2.8 | 3.5 | 5.6 | 5.4 | 5.1 | 5.1 | .1  | .1  | .1  | .1  | .0  | .0  | .0  | 1.5 | 1.5 | 1.5 |
| 1.5  | 1.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 70.  | *   | 2.8 | 1.4 | 2.1 | 3.2 | 5.2 | 5.2 | 5.1 | 4.9 | .4  | .5  | .5  | .5  | .0  | .0  | .0  | 1.5 | 1.5 | 1.5 |
| 1.7  | 1.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 80.  | *   | 1.9 | .6  | 1.1 | 2.2 | 4.3 | 4.3 | 4.0 | 3.7 | 1.5 | 1.6 | 1.6 | 1.8 | .4  | .1  | .0  | 1.5 | 1.6 | 1.8 |
| 2.7  | 2.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 90.  | *   | 1.4 | .1  | .4  | .9  | 2.5 | 2.2 | 2.2 | 2.1 | 3.8 | 3.9 | 4.1 | 4.3 | 1.3 | .6  | .3  | 1.8 | 2.1 | 2.9 |
| 4.6  | 4.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 100. | *   | 1.3 | .0  | .0  | .1  | .7  | .7  | .7  | .7  | 5.6 | 6.0 | 6.4 | 6.6 | 2.9 | 1.6 | .9  | 2.5 | 3.0 | 4.1 |
| 6.8  | 6.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 110. | *   | 1.3 | .0  | .0  | .0  | .2  | .2  | .2  | .2  | 6.6 | 7.0 | 7.4 | 7.8 | 3.9 | 2.6 | 1.7 | 3.2 | 4.0 | 5.4 |
| 7.7  | 7.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 120. | *   | 1.3 | .0  | .0  | .0  | .1  | .1  | .1  | .1  | 6.7 | 7.2 | 7.4 | 7.8 | 4.3 | 3.1 | 2.2 | 3.8 | 4.7 | 5.9 |
| 8.1  | 7.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 130. | *   | 1.5 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 6.4 | 6.9 | 7.2 | 7.7 | 4.7 | 3.4 | 2.6 | 4.4 | 5.1 | 5.8 |

|      |     |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|------|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|
| 8.0  | 7.4 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 140. | *   | 1.6 | .0  | .0  | .0  | .0   | .0  | .0  | .0  | 6.1  | 6.6  | 6.9  | 7.5  | 4.4 | 3.4 | 2.7 | 4.5 | 5.0 | 5.8 |
| 7.4  | 7.3 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 150. | *   | 1.8 | .1  | .1  | .1  | .1   | .0  | .0  | .0  | 5.9  | 6.2  | 6.7  | 7.1  | 4.5 | 3.5 | 2.8 | 4.8 | 5.1 | 5.8 |
| 7.3  | 7.3 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 160. | *   | 2.0 | .2  | .2  | .2  | .2   | .0  | .0  | .0  | 5.7  | 6.1  | 6.7  | 7.1  | 4.6 | 3.5 | 2.9 | 4.9 | 5.1 | 5.6 |
| 7.7  | 7.6 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 170. | *   | 2.0 | .6  | .6  | .6  | .6   | .2  | .1  | .0  | 6.0  | 6.4  | 7.2  | 7.4  | 5.1 | 4.0 | 3.5 | 5.1 | 5.4 | 6.3 |
| 8.2  | 8.2 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 180. | *   | 1.4 | 1.4 | 1.4 | 1.4 | 1.4  | .5  | .3  | .2  | 6.4  | 6.9  | 7.7  | 7.9  | 5.7 | 5.0 | 4.7 | 4.7 | 5.4 | 6.3 |
| 8.1  | 7.9 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 190. | *   | .6  | 2.0 | 2.0 | 2.0 | 2.0  | .9  | .6  | .4  | 6.6  | 7.3  | 8.0  | 8.0  | 6.2 | 5.8 | 5.3 | 4.0 | 4.5 | 5.7 |
| 7.7  | 7.5 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 200. | *   | .2  | 2.0 | 2.0 | 2.0 | 2.0  | 1.1 | .8  | .6  | 6.8  | 7.7  | 8.0  | 8.2  | 6.6 | 6.2 | 5.6 | 3.6 | 3.9 | 5.4 |
| 7.4  | 6.8 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 210. | *   | .1  | 1.8 | 1.8 | 1.8 | 1.8  | 1.0 | .8  | .6  | 7.2  | 8.0  | 8.3  | 8.4  | 6.9 | 6.4 | 5.9 | 3.4 | 4.1 | 5.1 |
| 7.3  | 6.9 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 220. | *   | .0  | 1.6 | 1.6 | 1.6 | 1.6  | 1.0 | .7  | .6  | 8.3  | 8.9  | 8.7  | 9.1  | 7.2 | 6.6 | 5.7 | 3.4 | 4.0 | 5.1 |
| 7.3  | 7.0 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 230. | *   | .0  | 1.5 | 1.5 | 1.5 | 1.5  | .9  | .7  | .6  | 9.1  | 9.4  | 9.5  | 9.4  | 7.8 | 6.5 | 5.7 | 3.6 | 4.1 | 5.2 |
| 7.8  | 7.7 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 240. | *   | .0  | 1.3 | 1.3 | 1.3 | 1.5  | 1.0 | .7  | .6  | 10.0 | 9.9  | 9.8  | 10.2 | 7.9 | 6.4 | 5.8 | 4.0 | 4.5 | 5.6 |
| 8.2  | 8.2 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 250. | *   | .0  | 1.3 | 1.3 | 1.4 | 2.2  | 1.6 | 1.2 | 1.0 | 10.8 | 10.7 | 11.0 | 11.4 | 8.4 | 6.7 | 5.9 | 3.8 | 4.8 | 6.1 |
| 9.0  | 9.0 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 260. | *   | .2  | 1.5 | 1.6 | 2.3 | 4.5  | 3.6 | 3.2 | 2.9 | 10.7 | 10.7 | 10.6 | 11.1 | 7.6 | 5.8 | 4.8 | 2.7 | 3.6 | 4.9 |
| 8.4  | 8.3 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 270. | *   | 1.2 | 2.6 | 3.3 | 4.7 | 8.4  | 7.4 | 6.7 | 6.4 | 7.5  | 7.4  | 7.9  | 8.6  | 5.0 | 3.7 | 2.9 | .9  | 1.5 | 2.8 |
| 5.4  | 5.3 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 280. | *   | 2.6 | 4.2 | 5.5 | 7.1 | 11.3 | 9.8 | 9.0 | 8.5 | 3.4  | 3.5  | 3.8  | 4.4  | 2.5 | 2.1 | 1.8 | .1  | .3  | .7  |
| 1.9  | 1.8 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 290. | *   | 3.7 | 5.2 | 6.2 | 8.1 | 10.8 | 9.3 | 8.6 | 8.0 | 1.2  | 1.4  | 1.6  | 2.3  | 1.7 | 1.7 | 1.7 | .0  | .0  | .0  |
| .3   | .3  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 300. | *   | 3.5 | 5.3 | 6.4 | 7.8 | 9.6  | 8.0 | 7.4 | 7.1 | .7   | .9   | 1.1  | 1.8  | 1.7 | 1.7 | 1.7 | .0  | .0  | .0  |
| .0   | .0  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 310. | *   | 3.5 | 5.3 | 6.4 | 7.6 | 8.6  | 7.1 | 6.7 | 6.5 | .6   | .8   | 1.1  | 1.9  | 1.9 | 1.9 | 1.9 | .0  | .0  | .0  |
| .0   | .0  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 320. | *   | 3.5 | 5.6 | 6.1 | 7.0 | 7.9  | 6.2 | 6.1 | 6.2 | .7   | .8   | 1.1  | 2.1  | 2.1 | 2.1 | 2.1 | .0  | .0  | .0  |
| .0   | .0  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 330. | *   | 3.5 | 5.6 | 6.0 | 6.4 | 7.0  | 6.0 | 6.0 | 6.0 | .8   | 1.0  | 1.3  | 2.2  | 2.2 | 2.2 | 2.2 | .0  | .0  | .0  |
| .0   | .0  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 340. | *   | 3.9 | 5.1 | 5.5 | 6.1 | 6.6  | 6.1 | 6.0 | 5.7 | .7   | 1.0  | 1.3  | 2.5  | 2.5 | 2.5 | 2.5 | .2  | .2  | .2  |
| .2   | .0  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 350. | *   | 4.1 | 5.2 | 5.5 | 5.9 | 6.9  | 6.4 | 5.9 | 5.3 | .6   | .9   | 1.2  | 2.5  | 2.5 | 2.5 | 2.5 | .7  | .8  | .8  |
| .8   | .3  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| 360. | *   | 5.2 | 4.4 | 4.7 | 5.2 | 6.6  | 6.1 | 5.5 | 4.9 | .2   | .4   | .8   | 1.9  | 1.9 | 1.8 | 1.8 | 1.6 | 1.6 | 1.6 |
| 1.6  | .7  |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |

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|       |     |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|------|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 5.4 | 5.6 | 6.4 | 8.1 | 11.3 | 9.8 | 9.0 | 8.5 | 10.8 | 10.7 | 11.0 | 11.4 | 8.4 | 6.7 | 5.9 | 5.1 | 5.4 | 6.3 |
| 9.0   | 9.0 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |
| DEGR. | *   | 10  | 320 | 310 | 290 | 280  | 280 | 280 | 280 | 250  | 250  | 250  | 250  | 250 | 250 | 210 | 170 | 170 | 170 |
| 250   | 250 |     |     |     |     |      |     |     |     |      |      |      |      |     |     |     |     |     |     |

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JOB: I25HarmonywithPkgStationPA RUN: I25HarmonywithPkgStationPA

MODEL RESULTS  
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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

| WIND ANGLE (DEGR)* | CONCENTRATION (PPM) | REC41 | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
|--------------------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                 | *                   | .3    | .2    | .0    | .0    | .0    | .2    | .2    | .2    | .2    | .2    | .2    | .2    | .2    | .1    | .0    | .0    |
| 10.                | *                   | .8    | .5    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .3    | .3    | .3    | .4    | .1    | .1    | .1    |
| 20.                | *                   | .9    | .8    | .2    | .2    | .1    | .1    | .0    | .0    | .0    | .4    | .4    | .4    | .4    | .1    | .1    | .1    |
| 30.                | *                   | .9    | .8    | .3    | .2    | .2    | .2    | .2    | .2    | .2    | .4    | .4    | .5    | .5    | .2    | .2    | .2    |
| 40.                | *                   | .9    | .7    | .3    | .3    | .3    | .2    | .2    | .2    | .2    | .4    | .4    | .4    | .5    | .3    | .3    | .3    |
| 50.                | *                   | .8    | .6    | .3    | .3    | .3    | .3    | .3    | .3    | .3    | .4    | .4    | .4    | .6    | .3    | .3    | .3    |
| 60.                | *                   | .7    | .6    | .3    | .3    | .3    | .3    | .3    | .3    | .3    | .4    | .4    | .4    | .9    | .4    | .3    | .3    |
| 70.                | *                   | 1.0   | .9    | .6    | .6    | .6    | .6    | .3    | .3    | .3    | .4    | .4    | .5    | 1.4   | .9    | .9    | .7    |

|      |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 80.  | * | 2.2 | 2.1 | 2.1 | 2.2 | 2.2 | 2.3 | .8  | .6  | .4  | .4  | .8  | 1.4 | 3.3 | 2.9 | 2.4 | 2.5 |
| 90.  | * | 4.5 | 4.3 | 5.0 | 5.0 | 5.1 | 5.0 | 2.6 | 1.6 | 1.3 | 1.3 | 2.1 | 3.8 | 6.5 | 5.9 | 5.6 | 5.3 |
| 100. | * | 6.7 | 6.9 | 7.8 | 7.9 | 8.0 | 8.3 | 4.8 | 3.3 | 2.4 | 2.5 | 3.9 | 6.1 | 8.9 | 8.2 | 7.7 | 7.5 |
| 110. | * | 7.6 | 7.6 | 8.6 | 8.9 | 8.8 | 8.9 | 6.0 | 4.5 | 3.7 | 3.7 | 5.0 | 7.0 | 8.8 | 8.1 | 7.7 | 7.2 |
| 120. | * | 7.7 | 8.0 | 8.6 | 8.5 | 8.4 | 8.5 | 6.0 | 4.7 | 4.0 | 4.0 | 5.1 | 6.6 | 7.7 | 6.8 | 6.5 | 6.6 |
| 130. | * | 7.4 | 7.9 | 8.0 | 7.9 | 7.9 | 7.9 | 5.4 | 4.3 | 4.0 | 3.8 | 4.8 | 6.1 | 6.6 | 6.2 | 6.2 | 6.3 |
| 140. | * | 7.7 | 8.0 | 7.3 | 7.3 | 7.2 | 7.2 | 5.2 | 4.2 | 3.7 | 3.6 | 4.2 | 5.2 | 5.9 | 5.6 | 5.9 | 6.0 |
| 150. | * | 7.8 | 8.0 | 6.9 | 6.9 | 6.9 | 6.9 | 5.0 | 4.1 | 3.6 | 3.4 | 3.9 | 4.5 | 5.2 | 5.5 | 5.8 | 5.6 |
| 160. | * | 8.2 | 7.6 | 6.6 | 6.6 | 6.6 | 6.6 | 4.7 | 3.6 | 3.4 | 3.1 | 3.6 | 4.0 | 5.1 | 5.4 | 5.6 | 5.2 |
| 170. | * | 7.9 | 7.2 | 6.5 | 6.6 | 6.6 | 6.4 | 4.6 | 3.6 | 3.1 | 2.9 | 3.5 | 4.2 | 5.1 | 5.4 | 5.3 | 5.3 |
| 180. | * | 7.3 | 6.7 | 6.5 | 6.5 | 6.6 | 6.3 | 4.2 | 3.6 | 3.4 | 2.9 | 3.3 | 4.5 | 5.6 | 5.5 | 5.4 | 5.4 |
| 190. | * | 6.9 | 6.5 | 6.5 | 6.6 | 6.6 | 6.1 | 4.3 | 3.8 | 3.4 | 2.7 | 3.3 | 4.2 | 5.4 | 5.3 | 5.3 | 5.3 |
| 200. | * | 6.5 | 6.5 | 6.7 | 6.7 | 6.7 | 5.9 | 4.6 | 3.7 | 3.0 | 2.8 | 3.3 | 4.3 | 5.4 | 5.3 | 5.3 | 5.3 |
| 210. | * | 6.7 | 6.7 | 6.9 | 7.0 | 6.9 | 6.2 | 4.6 | 3.9 | 3.4 | 2.8 | 3.3 | 4.3 | 5.5 | 5.5 | 5.5 | 5.5 |
| 220. | * | 7.0 | 7.0 | 7.2 | 7.2 | 7.0 | 6.1 | 4.9 | 3.7 | 3.3 | 2.9 | 3.5 | 4.5 | 5.9 | 5.9 | 5.9 | 5.9 |
| 230. | * | 7.7 | 7.7 | 7.5 | 7.5 | 7.4 | 6.4 | 5.0 | 3.8 | 3.4 | 3.0 | 3.7 | 4.7 | 6.2 | 6.2 | 6.2 | 6.2 |
| 240. | * | 8.0 | 8.1 | 7.9 | 7.8 | 7.3 | 6.9 | 5.3 | 3.9 | 3.5 | 2.9 | 3.6 | 5.0 | 6.6 | 6.6 | 6.6 | 6.6 |
| 250. | * | 9.0 | 8.8 | 8.2 | 7.8 | 7.3 | 7.2 | 4.9 | 3.5 | 2.9 | 2.4 | 3.2 | 4.7 | 6.9 | 6.8 | 6.7 | 6.6 |
| 260. | * | 8.1 | 8.1 | 6.9 | 6.5 | 6.2 | 6.2 | 3.6 | 2.3 | 1.8 | 1.2 | 2.1 | 3.5 | 5.7 | 5.6 | 5.5 | 5.3 |
| 270. | * | 5.3 | 5.2 | 4.1 | 3.9 | 3.7 | 3.9 | 1.8 | 1.0 | .7  | .4  | .8  | 1.6 | 3.4 | 3.3 | 3.3 | 3.0 |
| 280. | * | 1.9 | 1.9 | 1.5 | 1.4 | 1.4 | 1.8 | .7  | .3  | .2  | .0  | .1  | .4  | 1.2 | 1.2 | 1.2 | 1.2 |
| 290. | * | .3  | .3  | .3  | .4  | .4  | .7  | .2  | .2  | .2  | .0  | .0  | .0  | .3  | .3  | .3  | .3  |
| 300. | * | .0  | .0  | .1  | .1  | .2  | .6  | .2  | .2  | .2  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 310. | * | .0  | .0  | .1  | .1  | .1  | .5  | .2  | .2  | .2  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 320. | * | .0  | .0  | .1  | .1  | .1  | .4  | .2  | .2  | .2  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 330. | * | .0  | .0  | .1  | .1  | .1  | .4  | .3  | .3  | .3  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 340. | * | .0  | .0  | .1  | .1  | .2  | .3  | .3  | .3  | .3  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 350. | * | .1  | .0  | .0  | .1  | .1  | .3  | .3  | .3  | .3  | .1  | .1  | .1  | .1  | .0  | .0  | .0  |
| 360. | * | .3  | .2  | .0  | .0  | .0  | .2  | .2  | .2  | .2  | .2  | .2  | .2  | .2  | .1  | .0  | .0  |

|       |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | * | 9.0 | 8.8 | 8.6 | 8.9 | 8.8 | 8.9 | 6.0 | 4.7 | 4.0 | 4.0 | 5.1 | 7.0 | 8.9 | 8.2 | 7.7 | 7.5 |
| DEGR. | * | 250 | 250 | 110 | 110 | 110 | 110 | 110 | 120 | 120 | 120 | 120 | 110 | 100 | 100 | 100 | 100 |

THE HIGHEST CONCENTRATION OF 11.40 PPM OCCURRED AT RECEPTOR REC32.

PAGE

7

JOB: I25HarmonywithPkgStationPA

RUN: I25HarmonywithPkgStationPA

DATE : 11/22/10  
TIME : 11:28:53

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |        | * CO/LINK (PPM)   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|--------|--------|-------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |        | * ANGLE (DEGREES) |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|        |        | REC1              | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 |
| REC19  | REC20  | 70                | 70   | 70   | 70   | 60   | 60   | 60   | 50   | 60   | 60    | 290   | 70    | 70    | 70    | 60    | 60    | 10    | 10    |
| LINK # | LINK # |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 0      | 10     |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| -----* |        |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .0     | 1      | 1.1               | .8   | .3   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | 2.2   | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 2      | .2                | .1   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .5    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 3      | .1                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 4      | 2.5               | 2.2  | 1.5  | .6   | .0   | .0   | .0   | .0   | .0   | .0    | 2.6   | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 5      | .6                | .4   | .1   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .6    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 1.6    | 6      | .9                | 1.3  | 1.9  | 2.8  | 2.0  | 1.5  | 1.2  | 1.1  | 1.4  | 2.0   | 1.1   | 3.8   | 3.7   | 3.7   | 3.1   | 2.9   | 2.5   | 2.6   |
| .5     | 7      | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .1    | .7    | 1.0   | 1.2   | .7    |
| 1.2    | 8      | 1.2               | 1.5  | 1.9  | 2.1  | 1.5  | 1.2  | 1.0  | 1.0  | 1.1  | 1.5   | .0    | 2.0   | 2.0   | 1.9   | 1.4   | 1.0   | 1.7   | 1.5   |
| .4     | 9      | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .1    | .1    | .1    | .4    | .3    | .7    | .3    |
| .1     | 10     | .1                | .1   | .1   | .1   | .0   | .0   | .1   | .0   | .1   | .0    | .0    | .1    | .1    | .1    | .3    | .5    | .0    | .1    |
| .1     | 11     | .1                | .1   | .1   | .1   | .0   | .0   | .1   | .0   | .1   | .0    | .0    | .1    | .2    | .2    | .5    | .7    | .0    | .2    |
| .1     | 12     | .1                | .1   | .2   | .2   | .1   | .1   | .1   | .1   | .2   | .1    | .0    | .3    | .3    | .4    | .8    | 1.0   | .1    | .3    |
| .0     | 13     | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .1    | .2    | .2    | .0    | .0    |
| .0     | 14     | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .1    | .1    | .2    | .3    | .0    | .0    |

harmpav2.out

|    |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| .0 | .1   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .4 | 15 * | .6 | .7 | .7 | .6 | .6 | .5 | .4 | .4 | .4 | .5 | .0 | .6 | .5 | .5 | .2 | .1 | .6 | .4 |
| .3 | .2   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .4 | 16 * | .4 | .4 | .4 | .4 | .3 | .3 | .2 | .2 | .3 | .3 | .0 | .4 | .4 | .4 | .4 | .4 | .3 | .3 |
| .2 | .2   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .1 | 17 * | .5 | .6 | .5 | .5 | .5 | .4 | .3 | .4 | .4 | .5 | .0 | .4 | .4 | .4 | .1 | .0 | .5 | .3 |
| .0 | .2   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .0 | 18 * | .4 | .4 | .4 | .4 | .3 | .3 | .2 | .2 | .3 | .3 | .0 | .4 | .4 | .4 | .3 | .3 | .3 | .3 |
| .0 | .2   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .0 | 19 * | .3 | .3 | .4 | .4 | .3 | .2 | .2 | .2 | .2 | .3 | .0 | .3 | .3 | .3 | .1 | .0 | .2 | .0 |
| .0 | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .0 | 20 * | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .8 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .0 | 21 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .6 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .0 | 22 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .0 | 23 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .0 | 24 * | .0 | .1 | .1 | .1 | .1 | .1 | .1 | .0 | .0 | .0 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .0 | 25 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .6 | 1.3  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .0 | 26 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .1 | .1 | .3 | .5 | .0 | .8 |
| .0 | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .0 | 27 * | .0 | .1 | .1 | .1 | .1 | .1 | .1 | .0 | .0 | .0 | .2 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .0 | 28 * | .0 | .0 | .0 | .1 | .1 | .0 | .0 | .0 | .0 | .0 | .2 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .0 | 29 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .0 | 30 * | .0 | .0 | .1 | .2 | .2 | .0 | .0 | .0 | .0 | .0 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .7 | 31 * | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .2 | .1 | .2 | .0 | .1 | .1 | .1 | .2 | .1 | .7 | .9 |
| .3 | .6   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| .3 | 32 * | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .0 | .1 | .1 | .1 | .0 | .0 | .3 | .4 |
|    | .3   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

PAGE

8

JOB: I25HarmonywithPkgStationPA

RUN: I25HarmonywithPkgStationPA

DATE : 11/22/10  
TIME : 11:28:53

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |       | * CO/LINK (PPM)<br>* ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|--------|-------|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| REC39  | REC40 | REC21                                | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 |  |
| LINK # | *     | 10                                   | 320   | 310   | 290   | 280   | 280   | 280   | 280   | 250   | 250   | 250   | 250   | 250   | 250   | 210   | 170   | 170   | 170   |  |
| 250    | 250   |                                      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| -----* |       |                                      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| .3     | 1 *   | .0                                   | .0    | .0    | .2    | .4    | .4    | .3    | .3    | .2    | .2    | .2    | .2    | .3    | .3    | .0    | .0    | .0    | .0    |  |
| .1     | .3 *  | .0                                   | .0    | .0    | .0    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .1    | .1    | .1    | .0    | .0    | .0    | .0    |  |
| .0     | .1 *  | .0                                   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
| .3     | .0 *  | .0                                   | .0    | .0    | .2    | .4    | .3    | .3    | .3    | .2    | .2    | .2    | .3    | .3    | .4    | .0    | .0    | .0    | .0    |  |
| .1     | .4 *  | .0                                   | .0    | .0    | .0    | .1    | .1    | .1    | .1    | .0    | .0    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .0    |  |
| 1.0    | .1 *  | .6                                   | 1.1   | 1.5   | 2.3   | 3.6   | 2.6   | 1.9   | 1.5   | 1.1   | 1.2   | 1.2   | 1.2   | .9    | .6    | .7    | .3    | .3    | .4    |  |
| .0     | .9 *  | .2                                   | .3    | .3    | .4    | .6    | .4    | .3    | .2    | .1    | .1    | .1    | .0    | .0    | .0    | .1    | .1    | .1    | .1    |  |
| 1.4    | .0 *  | .5                                   | 1.0   | 1.2   | 1.6   | 2.1   | 2.0   | 1.8   | 1.5   | 1.3   | 1.5   | 1.6   | 1.6   | 1.1   | .8    | .8    | .3    | .4    | .6    |  |
| .0     | 1.4 * | .1                                   | .2    | .2    | .1    | .2    | .2    | .2    | .2    | .2    | .2    | .2    | .1    | .0    | .0    | .2    | .1    | .1    | .1    |  |
| .0     | .0 *  | .3                                   | .0    | .0    | .0    | .3    | .8    | 1.2   | 1.4   | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .3    | .3    | .3    |  |
| .0     | .0 *  | .2                                   | .0    | .0    | .0    | .0    | .0    | .1    | .3    | .3    | .1    | .0    | .0    | .0    | .0    | .0    | .3    | .3    | .3    |  |
| .0     | .0 *  | .3                                   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | 2.4   | 2.1   | 1.6   | .7    | .0    | .0    | .1    | .4    | .4    | .4    |  |
| .0     | .0 *  |                                      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |

|     |      |     |     |     |     |     |    |    |    |     |     |     |     |     |     |     |     |     |     |
|-----|------|-----|-----|-----|-----|-----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| .0  | 13 * | .1  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .6  | .4  | .2  | .0  | .0  | .0  | .0  | .1  | .0  | .0  |
| .0  | 14 * | .1  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .3  | .1  | .0  | .0  | .0  | .0  | .0  | .1  | .1  | .1  |
| 1.3 | 15 * | .2  | .4  | .5  | .5  | .5  | .5 | .5 | .5 | .5  | .7  | 1.1 | 1.5 | .9  | .7  | .5  | .2  | .3  | .5  |
| .7  | 16 * | .2  | .2  | .3  | .3  | .2  | .3 | .3 | .3 | .8  | .8  | .8  | .8  | .5  | .3  | .3  | .3  | .3  | .4  |
| 2.1 | 17 * | .2  | .4  | .5  | .4  | .4  | .4 | .4 | .4 | .4  | .6  | .9  | 1.5 | 1.2 | .8  | .5  | .3  | .4  | .7  |
| 1.0 | 18 * | .2  | .2  | .2  | .2  | .2  | .2 | .2 | .2 | 1.5 | 1.5 | 1.5 | 1.5 | .7  | .4  | .3  | .3  | .3  | .4  |
| .5  | 19 * | .0  | .2  | .3  | .3  | .3  | .3 | .3 | .3 | .2  | .3  | .4  | .5  | .4  | .3  | .2  | .0  | .0  | .0  |
| .1  | 20 * | .0  | .0  | .0  | .2  | .3  | .2 | .2 | .2 | .1  | .1  | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .0  |
| .1  | 21 * | .0  | .0  | .0  | .2  | .3  | .2 | .2 | .2 | .0  | .1  | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .0  |
| .0  | 22 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 23 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 24 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 25 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 26 * | 1.4 | 1.6 | 1.4 | 1.2 | 1.3 | .8 | .6 | .5 | .2  | .1  | .1  | .0  | .0  | .0  | .1  | .7  | .9  | 1.1 |
| .0  | 27 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 28 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 29 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 30 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | 31 * | .5  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .3  | .4  | .6  | 1.0 | 1.0 | 1.0 | 1.2 | 1.2 | 1.1 | .9  |
| .0  | 32 * | .3  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .1  | .7  | .7  | .9  | .1  | .1  | .0  |

PAGE

9

JOB: I25HarmonywithPkgStationPA

RUN: I25HarmonywithPkgStationPA

DATE : 11/22/10  
TIME : 11:28:53

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

| LINK # | * | CO/LINK (PPM) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|---|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |   | REC41         | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
|        |   | 250           | 250   | 110   | 110   | 110   | 110   | 110   | 120   | 120   | 120   | 120   | 110   | 100   | 100   | 100   | 100   |
| 1      | * | .4            | .4    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    |
| 2      | * | .1            | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 3      | * | .0            | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 4      | * | .4            | .5    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 5      | * | .1            | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 6      | * | .9            | .8    | .8    | .9    | .9    | 1.0   | .7    | .7    | .6    | .6    | .8    | .9    | .7    | .8    | .8    | .8    |
| 7      | * | .0            | .0    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 8      | * | 1.3           | 1.2   | 1.2   | 1.3   | 1.3   | 1.4   | 1.0   | .9    | .8    | .8    | 1.0   | 1.2   | 1.1   | 1.2   | 1.2   | 1.1   |
| 9      | * | .0            | .0    | .1    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 10     | * | .0            | .0    | .3    | .2    | .2    | .2    | .2    | .1    | .1    | .1    | .1    | .2    | .2    | .2    | .2    | .2    |
| 11     | * | .0            | .0    | .2    | .2    | .2    | .1    | .2    | .1    | .1    | .1    | .1    | .1    | .2    | .2    | .2    | .2    |
| 12     | * | .0            | .0    | .2    | .2    | .1    | .1    | .2    | .1    | .1    | .1    | .0    | .1    | .3    | .2    | .2    | .2    |
| 13     | * | .0            | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 14     | * | .0            | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 15     | * | 1.3           | 1.3   | 1.2   | 1.3   | 1.3   | 1.3   | .8    | .6    | .5    | .5    | .7    | 1.0   | 1.3   | 1.1   | .9    | .8    |
| 16     | * | .7            | .6    | .7    | .7    | .7    | .7    | .5    | .4    | .3    | .3    | .4    | .5    | .7    | .6    | .5    | .5    |
| 17     | * | 2.1           | 2.1   | 2.1   | 2.1   | 2.1   | 2.1   | 1.1   | .8    | .6    | .6    | .8    | 1.2   | 1.8   | 1.3   | 1.0   | .8    |
| 18     | * | 1.0           | 1.0   | 1.1   | 1.1   | 1.1   | 1.1   | .6    | .4    | .4    | .3    | .4    | .6    | .9    | .7    | .5    | .4    |
| 19     | * | .5            | .4    | .4    | .5    | .5    | .5    | .3    | .3    | .2    | .2    | .3    | .4    | .4    | .4    | .4    | .3    |
| 20     | * | .1            | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .3    | .5    |
| 21     | * | .1            | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .5    | .9    | 1.2   | 1.4   |
| 22     | * | .0            | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .2    | .2    | .2    | .2    | .1    | .1    | .1    |
| 23     | * | .0            | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .3    | .1    | .0    | .0    |
| 24     | * | .0            | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 25     | * | .0            | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .3    | .1    | .1    | .1    | .0    |



harpav2.out

|    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 26 | * | .0 | .0 | .2 | .2 | .2 | .2 | .2 | .2 | .2 | .2 | .2 | .1 | .1 | .1 | .1 |
| 27 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 28 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 29 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 30 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 31 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .1 | .1 | .0 | .0 |
| 32 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

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'Receptor 2', 728 , 190 , 5
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'Receptor 7', 862 , 230 , 5
'Receptor 8', 862 , 190 , 5
'Receptor 9', 902 , 190 , 5
'Receptor 10', 942 , 190 , 5
'Receptor 11', 694 , 50 , 5
'Receptor 12', 734 , 50 , 5
'Receptor 13', 774 , 50 , 5
'Receptor 14', 774 , 10 , 5
'Receptor 15', 774 , -30 , 5
'Receptor 16', 862 , -30 , 5
'Receptor 17', 862 , 10 , 5
'Receptor 18', 862 , 50 , 5
'Receptor 19', 902 , 50 , 5
'Receptor 20', 942 , 50 , 5
'Receptor 21', 1634 , 26 , 5
'Receptor 22', 1674 , 26 , 5
'Receptor 23', 1714 , 26 , 5
'Receptor 24', 1714 , -14 , 5
'Receptor 25', 1714 , -54 , 5
'Receptor 26', 1766 , -30 , 5
'Receptor 27', 1766 , 10 , 5
'Receptor 28', 1766 , 50 , 5
'Receptor 29', 1806 , 50 , 5
'Receptor 30', 1846 , 50 , 5
'Receptor 31', 1870 , 190 , 5
'Receptor 32', 1830 , 190 , 5
'Receptor 33', 1790 , 190 , 5
'Receptor 34', 1790 , 230 , 5
'Receptor 35', 1790 , 270 , 5
'Receptor 36', 1714 , 270 , 5
'Receptor 37', 1714 , 230 , 5
'Receptor 38', 1714 , 190 , 5
'Receptor 39', 1674 , 190 , 5
'Receptor 40', 1634 , 190 , 5
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110 , 50 , 2 , 767 , 143.34 , 1600 , 1 , 3
1
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110 , 54 , 2 , 815 , 143.34 , 1600 , 1 , 3
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110 , 54 , 2 , 815 , 143.34 , 1600 , 1 , 3
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'eboutapp/dep q', 'AG', 1710 , 76 , 852 , 76 , 0 , 12 , 1
110 , 54 , 2 , 815 , 143.34 , 1600 , 1 , 3
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1
'ebmiddep', 'AG', 1749 , 88 , 2282 , 88 , 1115 , 22.8 , 0 , 32
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'eboutdep', 'AG', 1749 , 76 , 2282 , 76 , 1115 , 22.8 , 0 , 32
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'ebrightturn', 'AG', 1749 , 58 , 1310 , 58 , 945 , 22.8 , 0 , 44
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110 , 92 , 2 , 163 , 143.34 , 1600 , 1 , 3
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110 , 92 , 2 , 163 , 143.34 , 1600 , 1 , 3
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'wbinthru','AG', 2282 , 140 , 1749 , 140 , 797 , 22.1 , 0 , 32
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110 , 32 , 2 , 625 , 143.34 , 1600 , 1 , 3
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110 , 32 , 2 , 625 , 143.34 , 1600 , 1 , 3
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110 , 32 , 2 , 625 , 143.34 , 1600 , 1 , 3
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110 , 50 , 2 , 490 , 143.34 , 1600 , 1 , 3
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'wboutapp/dep','AG', 1749 , 164 , 815 , 164 , 718 , 22.1 , 0 , 32
2
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110 , 50 , 2 , 490 , 143.34 , 1600 , 1 , 3
1
'wbindep','AG', 815 , 140 , 282 , 140 , 643 , 22.1 , 0 , 32
1
'wbmiddep','AG', 815 , 152 , 282 , 152 , 643 , 22.1 , 0 , 32
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'wboutdep','AG', 815 , 164 , 282 , 164 , 643 , 22.1 , 0 , 32
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110 , 90 , 2 , 145 , 143.34 , 1600 , 1 , 3
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110 , 90 , 2 , 145 , 143.34 , 1600 , 1 , 3
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'pkg sb','AG', 794 , 1120 , 794 , 120 , 880 , 22.6 , 0 , 44
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'pkg sb q','AG', 794 , 180 , 794 , 1120 , 0 , 24 , 2
110 , 80 , 2 , 20 , 143.34 , 1600 , 1 , 3
2
'pkg sb left turn','AG', 812 , 180 , 812 , 380 , 0 , 12 , 1
110 , 70 , 2 , 570 , 143.34 , 1600 , 1 , 3
1
'pkg sb dep','AG', 800 , 120 , 800 , -880 , 480 , 22.6 , 0 , 32
1
'pkg nb','AG', 836 , -880 , 836 , 120 , 480 , 22.6 , 0 , 32
2
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110 , 70 , 2 , 170 , 143.34 , 1600 , 1 , 3
1
'pkg nb dep','AG', 830 , 120 , 830 , 1120 , 740 , 22.6 , 0 , 44
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110 , 78 , 2 , 1 , 143.34 , 1600 , 1 , 3
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110 , 78 , 2 , 900 , 143.34 , 1600 , 1 , 3
1
'i25sbrampdep','AG', 1740 , 111 , 1740 , -889 , 1461 , 22.6 , 0 , 32
1 , 0 , 4 , 1000 , 0 , 'Y', 10 , 0 , 36

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JOB: I25SH7withPkgStationPackageA

RUN: I25SH7withPkgStationPackageA

DATE : 11/22/10  
TIME : 12:38:55

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

| V/C QUEUE | LINK DESCRIPTION    | * | LINK COORDINATES (FT) |        |        |       | * | LENGTH | BRG TYPE | VPH   | EF     | H    | W    |
|-----------|---------------------|---|-----------------------|--------|--------|-------|---|--------|----------|-------|--------|------|------|
| (VEH)     |                     | * | X1                    | Y1     | X2     | Y2    | * | (FT)   | (DEG)    |       | (G/MI) | (FT) | (FT) |
|           | 1. ebinthru         | * | 282.0                 | 100.0  | 815.0  | 100.0 | * | 533.   | 90. AG   | 932.  | 22.8   | .0   | 32.0 |
|           | 2. ebinthru q       | * | 772.0                 | 100.0  | 494.8  | 100.0 | * | 277.   | 270. AG  | 175.  | 100.0  | .0   | 12.0 |
| .94       | 14.1                |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 3. ebmidthru        | * | 282.0                 | 88.0   | 815.0  | 88.0  | * | 533.   | 90. AG   | 932.  | 22.8   | .0   | 32.0 |
|           | 4. ebmidthru q      | * | 772.0                 | 88.0   | 494.8  | 88.0  | * | 277.   | 270. AG  | 175.  | 100.0  | .0   | 12.0 |
| .94       | 14.1                |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 5. eboutthru        | * | 282.0                 | 76.0   | 815.0  | 76.0  | * | 533.   | 90. AG   | 932.  | 22.8   | .0   | 32.0 |
|           | 6. eboutthru q      | * | 772.0                 | 76.0   | 494.8  | 76.0  | * | 277.   | 270. AG  | 175.  | 100.0  | .0   | 12.0 |
| .94       | 14.1                |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 7. edinapp/dep      | * | 815.0                 | 100.0  | 1749.0 | 100.0 | * | 934.   | 90. AG   | 1130. | 22.8   | .0   | 32.0 |
|           | 8. edinapp/dep q    | * | 1710.0                | 100.0  | 744.3  | 100.0 | * | 966.   | 270. AG  | 189.  | 100.0  | .0   | 12.0 |
| 1.08      | 49.1                |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 9. edmidapp/dep     | * | 815.0                 | 88.0   | 1749.0 | 88.0  | * | 934.   | 90. AG   | 1130. | 22.8   | .0   | 32.0 |
|           | 10. edmidapp/dep q  | * | 1710.0                | 88.0   | 744.3  | 88.0  | * | 966.   | 270. AG  | 189.  | 100.0  | .0   | 12.0 |
| 1.08      | 49.1                |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 11. eboutapp/dep    | * | 815.0                 | 76.0   | 1749.0 | 76.0  | * | 934.   | 90. AG   | 1130. | 22.8   | .0   | 32.0 |
|           | 12. eboutapp/dep q  | * | 1710.0                | 76.0   | 744.3  | 76.0  | * | 966.   | 270. AG  | 189.  | 100.0  | .0   | 12.0 |
| 1.08      | 49.1                |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 13. ebindep         | * | 1749.0                | 100.0  | 2282.0 | 100.0 | * | 533.   | 90. AG   | 1115. | 22.8   | .0   | 32.0 |
|           | 14. ebmiddep        | * | 1749.0                | 88.0   | 2282.0 | 88.0  | * | 533.   | 90. AG   | 1115. | 22.8   | .0   | 32.0 |
|           | 15. eboutdep        | * | 1749.0                | 76.0   | 2282.0 | 76.0  | * | 533.   | 90. AG   | 1115. | 22.8   | .0   | 32.0 |
|           | 16. ebrightturn     | * | 1749.0                | 58.0   | 1310.0 | 58.0  | * | 439.   | 270. AG  | 945.  | 22.8   | .0   | 44.0 |
|           | 17. ebinleftturn    | * | 772.0                 | 124.0  | 676.2  | 124.0 | * | 96.    | 270. AG  | 322.  | 100.0  | .0   | 12.0 |
| .80       | 4.9                 |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 18. eboutleftturn   | * | 772.0                 | 111.9  | 676.2  | 111.9 | * | 96.    | 270. AG  | 322.  | 100.0  | .0   | 12.0 |
| .80       | 4.9                 |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 19. wbinthru        | * | 2282.0                | 140.0  | 1749.0 | 140.0 | * | 533.   | 270. AG  | 797.  | 22.1   | .0   | 32.0 |
|           | 20. wbinthru q      | * | 1770.0                | 140.0  | 1879.4 | 140.0 | * | 109.   | 90. AG   | 112.  | 100.0  | .0   | 12.0 |
| .58       | 5.6                 |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 21. wbmidthru       | * | 2282.0                | 152.0  | 1749.0 | 152.0 | * | 533.   | 270. AG  | 797.  | 22.1   | .0   | 32.0 |
|           | 22. wbmidthru q     | * | 1770.0                | 152.0  | 1879.4 | 152.0 | * | 109.   | 90. AG   | 112.  | 100.0  | .0   | 12.0 |
| .58       | 5.6                 |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 23. wboutthru       | * | 2282.0                | 164.0  | 1749.0 | 164.0 | * | 533.   | 270. AG  | 797.  | 22.1   | .0   | 32.0 |
|           | 24. wboutthru q     | * | 1770.0                | 164.0  | 1879.4 | 164.0 | * | 109.   | 90. AG   | 112.  | 100.0  | .0   | 12.0 |
| .58       | 5.6                 |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 25. wbinapp/dep     | * | 1749.0                | 140.0  | 815.0  | 140.0 | * | 934.   | 270. AG  | 718.  | 22.1   | .0   | 32.0 |
|           | 26. wbinapp/dep q   | * | 852.0                 | 140.0  | 986.0  | 140.0 | * | 134.   | 90. AG   | 175.  | 100.0  | .0   | 12.0 |
| .60       | 6.8                 |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 27. wbmidthru       | * | 1749.0                | 152.0  | 815.0  | 152.0 | * | 934.   | 270. AG  | 718.  | 22.1   | .0   | 32.0 |
|           | 28. wbmidthru q     | * | 852.0                 | 152.0  | 986.0  | 152.0 | * | 134.   | 90. AG   | 175.  | 100.0  | .0   | 12.0 |
| .60       | 6.8                 |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 29. wboutapp/dep    | * | 1749.0                | 164.0  | 815.0  | 164.0 | * | 934.   | 270. AG  | 718.  | 22.1   | .0   | 32.0 |
|           | 30. wboutapp/dep q  | * | 852.0                 | 164.0  | 986.0  | 164.0 | * | 134.   | 90. AG   | 175.  | 100.0  | .0   | 12.0 |
| .60       | 6.8                 |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 31. wbindep         | * | 815.0                 | 140.0  | 282.0  | 140.0 | * | 533.   | 270. AG  | 643.  | 22.1   | .0   | 32.0 |
|           | 32. wbmidthru       | * | 815.0                 | 152.0  | 282.0  | 152.0 | * | 533.   | 270. AG  | 643.  | 22.1   | .0   | 32.0 |
|           | 33. wboutdep        | * | 815.0                 | 164.0  | 282.0  | 164.0 | * | 533.   | 270. AG  | 643.  | 22.1   | .0   | 32.0 |
|           | 34. wbinleftturn    | * | 1770.0                | 116.0  | 1966.1 | 116.0 | * | 196.   | 90. AG   | 308.  | 100.0  | .0   | 12.0 |
| .99       | 10.0                |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 35. wboutleftturn   | * | 1770.0                | 128.0  | 1966.1 | 128.0 | * | 196.   | 90. AG   | 308.  | 100.0  | .0   | 12.0 |
| .99       | 10.0                |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 36. wbinleftturn 2  | * | 852.0                 | 112.0  | 924.0  | 112.0 | * | 72.    | 90. AG   | 315.  | 100.0  | .0   | 12.0 |
| .63       | 3.7                 |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 37. wboutleftturn 2 | * | 852.0                 | 124.0  | 924.0  | 124.0 | * | 72.    | 90. AG   | 315.  | 100.0  | .0   | 12.0 |
| .63       | 3.7                 |   |                       |        |        |       |   |        |          |       |        |      |      |
|           | 38. pkg sb          | * | 794.0                 | 1120.0 | 794.0  | 120.0 | * | 1000.  | 180. AG  | 880.  | 22.6   | .0   | 44.0 |
|           | 39. pkg sb q        | * | 794.0                 | 180.0  | 794.0  | 184.4 | * | 4.     | 360. AG  | 559.  | 100.0  | .0   | 24.0 |
| .03       | .2                  |   |                       |        |        |       |   |        |          |       |        |      |      |

|      |                      |   |       |        |       |          |       |         |      |       |    |      |
|------|----------------------|---|-------|--------|-------|----------|-------|---------|------|-------|----|------|
| 1.09 | 40. pkg sb left turn | * | 812.0 | 180.0  | 812.0 | 982.1 *  | 802.  | 360. AG | 245. | 100.0 | .0 | 12.0 |
|      | 40.7                 |   |       |        |       |          |       |         |      |       |    |      |
|      | 41. pkg sb dep       | * | 800.0 | 120.0  | 800.0 | -880.0 * | 1000. | 180. AG | 480. | 22.6  | .0 | 32.0 |
|      | 42. pkg nb           | * | 836.0 | -880.0 | 836.0 | 120.0 *  | 1000. | 360. AG | 480. | 22.6  | .0 | 32.0 |
| .33  | 43. pkg nb left turn | * | 824.0 | 40.0   | 824.0 | -25.1 *  | 65.   | 180. AG | 245. | 100.0 | .0 | 12.0 |
|      | 3.3                  |   |       |        |       |          |       |         |      |       |    |      |
|      | 44. pkg nb dep       | * | 830.0 | 120.0  | 830.0 | 1120.0 * | 1000. | 360. AG | 740. | 22.6  | .0 | 44.0 |

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JOB: I25SH7withPkgStationPackageA

RUN: I25SH7withPkgStationPackageA

DATE : 11/22/10  
TIME : 12:38:55

LINK VARIABLES

| V/C QUEUE | LINK DESCRIPTION | * | LINK COORDINATES (FT) |    |    |    | * | LENGTH | BRG TYPE | VPH | EF     | H    | W    |
|-----------|------------------|---|-----------------------|----|----|----|---|--------|----------|-----|--------|------|------|
| (VEH)     |                  | * | X1                    | Y1 | X2 | Y2 | * | (FT)   | (DEG)    |     | (G/MI) | (FT) | (FT) |

|      |                       |   |        |        |        |          |       |         |       |       |    |      |
|------|-----------------------|---|--------|--------|--------|----------|-------|---------|-------|-------|----|------|
| .00  | 45. i25sbrampthru     | * | 1740.0 | 1111.0 | 1740.0 | 111.0 *  | 1000. | 180. AG | 1326. | 22.6  | .0 | 32.0 |
|      | 46. i25sbramp q       | * | 1740.0 | 180.0  | 1740.0 | 180.4 *  | 0.    | 360. AG | 273.  | 100.0 | .0 | 12.0 |
|      | .0                    |   |        |        |        |          |       |         |       |       |    |      |
| 1.11 | 47. i25sbrampleftturn | * | 1758.0 | 180.0  | 1758.0 | 903.7 *  | 724.  | 360. AG | 545.  | 100.0 | .0 | 24.0 |
|      | 36.8                  |   |        |        |        |          |       |         |       |       |    |      |
|      | 48. i25sbrampdep      | * | 1740.0 | 111.0  | 1740.0 | -889.0 * | 1000. | 180. AG | 1461. | 22.6  | .0 | 32.0 |

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JOB: I25SH7withPkgStationPackageA

RUN: I25SH7withPkgStationPackageA

DATE : 11/22/10  
TIME : 12:38:55

ADDITIONAL QUEUE LINK PARAMETERS

| LINK DESCRIPTION      | * | CYCLE LENGTH (SEC) | RED TIME (SEC) | CLEARANCE LOST TIME (SEC) | APPROACH VOL (VPH) | SATURATION FLOW RATE (VPH) | IDLE EM FAC (gm/hr) | SIGNAL TYPE | ARRIVAL RATE |
|-----------------------|---|--------------------|----------------|---------------------------|--------------------|----------------------------|---------------------|-------------|--------------|
| 2. ebinthru q         | * | 110                | 50             | 2.0                       | 767                | 1600                       | 143.34              | 1           | 3            |
| 4. ebmidthru q        | * | 110                | 50             | 2.0                       | 767                | 1600                       | 143.34              | 1           | 3            |
| 6. eboutthru q        | * | 110                | 50             | 2.0                       | 767                | 1600                       | 143.34              | 1           | 3            |
| 8. edinapp/dep q      | * | 110                | 54             | 2.0                       | 815                | 1600                       | 143.34              | 1           | 3            |
| 10. edmidapp/dep q    | * | 110                | 54             | 2.0                       | 815                | 1600                       | 143.34              | 1           | 3            |
| 12. eboutapp/dep q    | * | 110                | 54             | 2.0                       | 815                | 1600                       | 143.34              | 1           | 3            |
| 17. ebinleftturn      | * | 110                | 92             | 2.0                       | 163                | 1600                       | 143.34              | 1           | 3            |
| 18. eboutleftturn     | * | 110                | 92             | 2.0                       | 163                | 1600                       | 143.34              | 1           | 3            |
| 20. wbinthru q        | * | 110                | 32             | 2.0                       | 625                | 1600                       | 143.34              | 1           | 3            |
| 22. wbmidthru q       | * | 110                | 32             | 2.0                       | 625                | 1600                       | 143.34              | 1           | 3            |
| 24. wboutthru q       | * | 110                | 32             | 2.0                       | 625                | 1600                       | 143.34              | 1           | 3            |
| 26. wbinapp/dep q     | * | 110                | 50             | 2.0                       | 490                | 1600                       | 143.34              | 1           | 3            |
| 28. wbmidapp/dep q    | * | 110                | 50             | 2.0                       | 490                | 1600                       | 143.34              | 1           | 3            |
| 30. wboutapp/dep q    | * | 110                | 50             | 2.0                       | 490                | 1600                       | 143.34              | 1           | 3            |
| 34. wbinleftturn      | * | 110                | 88             | 2.0                       | 258                | 1600                       | 143.34              | 1           | 3            |
| 35. wboutleftturn     | * | 110                | 88             | 2.0                       | 258                | 1600                       | 143.34              | 1           | 3            |
| 36. wbinleftturn 2    | * | 110                | 90             | 2.0                       | 145                | 1600                       | 143.34              | 1           | 3            |
| 37. wboutleftturn 2   | * | 110                | 90             | 2.0                       | 145                | 1600                       | 143.34              | 1           | 3            |
| 39. pkg sb q          | * | 110                | 80             | 2.0                       | 20                 | 1600                       | 143.34              | 1           | 3            |
| 40. pkg sb left turn  | * | 110                | 70             | 2.0                       | 570                | 1600                       | 143.34              | 1           | 3            |
| 43. pkg nb left turn  | * | 110                | 70             | 2.0                       | 170                | 1600                       | 143.34              | 1           | 3            |
| 46. i25sbramp q       | * | 110                | 78             | 2.0                       | 1                  | 1600                       | 143.34              | 1           | 3            |
| 47. i25sbrampleftturn | * | 110                | 78             | 2.0                       | 900                | 1600                       | 143.34              | 1           | 3            |

RECEPTOR LOCATIONS

| RECEPTOR        | * | COORDINATES (FT) |       |     | * |
|-----------------|---|------------------|-------|-----|---|
|                 | * | X                | Y     | Z   | * |
| 1. Receptor 1   | * | 688.0            | 190.0 | 5.0 | * |
| 2. Receptor 2   | * | 728.0            | 190.0 | 5.0 | * |
| 3. Receptor 3   | * | 768.0            | 190.0 | 5.0 | * |
| 4. Receptor 4   | * | 768.0            | 230.0 | 5.0 | * |
| 5. Receptor 5   | * | 768.0            | 270.0 | 5.0 | * |
| 6. Receptor 6   | * | 862.0            | 270.0 | 5.0 | * |
| 7. Receptor 7   | * | 862.0            | 230.0 | 5.0 | * |
| 8. Receptor 8   | * | 862.0            | 190.0 | 5.0 | * |
| 9. Receptor 9   | * | 902.0            | 190.0 | 5.0 | * |
| 10. Receptor 10 | * | 942.0            | 190.0 | 5.0 | * |

|              |    |   |        |       |     |   |
|--------------|----|---|--------|-------|-----|---|
| 11. Receptor | 11 | * | 694.0  | 50.0  | 5.0 | * |
| 12. Receptor | 12 | * | 734.0  | 50.0  | 5.0 | * |
| 13. Receptor | 13 | * | 774.0  | 50.0  | 5.0 | * |
| 14. Receptor | 14 | * | 774.0  | 10.0  | 5.0 | * |
| 15. Receptor | 15 | * | 774.0  | -30.0 | 5.0 | * |
| 16. Receptor | 16 | * | 862.0  | -30.0 | 5.0 | * |
| 17. Receptor | 17 | * | 862.0  | 10.0  | 5.0 | * |
| 18. Receptor | 18 | * | 862.0  | 50.0  | 5.0 | * |
| 19. Receptor | 19 | * | 902.0  | 50.0  | 5.0 | * |
| 20. Receptor | 20 | * | 942.0  | 50.0  | 5.0 | * |
| 21. Receptor | 21 | * | 1634.0 | 26.0  | 5.0 | * |
| 22. Receptor | 22 | * | 1674.0 | 26.0  | 5.0 | * |

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JOB: I25SH7withPkgStationPackageA

RUN: I25SH7withPkgStationPackageA

DATE : 11/22/10  
TIME : 12:38:55

RECEPTOR LOCATIONS

| RECEPTOR     |    | * | COORDINATES (FT) |       |     | * |
|--------------|----|---|------------------|-------|-----|---|
|              |    | * | X                | Y     | Z   | * |
| 23. Receptor | 23 | * | 1714.0           | 26.0  | 5.0 | * |
| 24. Receptor | 24 | * | 1714.0           | -14.0 | 5.0 | * |
| 25. Receptor | 25 | * | 1714.0           | -54.0 | 5.0 | * |
| 26. Receptor | 26 | * | 1766.0           | -30.0 | 5.0 | * |
| 27. Receptor | 27 | * | 1766.0           | 10.0  | 5.0 | * |
| 28. Receptor | 28 | * | 1766.0           | 50.0  | 5.0 | * |
| 29. Receptor | 29 | * | 1806.0           | 50.0  | 5.0 | * |
| 30. Receptor | 30 | * | 1846.0           | 50.0  | 5.0 | * |
| 31. Receptor | 31 | * | 1870.0           | 190.0 | 5.0 | * |
| 32. Receptor | 32 | * | 1830.0           | 190.0 | 5.0 | * |
| 33. Receptor | 33 | * | 1790.0           | 190.0 | 5.0 | * |
| 34. Receptor | 34 | * | 1790.0           | 230.0 | 5.0 | * |
| 35. Receptor | 35 | * | 1790.0           | 270.0 | 5.0 | * |
| 36. Receptor | 36 | * | 1714.0           | 270.0 | 5.0 | * |
| 37. Receptor | 37 | * | 1714.0           | 230.0 | 5.0 | * |
| 38. Receptor | 38 | * | 1714.0           | 190.0 | 5.0 | * |
| 39. Receptor | 39 | * | 1674.0           | 190.0 | 5.0 | * |
| 40. Receptor | 40 | * | 1634.0           | 190.0 | 5.0 | * |

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JOB: I25SH7withPkgStationPackageA

RUN: I25SH7withPkgStationPackageA

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
ANGLE \* (PPM)  
(DEGR)\* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18  
REC19 REC20

| ANGLE | REC1 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 | REC19 | REC20 |
|-------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.    | .3   | .5   | 1.4  | 1.3  | 1.3  | 1.0  | 1.1  | 1.1  | .4   | .3    | 4.0   | 4.5   | 5.1   | 3.5   | 2.7   | 3.2   | 3.8   | 5.4   |       |       |
| 5.1   | 4.4  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 10.   | .7   | .9   | 2.0  | 2.0  | 2.0  | .4   | .4   | .4   | .1   | .0    | 4.4   | 5.1   | 5.0   | 3.7   | 3.3   | 2.8   | 3.4   | 4.8   |       |       |
| 4.6   | 3.8  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 20.   | .7   | 1.1  | 1.9  | 1.9  | 1.9  | .1   | .1   | .1   | .0   | .0    | 4.4   | 5.1   | 4.5   | 3.3   | 2.8   | 2.2   | 3.0   | 4.7   |       |       |
| 4.2   | 3.8  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 30.   | .7   | 1.1  | 1.8  | 1.8  | 1.8  | .0   | .0   | .0   | .0   | .0    | 4.6   | 4.8   | 4.4   | 3.3   | 3.2   | 2.3   | 3.0   | 4.6   |       |       |
| 4.0   | 3.7  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 40.   | .7   | 1.0  | 1.6  | 1.6  | 1.6  | .0   | .0   | .0   | .0   | .0    | 4.6   | 4.8   | 4.6   | 3.5   | 3.1   | 2.1   | 3.2   | 4.6   |       |       |
| 4.1   | 3.8  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 50.   | .7   | 1.0  | 1.6  | 1.5  | 1.4  | .2   | .2   | .2   | .2   | .2    | 5.0   | 5.4   | 5.2   | 4.0   | 3.6   | 2.3   | 2.8   | 4.8   |       |       |
| 4.3   | 4.2  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 60.   | .9   | 1.1  | 1.5  | 1.5  | 1.5  | .2   | .2   | .2   | .2   | .2    | 5.7   | 5.4   | 5.7   | 4.1   | 3.3   | 2.5   | 3.0   | 4.7   |       |       |
| 4.5   | 4.6  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 70.   | .9   | 1.1  | 1.6  | 1.5  | 1.5  | .2   | .2   | .3   | .3   | .4    | 5.7   | 5.6   | 6.1   | 4.0   | 3.2   | 2.4   | 3.1   | 4.9   |       |       |
| 4.9   | 4.8  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 80.   | 1.6  | 1.8  | 2.2  | 1.7  | 1.5  | .2   | .3   | .7   | .7   | .7    | 5.4   | 5.5   | 5.5   | 3.5   | 2.9   | 2.1   | 3.0   | 4.8   |       |       |

sh7pgav2.out

|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 4.8  | 4.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 90.  | *   | 3.2 | 3.6 | 4.6 | 2.6 | 2.2 | .7  | 1.3 | 2.7 | 2.6 | 2.6 | 3.9 | 3.9 | 4.2 | 2.8 | 1.6 | 1.2 | 1.8 | 3.5 |  |
| 3.5  | 3.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 100. | *   | 4.5 | 4.7 | 5.6 | 3.8 | 3.1 | 1.8 | 2.2 | 4.2 | 4.0 | 3.7 | 1.7 | 1.8 | 2.1 | 1.3 | .7  | .1  | .6  | 1.4 |  |
| 1.4  | 1.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 110. | *   | 4.4 | 4.8 | 5.7 | 4.1 | 3.1 | 1.8 | 2.7 | 4.3 | 4.2 | 3.7 | .7  | .9  | 1.0 | .9  | .6  | .1  | .1  | .3  |  |
| .3   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 120. | *   | 4.3 | 4.3 | 5.2 | 4.2 | 3.5 | 2.0 | 2.8 | 4.4 | 4.1 | 3.8 | .4  | .6  | .9  | .8  | .6  | .1  | .1  | .1  |  |
| .1   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 130. | *   | 3.8 | 4.0 | 4.9 | 4.0 | 3.6 | 1.9 | 2.9 | 4.4 | 4.1 | 3.8 | .3  | .5  | 1.0 | .8  | .7  | .1  | .1  | .1  |  |
| .1   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 140. | *   | 3.7 | 3.4 | 4.2 | 3.8 | 3.6 | 1.9 | 3.0 | 4.3 | 3.8 | 3.5 | .3  | .5  | .9  | .7  | .6  | .0  | .0  | .0  |  |
| .0   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 150. | *   | 3.5 | 3.7 | 3.7 | 3.4 | 3.1 | 2.0 | 2.8 | 4.2 | 3.9 | 3.7 | .3  | .4  | .8  | .6  | .6  | .0  | .0  | .0  |  |
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 160. | *   | 3.3 | 3.3 | 3.6 | 3.0 | 3.1 | 2.0 | 2.8 | 4.1 | 3.8 | 3.6 | .3  | .4  | .8  | .7  | .7  | .0  | .0  | .1  |  |
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 170. | *   | 3.1 | 3.4 | 3.8 | 3.2 | 2.8 | 2.4 | 3.0 | 4.3 | 4.1 | 3.6 | .2  | .3  | .7  | .7  | .7  | .2  | .2  | .2  |  |
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 180. | *   | 2.9 | 3.1 | 3.6 | 2.8 | 2.6 | 2.5 | 3.0 | 4.6 | 4.5 | 4.0 | .1  | .2  | .5  | .5  | .4  | .4  | .5  | .5  |  |
| .2   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 190. | *   | 2.7 | 3.0 | 3.2 | 2.5 | 2.2 | 2.7 | 3.3 | 4.3 | 4.6 | 4.0 | .0  | .0  | .2  | .2  | .2  | .7  | .7  | .8  |  |
| .3   | .2  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 200. | *   | 2.5 | 2.9 | 3.1 | 2.1 | 1.9 | 2.7 | 2.6 | 4.2 | 4.6 | 4.2 | .0  | .0  | .1  | .0  | .0  | .7  | .7  | .9  |  |
| .4   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 210. | *   | 2.4 | 3.0 | 3.1 | 2.0 | 1.8 | 3.1 | 3.3 | 3.9 | 4.9 | 4.6 | .0  | .0  | .0  | .0  | .0  | .6  | .7  | .9  |  |
| .4   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 220. | *   | 2.6 | 3.0 | 3.3 | 1.9 | 1.7 | 2.9 | 3.3 | 3.9 | 3.9 | 4.7 | .0  | .0  | .0  | .0  | .0  | .6  | .8  | 1.0 |  |
| .5   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 230. | *   | 2.5 | 2.8 | 3.2 | 1.9 | 1.5 | 2.9 | 3.2 | 4.1 | 4.4 | 4.7 | .0  | .0  | .0  | .0  | .0  | .6  | .8  | 1.0 |  |
| .5   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 240. | *   | 2.5 | 2.6 | 3.0 | 1.8 | 1.4 | 2.9 | 3.3 | 4.2 | 4.2 | 5.0 | .0  | .0  | .0  | .0  | .0  | .5  | .8  | .8  |  |
| .5   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 250. | *   | 2.3 | 2.4 | 2.6 | 1.4 | .8  | 2.3 | 3.1 | 4.3 | 3.9 | 4.2 | .1  | .1  | .1  | .0  | .0  | .5  | .9  | .8  |  |
| .6   | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 260. | *   | 1.7 | 1.8 | 1.9 | .8  | .4  | 1.8 | 2.1 | 3.7 | 3.3 | 3.3 | .6  | .6  | .8  | .1  | .0  | .6  | 1.0 | 1.5 |  |
| 1.3  | 1.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 270. | *   | 1.0 | 1.0 | 1.2 | .3  | .0  | 1.3 | 1.6 | 2.6 | 2.1 | 1.9 | 1.7 | 1.8 | 2.0 | .5  | .2  | .9  | 1.6 | 2.8 |  |
| 2.9  | 2.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 280. | *   | .4  | .4  | .4  | .0  | .0  | 1.2 | 1.2 | 1.6 | 1.3 | 1.0 | 2.8 | 3.1 | 3.2 | 1.4 | .4  | 1.5 | 2.5 | 4.3 |  |
| 4.3  | 4.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 290. | *   | .1  | .1  | .1  | .0  | .0  | 1.2 | 1.2 | 1.3 | .8  | .6  | 3.4 | 3.8 | 4.1 | 1.9 | 1.3 | 2.2 | 3.2 | 5.0 |  |
| 5.0  | 5.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 300. | *   | .0  | .0  | .0  | .0  | .0  | 1.3 | 1.3 | 1.3 | .8  | .6  | 3.5 | 3.6 | 4.1 | 2.2 | 1.5 | 2.7 | 3.7 | 5.0 |  |
| 4.9  | 5.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 310. | *   | .0  | .0  | .0  | .0  | .0  | 1.3 | 1.3 | 1.3 | .9  | .6  | 3.5 | 3.7 | 4.3 | 2.5 | 1.7 | 2.9 | 3.5 | 4.6 |  |
| 4.9  | 5.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 320. | *   | .0  | .0  | .0  | .0  | .0  | 1.4 | 1.4 | 1.4 | .9  | .6  | 3.2 | 3.6 | 4.5 | 2.5 | 1.8 | 2.8 | 3.1 | 4.5 |  |
| 4.6  | 4.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 330. | *   | .0  | .0  | .1  | .1  | .1  | 1.5 | 1.5 | 1.5 | 1.0 | .8  | 3.4 | 3.8 | 4.3 | 2.6 | 1.7 | 3.2 | 3.2 | 4.6 |  |
| 5.0  | 5.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 340. | *   | .0  | .0  | .2  | .2  | .2  | 1.7 | 1.7 | 1.7 | 1.0 | .7  | 3.2 | 3.6 | 4.4 | 2.7 | 1.9 | 3.0 | 3.6 | 5.1 |  |
| 5.3  | 5.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 350. | *   | .0  | .1  | .6  | .6  | .6  | 1.5 | 1.5 | 1.5 | .9  | .6  | 3.5 | 3.9 | 4.7 | 3.1 | 2.5 | 3.3 | 3.6 | 5.4 |  |
| 5.4  | 4.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 360. | *   | .3  | .5  | 1.4 | 1.3 | 1.3 | 1.0 | 1.1 | 1.1 | .4  | .3  | 4.0 | 4.5 | 5.1 | 3.5 | 2.7 | 3.2 | 3.8 | 5.4 |  |
| 5.1  | 4.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |

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|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 4.5 | 4.8 | 5.7 | 4.2 | 3.6 | 3.1 | 3.3 | 4.6 | 4.9 | 5.0 | 5.7 | 5.6 | 6.1 | 4.1 | 3.6 | 3.3 | 3.8 | 5.4 |
| 5.4   | 5.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | *   | 100 | 110 | 110 | 120 | 130 | 210 | 220 | 180 | 210 | 240 | 60  | 70  | 70  | 60  | 50  | 350 | 0   | 0   |
| 350   | 330 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

□ 6 PAGE

JOB: I25SH7withPkgStationPackageA RUN: I25SH7withPkgStationPackageA

MODEL RESULTS  
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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
ANGLE \* (PPM)

(DEGR)\* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32 REC33 REC34 REC35 REC36 REC37 REC38  
 REC39 REC40

|       |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0.8   | * | 3.6 | 4.0 | 4.3 | 3.6 | 3.0 | 3.3 | 3.9 | 4.8 | 4.5 | 4.1 | .3  | .7  | 1.7 | 1.7 | 1.7 | 1.8 | 1.8 | 1.9 |
| 10.3  | * | 4.2 | 4.3 | 4.8 | 4.0 | 3.9 | 2.6 | 3.3 | 4.3 | 3.8 | 3.6 | .1  | .2  | .7  | .7  | .7  | 2.6 | 2.6 | 2.6 |
| 20.1  | * | 4.1 | 4.3 | 4.6 | 3.5 | 3.2 | 2.3 | 2.7 | 3.7 | 3.5 | 3.2 | .0  | .0  | .1  | .1  | .1  | 2.7 | 2.7 | 2.7 |
| 30.1  | * | 3.9 | 4.1 | 4.5 | 3.7 | 2.8 | 1.8 | 2.7 | 3.5 | 3.5 | 3.2 | .0  | .0  | .0  | .0  | .0  | 2.5 | 2.5 | 2.5 |
| 40.1  | * | 4.0 | 4.0 | 4.4 | 3.3 | 2.9 | 1.9 | 2.5 | 3.6 | 3.4 | 3.3 | .0  | .0  | .0  | .0  | .0  | 2.3 | 2.3 | 2.3 |
| 50.1  | * | 4.0 | 4.4 | 4.5 | 3.2 | 2.8 | 1.9 | 2.4 | 3.9 | 3.7 | 3.5 | .0  | .0  | .0  | .0  | .0  | 2.1 | 2.1 | 2.1 |
| 60.1  | * | 3.9 | 4.1 | 4.1 | 3.0 | 2.4 | 1.7 | 2.4 | 3.9 | 3.7 | 3.6 | .0  | .0  | .0  | .0  | .0  | 2.0 | 2.0 | 2.0 |
| 70.1  | * | 3.9 | 3.7 | 3.8 | 2.7 | 2.0 | 1.2 | 2.0 | 3.7 | 3.5 | 3.3 | .1  | .1  | .1  | .0  | .0  | 2.0 | 2.0 | 2.0 |
| 80.1  | * | 2.9 | 3.0 | 3.1 | 2.0 | 1.4 | .6  | 1.3 | 3.0 | 2.8 | 2.6 | .4  | .4  | .4  | .0  | .0  | 2.0 | 2.0 | 2.3 |
| 90.2  | * | 1.7 | 1.7 | 1.9 | 1.3 | 1.1 | .2  | .5  | 1.7 | 1.7 | 1.6 | 1.2 | 1.3 | 1.4 | .3  | .1  | 2.2 | 2.5 | 3.4 |
| 100.3 | * | .8  | 1.0 | 1.3 | 1.0 | 1.0 | .0  | .1  | .6  | .6  | .6  | 2.0 | 2.3 | 2.7 | 1.0 | .5  | 2.7 | 3.2 | 4.5 |
| 110.4 | * | .4  | .5  | 1.0 | 1.0 | 1.0 | .0  | .0  | .1  | .1  | .1  | 2.7 | 3.1 | 3.6 | 1.8 | 1.0 | 3.4 | 4.1 | 4.9 |
| 120.4 | * | .4  | .6  | 1.0 | 1.0 | 1.0 | .0  | .0  | .0  | .0  | .0  | 3.0 | 3.5 | 3.9 | 2.3 | 1.3 | 3.6 | 4.6 | 4.8 |
| 130.4 | * | .4  | .6  | 1.1 | 1.1 | 1.1 | .0  | .0  | .0  | .0  | .0  | 3.1 | 3.7 | 4.0 | 2.4 | 1.4 | 4.1 | 4.5 | 4.5 |
| 140.3 | * | .5  | .6  | 1.2 | 1.2 | 1.2 | .0  | .0  | .0  | .0  | .0  | 3.1 | 3.6 | 3.8 | 2.6 | 1.7 | 4.0 | 3.9 | 3.7 |
| 150.3 | * | .5  | .7  | 1.3 | 1.3 | 1.3 | .0  | .0  | .0  | .0  | .0  | 3.1 | 3.5 | 3.6 | 2.5 | 1.9 | 3.9 | 3.6 | 3.7 |
| 160.3 | * | .5  | .7  | 1.5 | 1.5 | 1.5 | .2  | .2  | .2  | .0  | .0  | 3.1 | 3.4 | 3.4 | 2.4 | 1.9 | 3.5 | 3.4 | 3.7 |
| 170.3 | * | .4  | .7  | 1.5 | 1.5 | 1.4 | .5  | .5  | .5  | .1  | .1  | 3.3 | 3.6 | 3.6 | 2.5 | 2.2 | 3.0 | 3.0 | 3.8 |
| 180.3 | * | .2  | .4  | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | .4  | .2  | 3.5 | 3.8 | 3.9 | 2.8 | 2.6 | 2.7 | 2.9 | 3.7 |
| 190.3 | * | .1  | .1  | .5  | .5  | .5  | 1.5 | 1.5 | 1.5 | .7  | .4  | 3.8 | 4.0 | 4.3 | 3.3 | 2.9 | 2.2 | 2.5 | 3.1 |
| 200.3 | * | .0  | .0  | .2  | .2  | .1  | 1.5 | 1.5 | 1.5 | .7  | .5  | 3.9 | 4.1 | 3.7 | 3.5 | 3.5 | 1.9 | 2.1 | 2.9 |
| 210.2 | * | .0  | .0  | .0  | .0  | .0  | 1.3 | 1.3 | 1.3 | .7  | .5  | 3.9 | 4.1 | 3.9 | 3.4 | 3.6 | 1.7 | 2.1 | 3.1 |
| 220.3 | * | .0  | .0  | .0  | .0  | .0  | 1.2 | 1.2 | 1.3 | .6  | .5  | 4.3 | 4.1 | 3.9 | 3.9 | 3.8 | 1.7 | 2.3 | 3.1 |
| 230.3 | * | .0  | .0  | .0  | .0  | .0  | 1.1 | 1.1 | 1.2 | .6  | .4  | 4.5 | 4.2 | 4.4 | 4.1 | 3.7 | 1.8 | 2.5 | 3.4 |
| 240.3 | * | .0  | .0  | .0  | .0  | .0  | 1.0 | 1.0 | 1.3 | .7  | .4  | 4.6 | 4.7 | 4.5 | 4.5 | 3.9 | 1.9 | 2.6 | 3.6 |
| 250.3 | * | .1  | .1  | .1  | .0  | .0  | 1.0 | 1.0 | 1.8 | .9  | .7  | 4.9 | 4.5 | 5.0 | 4.4 | 3.7 | 1.7 | 2.5 | 3.6 |
| 260.3 | * | .8  | .8  | .8  | .1  | .0  | 1.0 | 1.5 | 3.1 | 2.3 | 1.8 | 4.0 | 4.1 | 4.8 | 3.9 | 3.3 | 1.7 | 2.0 | 3.3 |
| 270.3 | * | 2.6 | 2.7 | 2.7 | .9  | .6  | 1.8 | 2.8 | 5.1 | 4.2 | 3.8 | 2.9 | 3.0 | 3.8 | 3.0 | 2.5 | .5  | 1.1 | 2.0 |
| 280.2 | * | 3.6 | 3.7 | 3.9 | 2.2 | 1.6 | 3.0 | 3.9 | 6.6 | 5.1 | 4.9 | 1.5 | 1.8 | 2.5 | 2.2 | 2.0 | .3  | .3  | .6  |
| 290.6 | * | 4.4 | 4.4 | 4.4 | 2.7 | 2.0 | 3.5 | 4.6 | 6.2 | 5.1 | 4.5 | 1.0 | 1.3 | 2.2 | 2.1 | 2.1 | .2  | .2  | .3  |
| 300.4 | * | 4.3 | 4.3 | 4.3 | 3.1 | 2.5 | 3.9 | 4.6 | 5.5 | 4.6 | 4.3 | .9  | 1.3 | 2.0 | 2.0 | 2.0 | .1  | .2  | .3  |
| 310.3 | * | 4.1 | 4.1 | 3.9 | 2.8 | 2.4 | 3.7 | 4.2 | 4.7 | 3.7 | 3.9 | .9  | 1.2 | 2.0 | 2.0 | 2.0 | .0  | .0  | .0  |
| 320.1 | * | 3.4 | 3.4 | 3.4 | 2.5 | 1.9 | 3.1 | 3.7 | 4.3 | 3.9 | 3.9 | 1.1 | 1.4 | 2.2 | 2.2 | 2.2 | .0  | .0  | .0  |
| 330.0 | * | 3.3 | 3.3 | 3.3 | 2.4 | 1.8 | 3.1 | 3.7 | 4.1 | 3.8 | 4.3 | 1.1 | 1.5 | 2.3 | 2.3 | 2.3 | .0  | .0  | .0  |
| 340.0 | * | 3.2 | 3.2 | 3.3 | 2.4 | 2.0 | 3.3 | 3.4 | 4.4 | 4.4 | 4.5 | 1.1 | 1.5 | 2.6 | 2.6 | 2.6 | .2  | .2  | .2  |
| 350.0 | * | 3.5 | 3.5 | 3.8 | 2.7 | 2.4 | 3.6 | 4.2 | 4.9 | 4.8 | 4.5 | .8  | 1.2 | 2.5 | 2.4 | 2.4 | .8  | .8  | .8  |
| 360.2 | * | 3.6 | 4.0 | 4.3 | 3.6 | 3.0 | 3.3 | 3.9 | 4.8 | 4.5 | 4.1 | .3  | .7  | 1.7 | 1.7 | 1.7 | 1.8 | 1.8 | 1.9 |
| 380.8 | * |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |



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MAX * 4.4 4.4 4.8 4.0 3.9 3.9 4.6 6.6 5.1 4.9 4.9 4.7 5.0 4.5 3.9 4.1 4.6 4.9
4.3 3.8
DEGR. * 290 290 10 10 10 300 290 280 290 280 250 240 250 240 240 130 120 110
110 110
    
```

THE HIGHEST CONCENTRATION OF 6.60 PPM OCCURRED AT RECEPTOR REC28.

PAGE

7

JOB: I25SH7withPkgStationPackageA

RUN: I25SH7withPkgStationPackageA

DATE : 11/22/10  
 TIME : 12:38:55

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
 THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |       | * CO/LINK (PPM)<br>* ANGLE (DEGREES) |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|--------|-------|--------------------------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |       | REC1                                 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 |
| REC19  | REC20 |                                      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| LINK # | *     | 100                                  | 110  | 110  | 120  | 130  | 210  | 220  | 180  | 210  | 240   | 60    | 70    | 70    | 60    | 50    | 350   | 0     | 0     |
| 350    | 330   |                                      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| -----* |       |                                      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .0     | 1 *   | .0                                   | .0   | .0   | .0   | .0   | .2   | .2   | .0   | .1   | .2    | .4    | .1    | .0    | .0    | .0    | .1    | .0    | .0    |
| .0     | 2 *   | .0                                   | .0   | .0   | .0   | .0   | .1   | .1   | .0   | .0   | .1    | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 3 *   | .0                                   | .0   | .0   | .0   | .0   | .2   | .2   | .0   | .1   | .2    | .5    | .3    | .1    | .0    | .0    | .1    | .0    | .0    |
| .0     | 4 *   | .0                                   | .0   | .0   | .0   | .0   | .1   | .1   | .0   | .0   | .1    | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 5 *   | .0                                   | .0   | .0   | .0   | .0   | .2   | .2   | .0   | .1   | .2    | .8    | .6    | .3    | .0    | .0    | .0    | .0    | .0    |
| .0     | 6 *   | .0                                   | .0   | .0   | .0   | .0   | .1   | .1   | .0   | .0   | .1    | .4    | .1    | .0    | .0    | .0    | .0    | .0    | .0    |
| .5     | 7 *   | .4                                   | .4   | .4   | .3   | .3   | .0   | .0   | .3   | .3   | .2    | .2    | .5    | .7    | .4    | .3    | .2    | .3    | .5    |
| .3     | 8 *   | .2                                   | .2   | .2   | .2   | .1   | .1   | .1   | .2   | .2   | .2    | .3    | .4    | .4    | .2    | .2    | .1    | .2    | .3    |
| .6     | 9 *   | .3                                   | .4   | .4   | .3   | .2   | .0   | .0   | .3   | .3   | .1    | .2    | .5    | .7    | .5    | .3    | .2    | .4    | .6    |
| .3     | 10 *  | .2                                   | .2   | .2   | .2   | .1   | .1   | .1   | .2   | .2   | .1    | .3    | .4    | .4    | .3    | .2    | .2    | .2    | .3    |
| .7     | 11 *  | .3                                   | .4   | .4   | .3   | .2   | .0   | .0   | .3   | .2   | .1    | .1    | .4    | .8    | .5    | .4    | .3    | .4    | .8    |
| .4     | 12 *  | .2                                   | .2   | .2   | .2   | .1   | .1   | .1   | .2   | .2   | .1    | .2    | .6    | .6    | .3    | .2    | .2    | .2    | .4    |
| .0     | 13 *  | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 14 *  | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 15 *  | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 16 *  | .1                                   | .1   | .1   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 17 *  | .0                                   | .0   | .0   | .0   | .0   | .1   | .1   | .0   | .0   | .1    | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 18 *  | .0                                   | .0   | .0   | .0   | .0   | .1   | .1   | .0   | .0   | .1    | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 19 *  | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 20 *  | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 21 *  | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 22 *  | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 23 *  | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 24 *  | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .2     | 25 *  | .3                                   | .3   | .4   | .3   | .2   | .0   | .0   | .3   | .3   | .3    | .2    | .3    | .3    | .2    | .2    | .1    | .2    | .2    |
| .2     | 26 *  | .1                                   | .1   | .2   | .1   | .1   | .0   | .0   | .2   | .2   | .2    | .1    | .1    | .1    | .1    | .1    | .0    | .1    | .1    |
| .2     | 27 *  | .3                                   | .3   | .4   | .3   | .2   | .1   | .1   | .4   | .4   | .4    | .2    | .2    | .3    | .2    | .2    | .1    | .1    | .2    |
| .2     | .2    |                                      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |



|    |    |   |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |
|----|----|---|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|
| .0 | 4  | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 5  | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 6  | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 7  | * | .5 | .5 | .3 | .2 | .1 | .3 | .4 | .7  | .6 | .6 | .4 | .4 | .4 | .3 | .3 | .0 | .0 |
| .0 | 8  | * | .3 | .3 | .0 | .0 | .0 | .2 | .2 | .4  | .3 | .3 | .2 | .2 | .2 | .2 | .2 | .0 | .0 |
| .0 | 9  | * | .6 | .6 | .4 | .2 | .2 | .4 | .5 | .8  | .6 | .6 | .4 | .4 | .4 | .3 | .3 | .0 | .0 |
| .0 | 10 | * | .3 | .3 | .0 | .0 | .0 | .2 | .3 | .4  | .2 | .3 | .2 | .2 | .2 | .2 | .1 | .0 | .0 |
| .0 | 11 | * | .7 | .7 | .5 | .3 | .2 | .4 | .6 | 1.1 | .6 | .6 | .4 | .4 | .4 | .3 | .2 | .0 | .0 |
| .0 | 12 | * | .4 | .4 | .0 | .0 | .0 | .2 | .3 | .5  | .2 | .3 | .2 | .2 | .2 | .2 | .1 | .0 | .0 |
| .4 | 13 | * | .0 | .0 | .1 | .1 | .1 | .0 | .0 | .0  | .1 | .1 | .1 | .0 | .0 | .0 | .0 | .3 | .3 |
| .4 | 14 | * | .0 | .0 | .1 | .1 | .1 | .0 | .0 | .0  | .2 | .2 | .0 | .0 | .0 | .0 | .0 | .2 | .3 |
| .3 | 15 | * | .0 | .0 | .0 | .1 | .1 | .0 | .0 | .0  | .5 | .5 | .0 | .0 | .0 | .0 | .0 | .2 | .3 |
| .0 | 16 | * | .9 | .9 | .6 | .3 | .2 | .4 | .6 | 1.1 | .4 | .4 | .2 | .3 | .2 | .2 | .2 | .0 | .0 |
| .0 | 17 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 18 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .4 | 19 | * | .0 | .0 | .1 | .1 | .1 | .0 | .0 | .0  | .0 | .0 | .2 | .2 | .0 | .0 | .0 | .2 | .3 |
| .1 | 20 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .1 | .1 | .0 | .0 | .0 | .1 | .1 |
| .3 | 21 | * | .0 | .0 | .1 | .1 | .1 | .0 | .0 | .0  | .0 | .0 | .3 | .3 | .1 | .0 | .0 | .2 | .3 |
| .1 | 22 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .1 | .1 | .0 | .0 | .0 | .1 | .1 |
| .3 | 23 | * | .0 | .0 | .1 | .1 | .1 | .0 | .0 | .0  | .0 | .0 | .6 | .6 | .3 | .0 | .0 | .2 | .4 |
| .1 | 24 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .2 | .2 | .0 | .0 | .0 | .1 | .1 |
| .1 | 25 | * | .2 | .2 | .1 | .1 | .1 | .2 | .2 | .2  | .2 | .3 | .2 | .2 | .2 | .4 | .3 | .2 | .0 |
| .0 | 26 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .2 | 27 | * | .2 | .2 | .1 | .1 | .1 | .2 | .2 | .2  | .2 | .3 | .2 | .2 | .2 | .5 | .3 | .2 | .0 |
| .0 | 28 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .4 | 29 | * | .2 | .2 | .1 | .1 | .1 | .2 | .2 | .2  | .2 | .2 | .2 | .2 | .1 | .5 | .3 | .2 | .0 |
| .0 | 30 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 31 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 32 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 33 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .3 | 34 | * | .0 | .0 | .0 | .0 | .1 | .0 | .0 | .0  | .0 | .0 | .1 | .0 | .0 | .0 | .0 | .2 | .2 |
| .3 | 35 | * | .0 | .0 | .0 | .0 | .1 | .0 | .0 | .0  | .0 | .0 | .1 | .1 | .0 | .0 | .0 | .2 | .3 |
| .0 | 36 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 37 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 38 | * | .1 | .1 | .0 | .0 | .0 | .1 | .1 | .0  | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 39 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 40 | * | .0 | .0 | .0 | .0 | .0 | .1 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 41 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 42 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 43 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 44 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

|    |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |  |  |
|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|--|--|
| .0 | .0   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |  |  |
| .5 | 45 * | .0 | .0 | .8 | .6 | .5 | .0 | .0 | .0 | .0 | .3 | .3 | .6 | .6 | .6 | 1.0 | .9 | .9 |  |  |
|    | .3   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |  |  |

10

JOB: I25SH7withPkgStationPackageA

RUN: I25SH7withPkgStationPackageA

\* CO/LINK (PPM)  
 \* ANGLE (DEGREES)

| REC39    | REC40 |  | REC21 | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 |
|----------|-------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| LINK # * |       |  | 290   | 290   | 10    | 10    | 10    | 300   | 290   | 280   | 290   | 280   | 250   | 240   | 250   | 240   | 240   | 130   | 120   | 110   |
| 110      | 110   |  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

-----\*

|    |      |    |    |    |    |     |     |     |     |    |    |    |    |    |     |     |     |     |    |    |
|----|------|----|----|----|----|-----|-----|-----|-----|----|----|----|----|----|-----|-----|-----|-----|----|----|
| .0 | 46 * | .0 | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0 | .0 |
| .1 | 47 * | .0 | .0 | .8 | .7 | .6  | .0  | .0  | .0  | .0 | .0 | .1 | .1 | .6 | 1.3 | 1.3 | 1.1 | 1.0 | .4 |    |
| .0 | 48 * | .0 | .0 | .6 | .8 | 1.0 | 1.0 | 1.0 | 1.0 | .5 | .4 | .1 | .1 | .0 | .0  | .0  | .0  | .0  | .0 | .0 |
|    | .1   |    |    |    |    |     |     |     |     |    |    |    |    |    |     |     |     |     |    |    |

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'I25SH7withPkgStationPackageB', 60 , 175 , 0 , 0 , 40 , 0.3048 , 1 , 1
'Receptor 1', 688 , 190 , 5
'Receptor 2', 728 , 190 , 5
'Receptor 3', 768 , 190 , 5
'Receptor 4', 768 , 230 , 5
'Receptor 5', 768 , 270 , 5
'Receptor 6', 862 , 270 , 5
'Receptor 7', 862 , 230 , 5
'Receptor 8', 862 , 190 , 5
'Receptor 9', 902 , 190 , 5
'Receptor 10', 942 , 190 , 5
'Receptor 11', 694 , 50 , 5
'Receptor 12', 734 , 50 , 5
'Receptor 13', 774 , 50 , 5
'Receptor 14', 774 , 10 , 5
'Receptor 15', 774 , -30 , 5
'Receptor 16', 862 , -30 , 5
'Receptor 17', 862 , 10 , 5
'Receptor 18', 862 , 50 , 5
'Receptor 19', 902 , 50 , 5
'Receptor 20', 942 , 50 , 5
'Receptor 21', 1634 , 26 , 5
'Receptor 22', 1674 , 26 , 5
'Receptor 23', 1714 , 26 , 5
'Receptor 24', 1714 , -14 , 5
'Receptor 25', 1714 , -54 , 5
'Receptor 26', 1766 , -30 , 5
'Receptor 27', 1766 , 10 , 5
'Receptor 28', 1766 , 50 , 5
'Receptor 29', 1806 , 50 , 5
'Receptor 30', 1846 , 50 , 5
'Receptor 31', 1870 , 190 , 5
'Receptor 32', 1830 , 190 , 5
'Receptor 33', 1790 , 190 , 5
'Receptor 34', 1790 , 230 , 5
'Receptor 35', 1790 , 270 , 5
'Receptor 36', 1714 , 270 , 5
'Receptor 37', 1714 , 230 , 5
'Receptor 38', 1714 , 190 , 5
'Receptor 39', 1674 , 190 , 5
'Receptor 40', 1634 , 190 , 5
'I25SH7withPkgStationPackageB', 47 , 1 , 1 , 'CO'
1
'ebinthru', 'AG', 282 , 100 , 815 , 100 , 1127 , 22.8 , 0 , 32
2
'ebinthru q', 'AG', 772 , 100 , 282 , 100 , 0 , 12 , 1
110 , 49 , 2 , 952 , 143.34 , 1600 , 1 , 3
1
'ebmidthru', 'AG', 282 , 88 , 815 , 88 , 1127 , 22.8 , 0 , 32
2
'ebmidthru q', 'AG', 772 , 88 , 282 , 88 , 0 , 12 , 1
110 , 49 , 2 , 952 , 143.34 , 1600 , 1 , 3
1
'eboutthru', 'AG', 282 , 76 , 815 , 76 , 1127 , 22.8 , 0 , 32
2
'eboutthru q', 'AG', 772 , 76 , 282 , 76 , 0 , 12 , 1
110 , 49 , 2 , 952 , 143.34 , 1600 , 1 , 3
1
'edinapp/dep', 'AG', 815 , 100 , 1749 , 100 , 1238 , 22.8 , 0 , 32
2
'edinapp/dep q', 'AG', 1710 , 100 , 852 , 100 , 0 , 12 , 1
110 , 49 , 2 , 737 , 143.34 , 1600 , 1 , 3
1
'edmidapp/dep', 'AG', 815 , 88 , 1749 , 88 , 1238 , 22.8 , 0 , 32
2
'edmidapp/dep q', 'AG', 1710 , 88 , 852 , 88 , 0 , 12 , 1
110 , 49 , 2 , 737 , 143.34 , 1600 , 1 , 3
1
'eboutapp/dep', 'AG', 815 , 76 , 1749 , 76 , 1238 , 22.8 , 0 , 32
2
'eboutapp/dep q', 'AG', 1710 , 76 , 852 , 76 , 0 , 12 , 1
110 , 49 , 2 , 737 , 143.34 , 1600 , 1 , 3
1
'ebindep', 'AG', 1749 , 100 , 2282 , 100 , 890 , 22.8 , 0 , 32
1
'ebmiddep', 'AG', 1749 , 88 , 2282 , 88 , 890 , 22.8 , 0 , 32
1
'eboutdep', 'AG', 1749 , 76 , 2282 , 76 , 890 , 22.8 , 0 , 32
1
'ebrightturn', 'AG', 1310 , 58 , 1749 , 58 , 1505 , 22.8 , 0 , 44
2

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'ebinleftturn','AG', 772 , 124 , 572 , 124 , 0 , 12 , 1
110 , 95 , 2 , 163 , 143.34 , 1600 , 1 , 3
2
'eboutleftturn','AG', 772 , 111.9 , 572 , 111.9 , 0 , 12 , 1
110 , 95 , 2 , 163 , 143.34 , 1600 , 1 , 3
1
'wbinthru','AG', 2282 , 140 , 1749 , 140 , 890 , 22.1 , 0 , 32
2
'wbinthru q','AG', 1770 , 140 , 2282 , 140 , 0 , 12 , 1
110 , 21 , 2 , 695 , 143.34 , 1600 , 1 , 3
1
'wbmidthru','AG', 2282 , 152 , 1749 , 152 , 890 , 22.1 , 0 , 32
2
'wbmidthru q','AG', 1770 , 152 , 2282 , 152 , 0 , 12 , 1
110 , 21 , 2 , 695 , 143.34 , 1600 , 1 , 3
1
'wboutthru','AG', 2282 , 164 , 1749 , 164 , 890 , 22.1 , 0 , 32
2
'wboutthru q','AG', 1770 , 164 , 2282 , 164 , 0 , 12 , 1
110 , 21 , 2 , 695 , 143.34 , 1600 , 1 , 3
1
'wbinapp/dep','AG', 1749 , 140 , 815 , 140 , 955 , 22.1 , 0 , 32
2
'wbinapp/dep q','AG', 852 , 140 , 1710 , 140 , 0 , 12 , 1
110 , 52 , 2 , 727 , 143.34 , 1600 , 1 , 3
1
'wbmidapp/dep','AG', 1749 , 152 , 815 , 152 , 955 , 22.1 , 0 , 32
2
'wbmidapp/dep q','AG', 852 , 152 , 1710 , 152 , 0 , 12 , 1
110 , 52 , 2 , 727 , 143.34 , 1600 , 1 , 3
1
'wboutapp/dep','AG', 1749 , 164 , 815 , 164 , 955 , 22.1 , 0 , 32
2
'wboutapp/dep q','AG', 852 , 164 , 1710 , 164 , 0 , 12 , 1
110 , 52 , 2 , 727 , 143.34 , 1600 , 1 , 3
1
'wbindep','AG', 815 , 140 , 282 , 140 , 880 , 22.1 , 0 , 32
1
'wbmiddep','AG', 815 , 152 , 282 , 152 , 880 , 22.1 , 0 , 32
1
'wboutdep','AG', 815 , 164 , 282 , 164 , 880 , 22.1 , 0 , 32
2
'wbinleftturn','AG', 1770 , 116 , 1970 , 116 , 0 , 12 , 1
110 , 82 , 2 , 293 , 143.34 , 1600 , 1 , 3
2
'wboutleftturn','AG', 1770 , 128 , 1970 , 128 , 0 , 12 , 1
110 , 82 , 2 , 293 , 143.34 , 1600 , 1 , 3
2
'wbinleftturn 2','AG', 852 , 112 , 1052 , 112 , 0 , 12 , 1
110 , 98 , 2 , 145 , 143.34 , 1600 , 1 , 3
2
'wboutleftturn 2','AG', 852 , 124 , 1052 , 124 , 0 , 12 , 1
110 , 98 , 2 , 145 , 143.34 , 1600 , 1 , 3
1
'pkg sb','AG', 794 , 1120 , 794 , 120 , 880 , 22.6 , 0 , 44
2
'pkg sb q','AG', 794 , 180 , 794 , 1120 , 0 , 24 , 2
110 , 73 , 2 , 20 , 143.34 , 1600 , 1 , 3
2
'pkg sb left turn','AG', 812 , 180 , 812 , 380 , 0 , 12 , 1
110 , 73 , 2 , 570 , 143.34 , 1600 , 1 , 3
1
'pkg sb dep','AG', 800 , 120 , 800 , -880 , 510 , 22.6 , 0 , 32
1
'pkg nb','AG', 836 , -880 , 836 , 120 , 480 , 22.6 , 0 , 32
2
'pkg nb left turn','AG', 824 , 40 , 824 , -140 , 0 , 12 , 1
110 , 90 , 2 , 170 , 143.34 , 1600 , 1 , 3
1
'pkg nb dep','AG', 830 , 120 , 830 , 1120 , 740 , 22.6 , 0 , 44
1
'i25sbrampthru','AG', 1740 , 1111 , 1740 , 111 , 1060 , 22.6 , 0 , 32
2
'i25sbrampleftturn','AG', 1758 , 180 , 1758 , 380 , 0 , 24 , 2
110 , 89 , 2 , 280 , 143.34 , 1600 , 1 , 3
1
'i25sbrampdep','AG', 1740 , 111 , 1740 , -889 , 2090 , 22.6 , 0 , 32
1 , 0 , 4 , 1000 , 0 , 'Y' , 10 , 0 , 36

```

JOB: I25SH7withPkgStationPackageB

RUN: I25SH7withPkgStationPackageB

DATE : 11/22/10  
TIME : 12:39:30

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

| V/C QUEUE | LINK DESCRIPTION    | * | LINK COORDINATES (FT) |        |        |       | * | LENGTH | BRG TYPE | VPH   | EF     | H    | W    |
|-----------|---------------------|---|-----------------------|--------|--------|-------|---|--------|----------|-------|--------|------|------|
| (VEH)     |                     | * | X1                    | Y1     | X2     | Y2    | * | (FT)   | (DEG)    |       | (G/MI) | (FT) | (FT) |
| 1.15      | 1. ebinthru         | * | 282.0                 | 100.0  | 815.0  | 100.0 | * | 533.   | 90. AG   | 1127. | 22.8   | .0   | 32.0 |
| 1.15      | 2. ebinthru q       | * | 772.0                 | 100.0  | -854.8 | 100.0 | * | 1627.  | 270. AG  | 171.  | 100.0  | .0   | 12.0 |
| 1.15      | 3. ebmidthru        | * | 282.0                 | 88.0   | 815.0  | 88.0  | * | 533.   | 90. AG   | 1127. | 22.8   | .0   | 32.0 |
| 1.15      | 4. ebmidthru q      | * | 772.0                 | 88.0   | -854.8 | 88.0  | * | 1627.  | 270. AG  | 171.  | 100.0  | .0   | 12.0 |
| 1.15      | 5. eboutthru        | * | 282.0                 | 76.0   | 815.0  | 76.0  | * | 533.   | 90. AG   | 1127. | 22.8   | .0   | 32.0 |
| 1.15      | 6. eboutthru q      | * | 772.0                 | 76.0   | -854.8 | 76.0  | * | 1627.  | 270. AG  | 171.  | 100.0  | .0   | 12.0 |
| .89       | 7. edinapp/dep      | * | 815.0                 | 100.0  | 1749.0 | 100.0 | * | 934.   | 90. AG   | 1238. | 22.8   | .0   | 32.0 |
| .89       | 8. edinapp/dep q    | * | 1710.0                | 100.0  | 1482.1 | 100.0 | * | 228.   | 270. AG  | 171.  | 100.0  | .0   | 12.0 |
| .89       | 9. edmidapp/dep     | * | 815.0                 | 88.0   | 1749.0 | 88.0  | * | 934.   | 90. AG   | 1238. | 22.8   | .0   | 32.0 |
| .89       | 10. edmidapp/dep q  | * | 1710.0                | 88.0   | 1482.1 | 88.0  | * | 228.   | 270. AG  | 171.  | 100.0  | .0   | 12.0 |
| .89       | 11. eboutapp/dep    | * | 815.0                 | 76.0   | 1749.0 | 76.0  | * | 934.   | 90. AG   | 1238. | 22.8   | .0   | 32.0 |
| .89       | 12. eboutapp/dep q  | * | 1710.0                | 76.0   | 1482.1 | 76.0  | * | 228.   | 270. AG  | 171.  | 100.0  | .0   | 12.0 |
| 1.02      | 13. ebindep         | * | 1749.0                | 100.0  | 2282.0 | 100.0 | * | 533.   | 90. AG   | 890.  | 22.8   | .0   | 32.0 |
| 1.02      | 14. ebmiddep        | * | 1749.0                | 88.0   | 2282.0 | 88.0  | * | 533.   | 90. AG   | 890.  | 22.8   | .0   | 32.0 |
| .56       | 15. eboutdep        | * | 1749.0                | 76.0   | 2282.0 | 76.0  | * | 533.   | 90. AG   | 890.  | 22.8   | .0   | 32.0 |
| .56       | 16. ebrightturn     | * | 1310.0                | 58.0   | 1749.0 | 58.0  | * | 439.   | 90. AG   | 1505. | 22.8   | .0   | 44.0 |
| .56       | 17. ebinleftturn    | * | 772.0                 | 124.0  | 594.9  | 124.0 | * | 177.   | 270. AG  | 332.  | 100.0  | .0   | 12.0 |
| .56       | 18. eboutleftturn   | * | 772.0                 | 111.9  | 594.9  | 111.9 | * | 177.   | 270. AG  | 332.  | 100.0  | .0   | 12.0 |
| .56       | 19. wbinthru        | * | 2282.0                | 140.0  | 1749.0 | 140.0 | * | 533.   | 270. AG  | 890.  | 22.1   | .0   | 32.0 |
| .56       | 20. wbinthru q      | * | 1770.0                | 140.0  | 1849.8 | 140.0 | * | 80.    | 90. AG   | 73.   | 100.0  | .0   | 12.0 |
| .56       | 21. wbmidthru       | * | 2282.0                | 152.0  | 1749.0 | 152.0 | * | 533.   | 270. AG  | 890.  | 22.1   | .0   | 32.0 |
| .56       | 22. wbmidthru q     | * | 1770.0                | 152.0  | 1849.8 | 152.0 | * | 80.    | 90. AG   | 73.   | 100.0  | .0   | 12.0 |
| .56       | 23. wboutthru       | * | 2282.0                | 164.0  | 1749.0 | 164.0 | * | 533.   | 270. AG  | 890.  | 22.1   | .0   | 32.0 |
| .56       | 24. wboutthru q     | * | 1770.0                | 164.0  | 1849.8 | 164.0 | * | 80.    | 90. AG   | 73.   | 100.0  | .0   | 12.0 |
| .93       | 25. wbinapp/dep     | * | 1749.0                | 140.0  | 815.0  | 140.0 | * | 934.   | 270. AG  | 955.  | 22.1   | .0   | 32.0 |
| .93       | 26. wbinapp/dep q   | * | 852.0                 | 140.0  | 1112.7 | 140.0 | * | 261.   | 90. AG   | 182.  | 100.0  | .0   | 12.0 |
| .93       | 27. wbmidthru/dep   | * | 1749.0                | 152.0  | 815.0  | 152.0 | * | 934.   | 270. AG  | 955.  | 22.1   | .0   | 32.0 |
| .93       | 28. wbmidthru/dep q | * | 852.0                 | 152.0  | 1112.7 | 152.0 | * | 261.   | 90. AG   | 182.  | 100.0  | .0   | 12.0 |
| .93       | 29. wboutapp/dep    | * | 1749.0                | 164.0  | 815.0  | 164.0 | * | 934.   | 270. AG  | 955.  | 22.1   | .0   | 32.0 |
| .93       | 30. wboutapp/dep q  | * | 852.0                 | 164.0  | 1112.7 | 164.0 | * | 261.   | 90. AG   | 182.  | 100.0  | .0   | 12.0 |
| .84       | 31. wbindep         | * | 815.0                 | 140.0  | 282.0  | 140.0 | * | 533.   | 270. AG  | 880.  | 22.1   | .0   | 32.0 |
| .84       | 32. wbmidthru       | * | 815.0                 | 152.0  | 282.0  | 152.0 | * | 533.   | 270. AG  | 880.  | 22.1   | .0   | 32.0 |
| .84       | 33. wboutdep        | * | 815.0                 | 164.0  | 282.0  | 164.0 | * | 533.   | 270. AG  | 880.  | 22.1   | .0   | 32.0 |
| .84       | 34. wbinleftturn    | * | 1770.0                | 116.0  | 1920.8 | 116.0 | * | 151.   | 90. AG   | 287.  | 100.0  | .0   | 12.0 |
| .84       | 35. wboutleftturn   | * | 1770.0                | 128.0  | 1920.8 | 128.0 | * | 151.   | 90. AG   | 287.  | 100.0  | .0   | 12.0 |
| 1.25      | 36. wbinleftturn 2  | * | 852.0                 | 112.0  | 1280.9 | 112.0 | * | 429.   | 90. AG   | 343.  | 100.0  | .0   | 12.0 |
| 1.25      | 37. wboutleftturn 2 | * | 852.0                 | 124.0  | 1280.9 | 124.0 | * | 429.   | 90. AG   | 343.  | 100.0  | .0   | 12.0 |
| .02       | 38. pkg sb          | * | 794.0                 | 1120.0 | 794.0  | 120.0 | * | 1000.  | 180. AG  | 880.  | 22.6   | .0   | 44.0 |
| .02       | 39. pkg sb q        | * | 794.0                 | 180.0  | 794.0  | 184.0 | * | 4.     | 360. AG  | 510.  | 100.0  | .0   | 24.0 |

|      |                      |   |       |        |       |          |       |         |      |       |    |      |
|------|----------------------|---|-------|--------|-------|----------|-------|---------|------|-------|----|------|
| 1.19 | 40. pkg sb left turn | * | 812.0 | 180.0  | 812.0 | 1420.0 * | 1240. | 360. AG | 255. | 100.0 | .0 | 12.0 |
|      | 63.0                 |   |       |        |       |          |       |         |      |       |    |      |
|      | 41. pkg sb dep       | * | 800.0 | 120.0  | 800.0 | -880.0 * | 1000. | 180. AG | 510. | 22.6  | .0 | 32.0 |
|      | 42. pkg nb           | * | 836.0 | -880.0 | 836.0 | 120.0 *  | 1000. | 360. AG | 480. | 22.6  | .0 | 32.0 |
| .73  | 43. pkg nb left turn | * | 824.0 | 40.0   | 824.0 | -50.0 *  | 90.   | 180. AG | 315. | 100.0 | .0 | 12.0 |
|      | 4.6                  |   |       |        |       |          |       |         |      |       |    |      |
|      | 44. pkg nb dep       | * | 830.0 | 120.0  | 830.0 | 1120.0 * | 1000. | 360. AG | 740. | 22.6  | .0 | 44.0 |

JOB: I25SH7withPkgStationPackageB

RUN: I25SH7withPkgStationPackageB

DATE : 11/22/10  
TIME : 12:39:30

LINK VARIABLES

| V/C QUEUE | LINK DESCRIPTION | * | LINK COORDINATES (FT) |    |    |    | * | LENGTH | BRG TYPE | VPH | EF     | H    | W    |
|-----------|------------------|---|-----------------------|----|----|----|---|--------|----------|-----|--------|------|------|
| (VEH)     |                  | * | X1                    | Y1 | X2 | Y2 | * | (FT)   | (DEG)    |     | (G/MI) | (FT) | (FT) |

|     |                       |   |        |        |        |          |       |         |       |       |    |      |
|-----|-----------------------|---|--------|--------|--------|----------|-------|---------|-------|-------|----|------|
| .57 | 45. i25sbrampthru     | * | 1740.0 | 1111.0 | 1740.0 | 111.0 *  | 1000. | 180. AG | 1060. | 22.6  | .0 | 32.0 |
|     | 46. i25sbrampleftturn | * | 1758.0 | 180.0  | 1758.0 | 248.1 *  | 68.   | 360. AG | 622.  | 100.0 | .0 | 24.0 |
|     | 3.5                   |   |        |        |        |          |       |         |       |       |    |      |
|     | 47. i25sbrampdep      | * | 1740.0 | 111.0  | 1740.0 | -889.0 * | 1000. | 180. AG | 2090. | 22.6  | .0 | 32.0 |

JOB: I25SH7withPkgStationPackageB

RUN: I25SH7withPkgStationPackageB

DATE : 11/22/10  
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ADDITIONAL QUEUE LINK PARAMETERS

| LINK DESCRIPTION      | * | CYCLE LENGTH (SEC) | RED TIME (SEC) | CLEARANCE LOST TIME (SEC) | APPROACH VOL (VPH) | SATURATION FLOW RATE (VPH) | IDLE EM FAC (gm/hr) | SIGNAL TYPE | ARRIVAL RATE |
|-----------------------|---|--------------------|----------------|---------------------------|--------------------|----------------------------|---------------------|-------------|--------------|
| 2. ebinthru q         | * | 110                | 49             | 2.0                       | 952                | 1600                       | 143.34              | 1           | 3            |
| 4. ebmidthru q        | * | 110                | 49             | 2.0                       | 952                | 1600                       | 143.34              | 1           | 3            |
| 6. eboutthru q        | * | 110                | 49             | 2.0                       | 952                | 1600                       | 143.34              | 1           | 3            |
| 8. edinapp/dep q      | * | 110                | 49             | 2.0                       | 737                | 1600                       | 143.34              | 1           | 3            |
| 10. edmidapp/dep q    | * | 110                | 49             | 2.0                       | 737                | 1600                       | 143.34              | 1           | 3            |
| 12. eboutapp/dep q    | * | 110                | 49             | 2.0                       | 737                | 1600                       | 143.34              | 1           | 3            |
| 17. ebinleftturn      | * | 110                | 95             | 2.0                       | 163                | 1600                       | 143.34              | 1           | 3            |
| 18. eboutleftturn     | * | 110                | 95             | 2.0                       | 163                | 1600                       | 143.34              | 1           | 3            |
| 20. wbinthru q        | * | 110                | 21             | 2.0                       | 695                | 1600                       | 143.34              | 1           | 3            |
| 22. wbmidthru q       | * | 110                | 21             | 2.0                       | 695                | 1600                       | 143.34              | 1           | 3            |
| 24. wboutthru q       | * | 110                | 21             | 2.0                       | 695                | 1600                       | 143.34              | 1           | 3            |
| 26. wbinapp/dep q     | * | 110                | 52             | 2.0                       | 727                | 1600                       | 143.34              | 1           | 3            |
| 28. wbmidapp/dep q    | * | 110                | 52             | 2.0                       | 727                | 1600                       | 143.34              | 1           | 3            |
| 30. wboutapp/dep q    | * | 110                | 52             | 2.0                       | 727                | 1600                       | 143.34              | 1           | 3            |
| 34. wbinleftturn      | * | 110                | 82             | 2.0                       | 293                | 1600                       | 143.34              | 1           | 3            |
| 35. wboutleftturn     | * | 110                | 82             | 2.0                       | 293                | 1600                       | 143.34              | 1           | 3            |
| 36. wbinleftturn 2    | * | 110                | 98             | 2.0                       | 145                | 1600                       | 143.34              | 1           | 3            |
| 37. wboutleftturn 2   | * | 110                | 98             | 2.0                       | 145                | 1600                       | 143.34              | 1           | 3            |
| 39. pkg sb q          | * | 110                | 73             | 2.0                       | 20                 | 1600                       | 143.34              | 1           | 3            |
| 40. pkg sb left turn  | * | 110                | 73             | 2.0                       | 570                | 1600                       | 143.34              | 1           | 3            |
| 43. pkg nb left turn  | * | 110                | 90             | 2.0                       | 170                | 1600                       | 143.34              | 1           | 3            |
| 46. i25sbrampleftturn | * | 110                | 89             | 2.0                       | 280                | 1600                       | 143.34              | 1           | 3            |

RECEPTOR LOCATIONS

| RECEPTOR        | * | COORDINATES (FT) |       |     | * |
|-----------------|---|------------------|-------|-----|---|
|                 | * | X                | Y     | Z   | * |
| 1. Receptor 1   | * | 688.0            | 190.0 | 5.0 | * |
| 2. Receptor 2   | * | 728.0            | 190.0 | 5.0 | * |
| 3. Receptor 3   | * | 768.0            | 190.0 | 5.0 | * |
| 4. Receptor 4   | * | 768.0            | 230.0 | 5.0 | * |
| 5. Receptor 5   | * | 768.0            | 270.0 | 5.0 | * |
| 6. Receptor 6   | * | 862.0            | 270.0 | 5.0 | * |
| 7. Receptor 7   | * | 862.0            | 230.0 | 5.0 | * |
| 8. Receptor 8   | * | 862.0            | 190.0 | 5.0 | * |
| 9. Receptor 9   | * | 902.0            | 190.0 | 5.0 | * |
| 10. Receptor 10 | * | 942.0            | 190.0 | 5.0 | * |
| 11. Receptor 11 | * | 694.0            | 50.0  | 5.0 | * |
| 12. Receptor 12 | * | 734.0            | 50.0  | 5.0 | * |
| 13. Receptor 13 | * | 774.0            | 50.0  | 5.0 | * |



|              |    |   |        |       |     |   |
|--------------|----|---|--------|-------|-----|---|
| 14. Receptor | 14 | * | 774.0  | 10.0  | 5.0 | * |
| 15. Receptor | 15 | * | 774.0  | -30.0 | 5.0 | * |
| 16. Receptor | 16 | * | 862.0  | -30.0 | 5.0 | * |
| 17. Receptor | 17 | * | 862.0  | 10.0  | 5.0 | * |
| 18. Receptor | 18 | * | 862.0  | 50.0  | 5.0 | * |
| 19. Receptor | 19 | * | 902.0  | 50.0  | 5.0 | * |
| 20. Receptor | 20 | * | 942.0  | 50.0  | 5.0 | * |
| 21. Receptor | 21 | * | 1634.0 | 26.0  | 5.0 | * |
| 22. Receptor | 22 | * | 1674.0 | 26.0  | 5.0 | * |
| 23. Receptor | 23 | * | 1714.0 | 26.0  | 5.0 | * |

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JOB: I25SH7withPkgStationPackageB

RUN: I25SH7withPkgStationPackageB

DATE : 11/22/10  
TIME : 12:39:30

RECEPTOR LOCATIONS

| RECEPTOR     | *  | X | COORDINATES (FT)<br>Y | Z     | *   |   |
|--------------|----|---|-----------------------|-------|-----|---|
| 24. Receptor | 24 | * | 1714.0                | -14.0 | 5.0 | * |
| 25. Receptor | 25 | * | 1714.0                | -54.0 | 5.0 | * |
| 26. Receptor | 26 | * | 1766.0                | -30.0 | 5.0 | * |
| 27. Receptor | 27 | * | 1766.0                | 10.0  | 5.0 | * |
| 28. Receptor | 28 | * | 1766.0                | 50.0  | 5.0 | * |
| 29. Receptor | 29 | * | 1806.0                | 50.0  | 5.0 | * |
| 30. Receptor | 30 | * | 1846.0                | 50.0  | 5.0 | * |
| 31. Receptor | 31 | * | 1870.0                | 190.0 | 5.0 | * |
| 32. Receptor | 32 | * | 1830.0                | 190.0 | 5.0 | * |
| 33. Receptor | 33 | * | 1790.0                | 190.0 | 5.0 | * |
| 34. Receptor | 34 | * | 1790.0                | 230.0 | 5.0 | * |
| 35. Receptor | 35 | * | 1790.0                | 270.0 | 5.0 | * |
| 36. Receptor | 36 | * | 1714.0                | 270.0 | 5.0 | * |
| 37. Receptor | 37 | * | 1714.0                | 230.0 | 5.0 | * |
| 38. Receptor | 38 | * | 1714.0                | 190.0 | 5.0 | * |
| 39. Receptor | 39 | * | 1674.0                | 190.0 | 5.0 | * |
| 40. Receptor | 40 | * | 1634.0                | 190.0 | 5.0 | * |

□  
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JOB: I25SH7withPkgStationPackageB

RUN: I25SH7withPkgStationPackageB

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
ANGLE \* (PPM)  
(DEGR)\* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18 REC19 REC20

| ANGLE (DEGR) | REC1 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 | REC19 | REC20 |
|--------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.           | .3   | .6   | 1.5  | 1.4  | 1.4  | 1.0  | 1.1  | 1.1  | .5   | .3    | 4.6   | 4.7   | 4.7   | 3.4   | 2.7   | 3.1   | 3.7   | 4.9   |       |       |
| 4.7          | 4.6  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 10.          | .7   | .9   | 2.0  | 2.0  | 2.0  | .4   | .4   | .4   | .2   | .0    | 4.9   | 5.1   | 4.7   | 3.5   | 3.1   | 2.7   | 3.2   | 4.4   |       |       |
| 4.5          | 4.3  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 20.          | .8   | 1.2  | 1.9  | 1.9  | 1.9  | .1   | .1   | .1   | .0   | .0    | 5.0   | 4.9   | 3.9   | 3.0   | 2.7   | 2.2   | 2.9   | 4.3   |       |       |
| 4.3          | 4.3  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 30.          | .8   | 1.1  | 1.8  | 1.8  | 1.8  | .0   | .0   | .0   | .0   | .0    | 4.9   | 4.7   | 4.2   | 3.2   | 3.2   | 2.4   | 2.8   | 4.5   |       |       |
| 4.5          | 4.5  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 40.          | .7   | 1.0  | 1.6  | 1.6  | 1.6  | .0   | .0   | .0   | .0   | .0    | 4.9   | 4.4   | 4.2   | 3.3   | 3.1   | 2.5   | 2.9   | 4.6   |       |       |
| 4.6          | 4.6  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 50.          | .7   | .9   | 1.4  | 1.4  | 1.4  | .0   | .1   | .1   | .1   | .1    | 5.5   | 4.7   | 4.8   | 3.8   | 3.7   | 2.7   | 3.2   | 5.0   |       |       |
| 4.9          | 4.8  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 60.          | .8   | 1.0  | 1.4  | 1.4  | 1.4  | .1   | .1   | .1   | .1   | .1    | 5.1   | 5.0   | 5.7   | 4.3   | 3.8   | 2.5   | 3.5   | 5.2   |       |       |
| 5.2          | 5.0  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 70.          | .9   | 1.1  | 1.5  | 1.4  | 1.4  | .1   | .1   | .2   | .2   | .2    | 5.6   | 5.5   | 5.7   | 4.3   | 3.3   | 2.4   | 3.2   | 5.2   |       |       |
| 5.2          | 5.0  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 80.          | 2.0  | 2.1  | 2.5  | 1.7  | 1.4  | .1   | .3   | .9   | .9   | .9    | 5.3   | 5.2   | 5.2   | 3.5   | 2.6   | 1.7   | 2.7   | 4.5   |       |       |
| 4.6          | 4.8  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 90.          | 3.5  | 3.9  | 4.7  | 2.9  | 2.1  | .6   | 1.3  | 3.1  | 3.1  | 3.2   | 3.5   | 3.6   | 3.7   | 2.5   | 1.7   | .7    | 1.5   | 3.3   |       |       |
| 3.3          | 3.3  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |

|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 100. | *   | 4.8 | 5.5 | 6.0 | 4.2 | 3.2 | 1.9 | 2.8 | 5.1 | 4.9 | 4.8 | 1.7 | 2.0 | 2.0 | 1.4 | .9  | .2  | .5  | 1.2 |
| 1.1  | 1.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 110. | *   | 5.0 | 5.3 | 6.2 | 5.0 | 4.0 | 2.7 | 3.7 | 5.7 | 5.7 | 5.5 | .7  | .8  | 1.1 | 1.0 | .8  | .1  | .1  | .3  |
| .3   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 120. | *   | 4.5 | 4.8 | 5.8 | 4.7 | 4.3 | 2.8 | 3.6 | 5.5 | 5.5 | 5.4 | .5  | .7  | 1.1 | 1.1 | .8  | .1  | .1  | .1  |
| .1   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 130. | *   | 4.1 | 3.9 | 4.9 | 4.2 | 4.2 | 3.0 | 3.3 | 5.1 | 5.1 | 5.1 | .5  | .6  | 1.1 | 1.1 | .8  | .1  | .1  | .1  |
| .1   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 140. | *   | 3.8 | 3.5 | 4.3 | 4.0 | 3.6 | 2.8 | 3.2 | 4.6 | 4.6 | 4.6 | .3  | .6  | 1.0 | .9  | .6  | .0  | .1  | .1  |
| .1   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 150. | *   | 3.8 | 3.8 | 3.7 | 3.5 | 3.4 | 2.4 | 3.1 | 4.4 | 4.4 | 4.4 | .3  | .5  | 1.0 | .8  | .7  | .0  | .0  | .0  |
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 160. | *   | 3.9 | 3.8 | 3.6 | 3.2 | 3.2 | 2.1 | 3.0 | 4.2 | 4.2 | 4.2 | .3  | .5  | .9  | .8  | .7  | .0  | .0  | .1  |
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 170. | *   | 3.8 | 3.8 | 3.9 | 3.3 | 3.0 | 2.3 | 3.3 | 4.4 | 4.3 | 4.2 | .2  | .3  | .8  | .7  | .7  | .3  | .3  | .3  |
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 180. | *   | 3.7 | 3.7 | 3.9 | 3.0 | 2.6 | 2.3 | 3.2 | 4.4 | 4.6 | 4.6 | .1  | .2  | .5  | .5  | .5  | .4  | .5  | .7  |
| .2   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 190. | *   | 3.6 | 3.6 | 3.5 | 2.7 | 2.2 | 2.9 | 3.2 | 4.4 | 4.6 | 4.4 | .0  | .0  | .2  | .2  | .2  | .7  | .8  | .9  |
| .3   | .2  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 200. | *   | 3.6 | 3.7 | 3.6 | 2.7 | 2.0 | 2.6 | 2.7 | 4.0 | 4.6 | 4.6 | .0  | .0  | .1  | .1  | .1  | .8  | 1.0 | 1.1 |
| .4   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 210. | *   | 3.7 | 3.8 | 3.8 | 2.8 | 2.0 | 3.2 | 3.2 | 3.9 | 4.6 | 4.6 | .0  | .0  | .0  | .0  | .0  | .6  | .9  | 1.1 |
| .5   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 220. | *   | 3.8 | 3.9 | 3.9 | 2.7 | 2.0 | 3.2 | 3.6 | 4.2 | 4.4 | 4.8 | .0  | .0  | .0  | .0  | .0  | .7  | 1.0 | 1.1 |
| .6   | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 230. | *   | 3.8 | 4.0 | 4.1 | 2.7 | 1.9 | 3.3 | 3.6 | 4.5 | 4.9 | 4.9 | .0  | .0  | .0  | .0  | .0  | .7  | 1.1 | 1.1 |
| .7   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 240. | *   | 3.9 | 4.1 | 4.3 | 2.8 | 1.8 | 3.3 | 4.1 | 5.1 | 4.8 | 5.4 | .0  | .0  | .0  | .0  | .0  | .7  | 1.0 | .9  |
| .6   | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 250. | *   | 3.6 | 3.8 | 4.0 | 2.3 | 1.4 | 3.1 | 3.9 | 5.3 | 5.0 | 5.1 | .1  | .1  | .1  | .0  | .0  | .8  | 1.0 | .9  |
| .7   | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 260. | *   | 2.8 | 3.0 | 3.2 | 1.5 | .9  | 2.3 | 3.1 | 4.7 | 4.5 | 4.4 | 1.0 | 1.0 | 1.0 | .3  | .0  | .9  | 1.4 | 1.7 |
| 1.6  | 1.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 270. | *   | 1.5 | 1.6 | 1.6 | .7  | .4  | 1.8 | 2.1 | 3.4 | 3.0 | 2.7 | 2.5 | 2.5 | 2.8 | 1.0 | .5  | 1.6 | 2.0 | 3.6 |
| 3.3  | 3.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 280. | *   | .4  | .4  | .5  | .0  | .0  | 1.2 | 1.3 | 1.8 | 1.3 | 1.1 | 3.8 | 4.0 | 4.2 | 2.1 | 1.2 | 2.5 | 3.4 | 4.8 |
| 4.7  | 4.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 290. | *   | .1  | .1  | .1  | .0  | .0  | 1.2 | 1.2 | 1.3 | .9  | .7  | 4.6 | 4.7 | 5.0 | 2.8 | 1.8 | 3.0 | 4.0 | 5.2 |
| 4.8  | 4.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 300. | *   | .0  | .0  | .0  | .0  | .0  | 1.3 | 1.3 | 1.3 | .9  | .6  | 4.7 | 5.1 | 5.2 | 3.0 | 2.3 | 3.5 | 3.9 | 5.1 |
| 4.7  | 4.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 310. | *   | .0  | .0  | .0  | .0  | .0  | 1.3 | 1.3 | 1.3 | .9  | .6  | 4.6 | 4.8 | 4.9 | 3.0 | 2.5 | 3.3 | 3.5 | 4.3 |
| 4.3  | 4.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 320. | *   | .0  | .0  | .0  | .0  | .0  | 1.4 | 1.4 | 1.4 | .9  | .6  | 4.5 | 4.6 | 4.6 | 3.1 | 2.4 | 3.5 | 3.2 | 3.9 |
| 4.0  | 4.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 330. | *   | .0  | .0  | .1  | .1  | .1  | 1.6 | 1.6 | 1.6 | 1.0 | .9  | 4.4 | 4.4 | 4.3 | 3.0 | 2.3 | 2.9 | 3.2 | 4.0 |
| 4.6  | 5.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 340. | *   | .0  | .0  | .2  | .2  | .2  | 1.7 | 1.7 | 1.7 | 1.0 | .8  | 4.2 | 4.2 | 4.1 | 3.0 | 2.3 | 3.0 | 3.1 | 4.4 |
| 4.8  | 5.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 350. | *   | .0  | .2  | .7  | .7  | .7  | 1.6 | 1.6 | 1.6 | .9  | .6  | 4.1 | 4.3 | 4.4 | 3.1 | 2.6 | 3.4 | 3.6 | 5.0 |
| 5.0  | 4.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 360. | *   | .3  | .6  | 1.5 | 1.4 | 1.4 | 1.0 | 1.1 | 1.1 | .5  | .3  | 4.6 | 4.7 | 4.7 | 3.4 | 2.7 | 3.1 | 3.7 | 4.9 |
| 4.7  | 4.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 5.0 | 5.5 | 6.2 | 5.0 | 4.3 | 3.3 | 4.1 | 5.7 | 5.7 | 5.5 | 5.6 | 5.5 | 5.7 | 4.3 | 3.8 | 3.5 | 4.0 | 5.2 |
| 5.2   | 5.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | *   | 110 | 100 | 110 | 110 | 120 | 230 | 240 | 110 | 110 | 110 | 70  | 70  | 60  | 60  | 60  | 320 | 290 | 60  |
| 60    | 340 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

□ PAGE  
6

JOB: I25SH7withPkgStationPackageB RUN: I25SH7withPkgStationPackageB

MODEL RESULTS  
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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
ANGLE \* (PPM)  
(DEGR)\* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32 REC33 REC34 REC35 REC36 REC37 REC38  
REC39 REC40

| *-----* |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 0.      | *   | 3.9 | 4.1 | 4.6 | 3.8 | 3.0 | 3.1 | 3.2 | 3.9 | 3.6 | 3.0 | .1  | .2  | .5  | .4  | .4  | .8  | .8  | .8  |  |
| .3      | .2  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 10.     | *   | 4.0 | 4.3 | 4.9 | 4.1 | 4.0 | 1.8 | 2.6 | 3.1 | 3.2 | 2.8 | .0  | .1  | .2  | .2  | .1  | 1.1 | 1.1 | 1.2 |  |
| .5      | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 20.     | *   | 4.2 | 4.5 | 5.1 | 4.0 | 3.3 | 1.9 | 2.2 | 3.2 | 2.8 | 2.8 | .0  | .0  | .0  | .0  | .0  | 1.1 | 1.1 | 1.3 |  |
| .5      | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 30.     | *   | 4.3 | 4.5 | 5.0 | 4.1 | 3.2 | 1.7 | 1.9 | 3.0 | 2.9 | 2.9 | .0  | .0  | .0  | .0  | .0  | 1.0 | 1.0 | 1.5 |  |
| .5      | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 40.     | *   | 4.4 | 4.6 | 4.9 | 3.4 | 3.2 | 1.6 | 2.0 | 3.1 | 3.0 | 2.9 | .0  | .0  | .0  | .0  | .0  | .9  | 1.0 | 1.7 |  |
| .6      | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 50.     | *   | 5.0 | 4.4 | 4.6 | 3.5 | 2.9 | 1.6 | 2.0 | 3.3 | 3.2 | 3.0 | .0  | .0  | .0  | .0  | .0  | .8  | 1.0 | 1.8 |  |
| .7      | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 60.     | *   | 4.4 | 4.4 | 4.4 | 3.1 | 2.6 | 1.4 | 1.9 | 3.3 | 3.1 | 2.9 | .0  | .0  | .0  | .0  | .0  | .7  | 1.1 | 1.9 |  |
| .9      | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 70.     | *   | 4.0 | 4.1 | 3.8 | 2.8 | 2.3 | 1.0 | 1.7 | 3.1 | 3.0 | 2.7 | .1  | .1  | .1  | .0  | .0  | .7  | 1.4 | 2.0 |  |
| 1.2     | .8  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 80.     | *   | 3.4 | 3.1 | 3.3 | 2.3 | 1.8 | .5  | 1.1 | 2.4 | 2.3 | 2.1 | .4  | .5  | .5  | .0  | .0  | .7  | 1.7 | 2.4 |  |
| 1.7     | 1.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 90.     | *   | 1.9 | 1.9 | 2.3 | 1.7 | 1.4 | .2  | .4  | 1.6 | 1.4 | 1.3 | 1.2 | 1.2 | 1.5 | .4  | .1  | 1.0 | 2.2 | 3.2 |  |
| 2.5     | 2.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 100.    | *   | 1.0 | 1.1 | 1.6 | 1.4 | 1.4 | .0  | .1  | .5  | .5  | .5  | 2.1 | 2.2 | 2.3 | 1.0 | .5  | 1.7 | 3.0 | 4.3 |  |
| 3.6     | 3.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 110.    | *   | .7  | .8  | 1.4 | 1.4 | 1.4 | .0  | .0  | .1  | .1  | .1  | 2.6 | 2.8 | 3.1 | 1.6 | .9  | 2.2 | 3.8 | 4.8 |  |
| 4.0     | 3.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 120.    | *   | .6  | .8  | 1.4 | 1.4 | 1.4 | .0  | .0  | .0  | .0  | .0  | 2.8 | 3.1 | 3.5 | 1.9 | 1.4 | 3.0 | 4.0 | 4.5 |  |
| 3.7     | 3.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 130.    | *   | .6  | .8  | 1.5 | 1.5 | 1.5 | .0  | .0  | .0  | .0  | .0  | 2.8 | 3.1 | 3.5 | 1.9 | 1.6 | 3.4 | 3.8 | 4.3 |  |
| 3.4     | 3.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 140.    | *   | .7  | .9  | 1.7 | 1.7 | 1.7 | .0  | .0  | .0  | .0  | .0  | 2.6 | 3.1 | 3.5 | 2.1 | 1.5 | 3.4 | 3.7 | 3.6 |  |
| 3.5     | 3.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 150.    | *   | .7  | 1.0 | 1.9 | 1.9 | 1.9 | .0  | .0  | .0  | .0  | .0  | 2.8 | 3.1 | 3.4 | 2.2 | 1.6 | 3.5 | 3.3 | 3.9 |  |
| 3.6     | 3.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 160.    | *   | .7  | 1.0 | 2.1 | 2.1 | 2.1 | .2  | .2  | .2  | .0  | .0  | 2.8 | 3.1 | 3.2 | 2.4 | 1.7 | 3.4 | 3.4 | 4.0 |  |
| 4.1     | 4.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 170.    | *   | .6  | .9  | 2.1 | 2.1 | 2.1 | .7  | .7  | .8  | .2  | .1  | 3.0 | 3.3 | 3.6 | 2.5 | 2.1 | 3.3 | 3.7 | 4.6 |  |
| 4.1     | 3.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 180.    | *   | .3  | .6  | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | .6  | .3  | 3.1 | 3.6 | 3.9 | 3.1 | 2.4 | 2.8 | 3.5 | 4.5 |  |
| 4.0     | 3.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 190.    | *   | .1  | .2  | .7  | .7  | .7  | 2.1 | 2.1 | 2.1 | .9  | .6  | 3.4 | 3.9 | 4.4 | 3.2 | 3.3 | 2.6 | 3.1 | 3.9 |  |
| 3.7     | 3.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 200.    | *   | .0  | .0  | .2  | .2  | .2  | 2.1 | 2.1 | 2.1 | 1.0 | .7  | 3.4 | 4.1 | 4.3 | 3.8 | 3.5 | 2.1 | 2.5 | 3.4 |  |
| 3.4     | 3.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 210.    | *   | .0  | .0  | .0  | .0  | .0  | 1.9 | 1.9 | 1.9 | 1.0 | .7  | 3.8 | 4.2 | 4.4 | 3.9 | 3.9 | 2.0 | 2.5 | 3.5 |  |
| 3.5     | 3.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 220.    | *   | .0  | .0  | .0  | .0  | .0  | 1.7 | 1.7 | 1.8 | .9  | .7  | 4.1 | 4.4 | 4.2 | 4.4 | 3.8 | 2.2 | 2.5 | 3.7 |  |
| 3.6     | 3.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 230.    | *   | .0  | .0  | .0  | .0  | .0  | 1.5 | 1.5 | 1.7 | .8  | .6  | 4.5 | 4.5 | 4.4 | 4.4 | 3.8 | 2.4 | 2.6 | 4.0 |  |
| 3.9     | 3.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 240.    | *   | .0  | .0  | .0  | .0  | .0  | 1.4 | 1.4 | 1.9 | .9  | .7  | 4.6 | 4.7 | 5.2 | 4.8 | 3.4 | 2.1 | 2.8 | 4.0 |  |
| 3.9     | 3.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 250.    | *   | .1  | .1  | .1  | .0  | .0  | 1.4 | 1.4 | 2.5 | 1.4 | 1.0 | 4.7 | 4.9 | 5.5 | 4.9 | 2.9 | 2.0 | 2.7 | 4.3 |  |
| 4.2     | 3.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 260.    | *   | .7  | .8  | .8  | .2  | .0  | 1.4 | 1.9 | 4.1 | 2.8 | 2.3 | 4.3 | 4.6 | 5.8 | 4.8 | 2.7 | 2.0 | 2.7 | 4.1 |  |
| 4.1     | 4.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 270.    | *   | 3.0 | 3.2 | 3.3 | 1.8 | 1.0 | 3.0 | 3.9 | 6.8 | 5.5 | 4.9 | 3.4 | 3.8 | 4.8 | 3.4 | 1.3 | .9  | 1.7 | 2.9 |  |
| 3.1     | 3.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 280.    | *   | 5.1 | 4.8 | 4.7 | 2.8 | 2.0 | 3.9 | 5.1 | 7.7 | 6.2 | 5.5 | 1.6 | 2.0 | 2.8 | 2.2 | .7  | .3  | .4  | .9  |  |
| 1.0     | 1.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 290.    | *   | 4.8 | 5.1 | 5.1 | 3.1 | 2.2 | 4.3 | 5.6 | 7.8 | 5.9 | 4.6 | .9  | 1.4 | 2.3 | 1.8 | .7  | .2  | .2  | .3  |  |
| .4      | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 300.    | *   | 4.8 | 5.0 | 5.0 | 3.3 | 2.9 | 4.3 | 5.6 | 6.8 | 4.8 | 4.2 | .7  | 1.2 | 2.2 | 1.5 | .7  | .2  | .3  | .3  |  |
| .3      | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 310.    | *   | 4.8 | 4.8 | 4.7 | 3.2 | 2.6 | 4.4 | 5.2 | 6.0 | 3.9 | 3.7 | .4  | 1.0 | 2.1 | 1.1 | .6  | .1  | .1  | .1  |  |
| .2      | .2  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 320.    | *   | 4.2 | 4.2 | 4.2 | 2.9 | 2.4 | 4.2 | 4.5 | 5.1 | 3.5 | 3.5 | .3  | .6  | 1.9 | .9  | .6  | .0  | .0  | .0  |  |
| .0      | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 330.    | *   | 3.8 | 3.8 | 3.8 | 2.8 | 2.3 | 4.1 | 4.5 | 4.6 | 3.3 | 3.6 | .3  | .5  | 1.6 | .7  | .6  | .0  | .0  | .0  |  |
| .0      | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 340.    | *   | 3.7 | 3.7 | 3.8 | 2.7 | 2.4 | 3.8 | 4.0 | 4.4 | 3.6 | 3.6 | .3  | .4  | 1.2 | .6  | .6  | .1  | .1  | .1  |  |
| .0      | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 350.    | *   | 3.7 | 3.8 | 4.0 | 3.2 | 2.7 | 3.7 | 3.8 | 4.1 | 3.7 | 3.4 | .2  | .4  | .9  | .6  | .6  | .4  | .4  | .4  |  |
| .1      | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 360.    | *   | 3.9 | 4.1 | 4.6 | 3.8 | 3.0 | 3.1 | 3.2 | 3.9 | 3.6 | 3.0 | .1  | .2  | .5  | .4  | .4  | .8  | .8  | .8  |  |
| .3      | .2  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| *-----* |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| MAX     | *   | 5.1 | 5.1 | 5.1 | 4.1 | 4.0 | 4.4 | 5.6 | 7.8 | 6.2 | 5.5 | 4.7 | 4.9 | 5.8 | 4.9 | 3.9 | 3.5 | 4.0 | 4.8 |  |
| 4.2     | 4.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |

DEGR. \* 280 290 290 30 10 310 290 290 280 280 250 250 260 250 210 150 120 110  
 250 260

THE HIGHEST CONCENTRATION OF 7.80 PPM OCCURRED AT RECEPTOR REC28.

PAGE

7

JOB: I25SH7withPkgStationPackageB

RUN: I25SH7withPkgStationPackageB

DATE : 11/22/10  
 TIME : 12:39:30

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
 THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |        | * CO/LINK (PPM)   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|--------|--------|-------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |        | * ANGLE (DEGREES) |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|        |        | REC1              | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 |
| REC19  | REC20  | 110               | 100  | 110  | 110  | 120  | 230  | 240  | 110  | 110  | 110   | 70    | 70    | 60    | 60    | 60    | 320   | 290   | 60    |
| LINK # | LINK # | 60                | 340  |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| -----* |        | -----             |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .0     | 1 *    | .1                | .0   | .0   | .0   | .0   | .3   | .3   | .0   | .0   | .0    | .3    | .2    | .1    | .0    | .0    | .3    | .4    | .0    |
| .0     | 2 *    | .0                | .0   | .0   | .0   | .0   | .1   | .2   | .0   | .0   | .0    | .1    | .0    | .0    | .0    | .0    | .1    | .2    | .0    |
| .0     | 3 *    | .0                | .0   | .0   | .0   | .0   | .2   | .3   | .0   | .0   | .0    | .5    | .3    | .2    | .0    | .0    | .3    | .5    | .0    |
| .0     | 4 *    | .0                | .0   | .0   | .0   | .0   | .1   | .2   | .0   | .0   | .0    | .1    | .0    | .0    | .0    | .0    | .1    | .2    | .0    |
| .0     | 5 *    | .0                | .0   | .0   | .0   | .0   | .2   | .3   | .0   | .0   | .0    | .9    | .7    | .5    | .0    | .0    | .3    | .5    | .0    |
| .0     | 6 *    | .0                | .0   | .0   | .0   | .0   | .1   | .2   | .0   | .0   | .0    | .3    | .1    | .0    | .0    | .0    | .1    | .3    | .0    |
| .7     | 7 *    | .4                | .4   | .5   | .4   | .3   | .0   | .0   | .5   | .5   | .5    | .4    | .6    | .6    | .5    | .4    | .0    | .0    | .7    |
| .0     | 8 *    | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .9     | 9 *    | .4                | .4   | .4   | .3   | .3   | .0   | .0   | .4   | .4   | .4    | .4    | .5    | .6    | .5    | .4    | .0    | .0    | .9    |
| .0     | 10 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 1.1    | 11 *   | .4                | .3   | .4   | .3   | .3   | .0   | .0   | .4   | .4   | .4    | .3    | .5    | .6    | .6    | .4    | .1    | .0    | 1.1   |
| .0     | 12 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 13 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 14 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 15 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 16 *   | .1                | .1   | .1   | .1   | .1   | .0   | .0   | .1   | .2   | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 17 *   | .1                | .0   | .0   | .0   | .0   | .2   | .2   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .2    | .2    | .0    |
| .0     | 18 *   | .0                | .0   | .0   | .0   | .0   | .2   | .2   | .0   | .0   | .0    | .1    | .0    | .0    | .0    | .0    | .2    | .2    | .0    |
| .0     | 19 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 20 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 21 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 22 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 23 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 24 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .4     | 25 *   | .3                | .5   | .5   | .4   | .3   | .0   | .0   | .6   | .6   | .6    | .3    | .4    | .4    | .3    | .2    | .0    | .0    | .4    |
| .2     | 26 *   | .1                | .2   | .2   | .2   | .1   | .0   | .0   | .3   | .2   | .2    | .1    | .2    | .2    | .1    | .1    | .0    | .0    | .2    |
| .3     | 27 *   | .3                | .5   | .6   | .4   | .3   | .0   | .0   | .7   | .7   | .7    | .3    | .3    | .3    | .3    | .2    | .0    | .0    | .3    |
| .1     | 28 *   | .1                | .2   | .2   | .2   | .1   | .0   | .0   | .3   | .3   | .3    | .1    | .1    | .2    | .1    | .1    | .0    | .0    | .1    |
|        | 29 *   | .2                | .5   | .6   | .5   | .3   | .0   | .0   | .9   | .9   | .9    | .3    | .3    | .3    | .2    | .2    | .0    | .0    | .3    |



|    |      |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|----|------|-----|-----|-----|----|----|----|-----|-----|-----|----|----|----|----|----|----|----|----|----|
| .0 | .1   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 7 *  | .5  | .6  | .6  | .1 | .2 | .3 | .5  | .8  | .7  | .6 | .4 | .5 | .4 | .4 | .2 | .0 | .0 | .0 |
| .5 | .4   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 8 *  | .0  | .1  | .1  | .0 | .0 | .1 | .1  | .2  | .2  | .1 | .1 | .1 | .1 | .1 | .1 | .0 | .0 | .0 |
| .1 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 9 *  | .6  | .6  | .6  | .1 | .2 | .4 | .5  | .9  | .8  | .7 | .4 | .4 | .4 | .3 | .2 | .0 | .0 | .0 |
| .4 | .3   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 10 * | .1  | .2  | .2  | .0 | .0 | .1 | .2  | .3  | .2  | .2 | .1 | .1 | .1 | .1 | .1 | .0 | .0 | .0 |
| .1 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 11 * | .7  | .8  | .8  | .1 | .2 | .4 | .6  | 1.1 | .9  | .7 | .4 | .4 | .3 | .3 | .2 | .0 | .0 | .0 |
| .4 | .3   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 12 * | .1  | .2  | .2  | .0 | .0 | .2 | .2  | .3  | .2  | .2 | .1 | .1 | .0 | .0 | .1 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 13 * | .0  | .0  | .0  | .2 | .1 | .0 | .0  | .0  | .0  | .1 | .0 | .0 | .0 | .0 | .0 | .2 | .2 | .3 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 14 * | .0  | .0  | .0  | .2 | .1 | .0 | .0  | .0  | .1  | .2 | .0 | .0 | .0 | .0 | .0 | .2 | .2 | .3 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 15 * | .0  | .0  | .0  | .2 | .1 | .0 | .0  | .1  | .3  | .4 | .0 | .0 | .0 | .0 | .0 | .2 | .2 | .3 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 16 * | 1.2 | 1.4 | 1.4 | .3 | .3 | .6 | 1.0 | 1.4 | 1.0 | .7 | .4 | .4 | .2 | .2 | .3 | .0 | .0 | .0 |
| .3 | .1   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 17 * | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 18 * | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 19 * | .0  | .0  | .0  | .2 | .1 | .0 | .0  | .0  | .0  | .0 | .2 | .1 | .0 | .0 | .0 | .2 | .3 | .5 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 20 * | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .1 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 21 * | .0  | .0  | .0  | .2 | .1 | .0 | .0  | .0  | .0  | .0 | .4 | .3 | .0 | .0 | .1 | .2 | .4 | .6 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 22 * | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .1 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 23 * | .0  | .0  | .0  | .2 | .1 | .0 | .0  | .0  | .0  | .0 | .7 | .5 | .2 | .0 | .1 | .2 | .4 | .6 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 24 * | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .1 | .1 | .0 | .0 | .0 | .0 | .1 | .1 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 25 * | .2  | .3  | .3  | .0 | .1 | .2 | .3  | .4  | .3  | .3 | .3 | .4 | .5 | .4 | .2 | .0 | .0 | .0 |
| .6 | .5   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 26 * | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 27 * | .2  | .3  | .3  | .0 | .1 | .2 | .3  | .3  | .3  | .3 | .3 | .4 | .6 | .4 | .2 | .0 | .0 | .0 |
| .7 | .7   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 28 * | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 29 * | .2  | .3  | .3  | .0 | .1 | .2 | .2  | .3  | .2  | .3 | .2 | .4 | .8 | .5 | .2 | .1 | .0 | .3 |
| .9 | .9   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 30 * | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 31 * | .1  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 32 * | .1  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 33 * | .1  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 34 * | .0  | .0  | .0  | .2 | .1 | .0 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .1 | .2 | .2 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 35 * | .0  | .0  | .0  | .2 | .1 | .0 | .0  | .0  | .0  | .0 | .1 | .0 | .0 | .0 | .0 | .2 | .2 | .3 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 36 * | .2  | .1  | .1  | .0 | .0 | .0 | .1  | .1  | .1  | .1 | .0 | .1 | .1 | .1 | .0 | .0 | .0 | .0 |
| .1 | .2   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 37 * | .2  | .1  | .1  | .0 | .0 | .0 | .1  | .1  | .1  | .1 | .0 | .0 | .1 | .1 | .0 | .0 | .0 | .0 |
| .1 | .2   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 38 * | .0  | .1  | .1  | .0 | .0 | .1 | .1  | .1  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 39 * | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 40 * | .0  | .0  | .0  | .0 | .0 | .1 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 41 * | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 42 * | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 43 * | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 44 * | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0  | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |
|    | 45 * | .0  | .0  | .0  | .1 | .4 | .0 | .0  | .0  | .0  | .0 | .2 | .3 | .5 | .5 | .5 | .9 | .7 | .7 |
| .0 | .0   |     |     |     |    |    |    |     |     |     |    |    |    |    |    |    |    |    |    |

|        |       | * CO/LINK (PPM)   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |       | * ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| REC39  | REC40 | REC21             | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 |
| LINK # | *     | 280               | 290   | 290   | 30    | 10    | 310   | 290   | 290   | 280   | 280   | 250   | 250   | 260   | 250   | 210   | 150   | 120   | 110   |
| 250    | 260   |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| -----* |       |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|        |       |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|        | 46    | *                 | .0    | .0    | .0    | .1    | .2    | .0    | .0    | .0    | .0    | .1    | .2    | 1.0   | 1.5   | 1.2   | .9    | 1.1   | .4    |
| .0     | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|        | 47    | *                 | .0    | .0    | .0    | 1.7   | 1.4   | 1.5   | 1.4   | 1.4   | .8    | .5    | .1    | .1    | .0    | .0    | .2    | .1    | .0    |
| .0     | .0    |                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

```

'I25SH7withparkinglotPMphaseI', 60 , 175 , 0 , 0 , 56 , 0.3048 , 1 , 1
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'Receptor 55', 4501 , 2681 , 5
'Receptor 56', 4461 , 2681 , 5
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110 , 51 , 2 , 1088 , 143.34 , 1600 , 1 , 3
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'sh7ebapp2-1 que', 'AG', 4591 , 2546 , 4131 , 2546 , 0 , 24 , 2
110 , 51 , 2 , 1088 , 143.34 , 1600 , 1 , 3
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110 , 48 , 2 , 1040 , 143.34 , 1600 , 1 , 3
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110 , 48 , 2 , 1040 , 143.34 , 1600 , 1 , 3
1
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110 , 91 , 2 , 325 , 143.34 , 1600 , 1 , 3  
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110 , 48 , 2 , 1765 , 143.34 , 1600 , 1 , 3  
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110 , 57 , 2 , 608 , 143.34 , 1600 , 1 , 3  
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110 , 57 , 2 , 608 , 143.34 , 1600 , 1 , 3  
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110 , 91 , 2 , 275 , 143.34 , 1600 , 1 , 3  
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110 , 72 , 2 , 20 , 143.34 , 1600 , 1 , 3  
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'pklotsbleftturn','AG', 4631 , 2691 , 4631 , 2891 , 0 , 12 , 1  
110 , 72 , 2 , 570 , 143.34 , 1600 , 1 , 3  
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110 , 90 , 2 , 20 , 143.34 , 1600 , 1 , 3  
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110 , 86 , 2 , 175 , 143.34 , 1600 , 1 , 3  
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'i25sbrampapp2','AG', 5540.1 , 2935.4 , 5612 , 2598 , 971 , 22.6 , 0 , 44  
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1  
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'i25sbrampleftturn','AG', 5609 , 2671 , 5568 , 2891 , 0 , 12 , 1  
110 , 63 , 2 , 830 , 143.34 , 1600 , 1 , 3  
1 , 0 , 4 , 1000 , 0 , 'Y', 10 , 0 , 36

JOB: I25SH7withparkinglotPMphaseI

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The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

| V/C QUEUE | LINK DESCRIPTION        | * | LINK COORDINATES (FT) |        |        |        | * | LENGTH        | BRG TYPE | VPH    | EF   | H    | W |
|-----------|-------------------------|---|-----------------------|--------|--------|--------|---|---------------|----------|--------|------|------|---|
| (VEH)     |                         | * | X1                    | Y1     | X2     | Y2     | * | (FT) (DEG)    |          | (G/MI) | (FT) | (FT) |   |
|           | 1. sh7ebapp1-1          | * | 4131.0                | 2570.0 | 4640.0 | 2570.0 | * | 509. 90. AG   | 1333.    | 22.8   | .0   | 44.0 |   |
| .68       | 2. sh7ebapp1-1 que      | * | 4591.0                | 2570.0 | 4439.3 | 2570.0 | * | 152. 270. AG  | 357.     | 100.0  | .0   | 24.0 |   |
| 7.7       | 3. sh7ebapp2-1          | * | 4131.0                | 2546.0 | 4640.0 | 2546.0 | * | 509. 90. AG   | 1333.    | 22.8   | .0   | 44.0 |   |
| .68       | 4. sh7ebapp2-1 que      | * | 4591.0                | 2546.0 | 4439.3 | 2546.0 | * | 152. 270. AG  | 357.     | 100.0  | .0   | 24.0 |   |
| 7.7       | 5. sh7ebapp/dep1-1      | * | 4640.0                | 2570.0 | 5623.0 | 2570.0 | * | 983. 90. AG   | 1520.    | 22.8   | .0   | 44.0 |   |
| .62       | 6. sh7ebapp/dep1-1 que  | * | 5601.0                | 2570.0 | 5464.5 | 2570.0 | * | 136. 270. AG  | 336.     | 100.0  | .0   | 24.0 |   |
| 6.9       | 7. sh7ebapp/dep2-1      | * | 4640.0                | 2546.0 | 5623.0 | 2546.0 | * | 983. 90. AG   | 1520.    | 22.8   | .0   | 44.0 |   |
| .62       | 8. sh7ebapp/dep2-1 que  | * | 5601.0                | 2546.0 | 5464.5 | 2546.0 | * | 136. 270. AG  | 336.     | 100.0  | .0   | 24.0 |   |
| 6.9       | 9. sh7ebdep1-1          | * | 5623.0                | 2570.0 | 6132.0 | 2570.0 | * | 509. 90. AG   | 1455.    | 22.8   | .0   | 56.0 |   |
|           | 10. sh7ebdep2-1         | * | 5623.0                | 2546.0 | 6132.0 | 2546.0 | * | 509. 90. AG   | 1455.    | 22.8   | .0   | 32.0 |   |
| .74       | 11. sh7ebleftturn       | * | 4591.0                | 2595.0 | 4503.0 | 2595.0 | * | 88. 270. AG   | 636.     | 100.0  | .0   | 24.0 |   |
| 4.5       | 12. sh7wbapp1-1         | * | 6132.0                | 2635.0 | 5623.0 | 2635.0 | * | 509. 270. AG  | 1765.    | 22.1   | .0   | 56.0 |   |
| .70       | 13. sh7wbapp1-1 que     | * | 5645.0                | 2635.0 | 5799.3 | 2635.0 | * | 154. 90. AG   | 503.     | 100.0  | .0   | 36.0 |   |
| 7.8       | 14. sh7wbapp/dep1-1     | * | 5623.0                | 2625.0 | 4640.0 | 2625.0 | * | 983. 270. AG  | 930.     | 22.1   | .0   | 44.0 |   |
| .43       | 15. sh7wbapp/dep1-1 que | * | 4683.0                | 2625.0 | 4777.8 | 2625.0 | * | 95. 90. AG    | 398.     | 100.0  | .0   | 24.0 |   |
| 4.8       | 16. sh7wbapp/dep2-1     | * | 5623.0                | 2649.0 | 4640.0 | 2649.0 | * | 983. 270. AG  | 930.     | 22.1   | .0   | 44.0 |   |
| .43       | 17. sh7wbapp/dep2-1 que | * | 4683.0                | 2649.0 | 4777.8 | 2649.0 | * | 95. 90. AG    | 398.     | 100.0  | .0   | 24.0 |   |
| 4.8       | 18. sh7wbdep1-1         | * | 4640.0                | 2625.0 | 4131.0 | 2625.0 | * | 509. 270. AG  | 845.     | 22.1   | .0   | 44.0 |   |
|           | 19. sh7wbdep2-1         | * | 4640.0                | 2649.0 | 4131.0 | 2649.0 | * | 509. 270. AG  | 845.     | 22.1   | .0   | 44.0 |   |
| .63       | 20. sh7wbleftturn       | * | 4683.0                | 2601.0 | 4752.2 | 2601.0 | * | 69. 90. AG    | 636.     | 100.0  | .0   | 24.0 |   |
| 3.5       | 21. pk1otsbapp          | * | 4613.0                | 3598.0 | 4613.0 | 2598.0 | * | 1000. 180. AG | 890.     | 22.6   | .0   | 44.0 |   |
| .02       | 22. pk1otsbapp que      | * | 4613.0                | 2671.0 | 4613.0 | 2674.9 | * | 4. 360. AG    | 503.     | 100.0  | .0   | 24.0 |   |
| .2        | 23. pk1otsbdep          | * | 4622.0                | 2598.0 | 4622.0 | 1598.0 | * | 1000. 180. AG | 460.     | 22.6   | .0   | 32.0 |   |
| 1.15      | 24. pk1otsbleftturn     | * | 4631.0                | 2691.0 | 4631.0 | 3788.2 | * | 1097. 360. AG | 252.     | 100.0  | .0   | 12.0 |   |
| 55.7      | 25. pk1otnbapp          | * | 4658.0                | 1598.0 | 4658.0 | 2598.0 | * | 1000. 360. AG | 490.     | 22.5   | .0   | 32.0 |   |
| .09       | 26. pk1otnbapp que      | * | 4658.0                | 2524.0 | 4658.0 | 2514.2 | * | 10. 180. AG   | 315.     | 100.0  | .0   | 12.0 |   |
| .5        | 27. pk1otnbdep          | * | 4661.0                | 2598.0 | 4661.0 | 3598.0 | * | 1000. 360. AG | 715.     | 22.5   | .0   | 44.0 |   |
| .60       | 28. pk1otnbleftturn     | * | 4646.0                | 2524.0 | 4646.0 | 2441.7 | * | 82. 180. AG   | 301.     | 100.0  | .0   | 12.0 |   |
| 4.2       | 29. i25sbrampapp1       | * | 5896.9                | 3596.9 | 5540.1 | 2935.4 | * | 752. 208. AG  | 971.     | 22.6   | .0   | 44.0 |   |
|           | 30. i25sbrampapp2       | * | 5540.1                | 2935.4 | 5612.0 | 2598.0 | * | 345. 168. AG  | 971.     | 22.6   | .0   | 44.0 |   |
|           | 31. i25sbrampdep1       | * | 5612.0                | 2598.0 | 5799.6 | 2374.3 | * | 292. 140. AG  | 961.     | 22.6   | .0   | 44.0 |   |
|           | 32. i25sbrampdep2       | * | 5799.6                | 2374.3 | 5681.8 | 1596.9 | * | 786. 189. AG  | 961.     | 22.6   | .0   | 44.0 |   |
| 1.33      | 33. i25sbrampleftturn   | * | 5609.0                | 2671.0 | 5157.3 | 5094.5 | * | 2465. 349. AG | 220.     | 100.0  | .0   | 12.0 |   |
| 125.2     |                         |   |                       |        |        |        |   |               |          |        |      |      |   |

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ADDITIONAL QUEUE LINK PARAMETERS

| LINK DESCRIPTION | * | CYCLE LENGTH | RED TIME | CLEARANCE LOST TIME | APPROACH VOL | SATURATION FLOW RATE | IDLE EM FAC | SIGNAL TYPE | ARRIVAL RATE |
|------------------|---|--------------|----------|---------------------|--------------|----------------------|-------------|-------------|--------------|
|------------------|---|--------------|----------|---------------------|--------------|----------------------|-------------|-------------|--------------|

|                         | * | (SEC) | (SEC) | sh7ph1v2.out<br>(SEC) | (VPH) | (VPH) | (gm/hr) |   |   |
|-------------------------|---|-------|-------|-----------------------|-------|-------|---------|---|---|
| 2. sh7ebapp1-1 que      | * | 110   | 51    | 2.0                   | 1088  | 1600  | 143.34  | 1 | 3 |
| 4. sh7ebapp2-1 que      | * | 110   | 51    | 2.0                   | 1088  | 1600  | 143.34  | 1 | 3 |
| 6. sh7ebapp/dep1-1 que  | * | 110   | 48    | 2.0                   | 1040  | 1600  | 143.34  | 1 | 3 |
| 8. sh7ebapp/dep2-1 que  | * | 110   | 48    | 2.0                   | 1040  | 1600  | 143.34  | 1 | 3 |
| 11. sh7eblftturn        | * | 110   | 91    | 2.0                   | 325   | 1600  | 143.34  | 1 | 3 |
| 13. sh7wbapp1-1 que     | * | 110   | 48    | 2.0                   | 1765  | 1600  | 143.34  | 1 | 3 |
| 15. sh7wbapp/dep1-1 que | * | 110   | 57    | 2.0                   | 608   | 1600  | 143.34  | 1 | 3 |
| 17. sh7wbapp/dep2-1 que | * | 110   | 57    | 2.0                   | 608   | 1600  | 143.34  | 1 | 3 |
| 20. sh7wblftturn        | * | 110   | 91    | 2.0                   | 275   | 1600  | 143.34  | 1 | 3 |
| 22. pk1lotsbapp que     | * | 110   | 72    | 2.0                   | 20    | 1600  | 143.34  | 1 | 3 |
| 24. pk1lotsbleftturn    | * | 110   | 72    | 2.0                   | 570   | 1600  | 143.34  | 1 | 3 |
| 26. pk1lotnbapp que     | * | 110   | 90    | 2.0                   | 20    | 1600  | 143.34  | 1 | 3 |
| 28. pk1lotnbleftturn    | * | 110   | 86    | 2.0                   | 175   | 1600  | 143.34  | 1 | 3 |
| 33. i25sbramplftturn    | * | 110   | 63    | 2.0                   | 830   | 1600  | 143.34  | 1 | 3 |

RECEPTOR LOCATIONS

| RECEPTOR        | * | COORDINATES (FT) |        |     | * |
|-----------------|---|------------------|--------|-----|---|
|                 | * | X                | Y      | Z   | * |
| 1. Receptor 1   | * | 4476.0           | 2514.0 | 5.0 | * |
| 2. Receptor 2   | * | 4516.0           | 2514.0 | 5.0 | * |
| 3. Receptor 3   | * | 4556.0           | 2514.0 | 5.0 | * |
| 4. Receptor 4   | * | 4596.0           | 2514.0 | 5.0 | * |
| 5. Receptor 5   | * | 4596.0           | 2474.0 | 5.0 | * |
| 6. Receptor 6   | * | 4596.0           | 2434.0 | 5.0 | * |
| 7. Receptor 7   | * | 4596.0           | 2394.0 | 5.0 | * |
| 8. Receptor 8   | * | 4684.0           | 2394.0 | 5.0 | * |
| 9. Receptor 9   | * | 4684.0           | 2434.0 | 5.0 | * |
| 10. Receptor 10 | * | 4684.0           | 2474.0 | 5.0 | * |
| 11. Receptor 11 | * | 4684.0           | 2514.0 | 5.0 | * |
| 12. Receptor 12 | * | 4724.0           | 2514.0 | 5.0 | * |
| 13. Receptor 13 | * | 4764.0           | 2514.0 | 5.0 | * |
| 14. Receptor 14 | * | 4804.0           | 2514.0 | 5.0 | * |
| 15. Receptor 15 | * | 5529.0           | 2514.0 | 5.0 | * |
| 16. Receptor 16 | * | 5569.0           | 2514.0 | 5.0 | * |
| 17. Receptor 17 | * | 5609.0           | 2514.0 | 5.0 | * |
| 18. Receptor 18 | * | 5649.0           | 2514.0 | 5.0 | * |
| 19. Receptor 19 | * | 5680.0           | 2474.0 | 5.0 | * |
| 20. Receptor 20 | * | 5712.0           | 2434.0 | 5.0 | * |
| 21. Receptor 21 | * | 5748.0           | 2394.0 | 5.0 | * |
| 22. Receptor 22 | * | 5816.0           | 2394.0 | 5.0 | * |
| 23. Receptor 23 | * | 5787.0           | 2434.0 | 5.0 | * |
| 24. Receptor 24 | * | 5748.0           | 2474.0 | 5.0 | * |
| 25. Receptor 25 | * | 5716.0           | 2514.0 | 5.0 | * |
| 26. Receptor 26 | * | 5756.0           | 2514.0 | 5.0 | * |
| 27. Receptor 27 | * | 5796.0           | 2514.0 | 5.0 | * |
| 28. Receptor 28 | * | 5836.0           | 2514.0 | 5.0 | * |
| 29. Receptor 29 | * | 5760.0           | 2673.0 | 5.0 | * |
| 30. Receptor 30 | * | 5720.0           | 2673.0 | 5.0 | * |
| 31. Receptor 31 | * | 5680.0           | 2673.0 | 5.0 | * |

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PAGE

JOB: I25SH7withparkinglotPMphaseI

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RECEPTOR LOCATIONS

| RECEPTOR        | * | COORDINATES (FT) |        |     | * |
|-----------------|---|------------------|--------|-----|---|
|                 | * | X                | Y      | Z   | * |
| 32. Receptor 32 | * | 5640.0           | 2673.0 | 5.0 | * |
| 33. Receptor 33 | * | 5631.0           | 2713.0 | 5.0 | * |
| 34. Receptor 34 | * | 5622.0           | 2753.0 | 5.0 | * |
| 35. Receptor 35 | * | 5614.0           | 2793.0 | 5.0 | * |
| 36. Receptor 36 | * | 5535.0           | 2801.0 | 5.0 | * |
| 37. Receptor 37 | * | 5542.0           | 2761.0 | 5.0 | * |
| 38. Receptor 38 | * | 5550.0           | 2721.0 | 5.0 | * |
| 39. Receptor 39 | * | 5560.0           | 2681.0 | 5.0 | * |
| 40. Receptor 40 | * | 5520.0           | 2681.0 | 5.0 | * |
| 41. Receptor 41 | * | 5480.0           | 2681.0 | 5.0 | * |
| 42. Receptor 42 | * | 5440.0           | 2681.0 | 5.0 | * |
| 43. Receptor 43 | * | 4813.0           | 2681.0 | 5.0 | * |
| 44. Receptor 44 | * | 4773.0           | 2681.0 | 5.0 | * |
| 45. Receptor 45 | * | 4733.0           | 2681.0 | 5.0 | * |
| 46. Receptor 46 | * | 4693.0           | 2681.0 | 5.0 | * |

|              |    |   |        |        |     |   |
|--------------|----|---|--------|--------|-----|---|
| 47. Receptor | 47 | * | 4693.0 | 2721.0 | 5.0 | * |
| 48. Receptor | 48 | * | 4693.0 | 2761.0 | 5.0 | * |
| 49. Receptor | 49 | * | 4693.0 | 2801.0 | 5.0 | * |
| 50. Receptor | 50 | * | 4581.0 | 2801.0 | 5.0 | * |
| 51. Receptor | 51 | * | 4581.0 | 2761.0 | 5.0 | * |
| 52. Receptor | 52 | * | 4581.0 | 2721.0 | 5.0 | * |
| 53. Receptor | 53 | * | 4581.0 | 2681.0 | 5.0 | * |
| 54. Receptor | 54 | * | 4541.0 | 2681.0 | 5.0 | * |
| 55. Receptor | 55 | * | 4501.0 | 2681.0 | 5.0 | * |
| 56. Receptor | 56 | * | 4461.0 | 2681.0 | 5.0 | * |

□  
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JOB: I25SH7withparkinglotPMphaseI

RUN: I25SH7withparkinglotPMphaseI

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
ANGLE \* (PPM)  
(DEGR)\* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18  
REC19 REC20

| WIND ANGLE (DEGR) | REC1 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 | REC19 | REC20 |
|-------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | 3.6  | 4.3  | 4.7  | 3.9  | 3.1  | 2.4  | 2.0  | 2.2  | 2.4  | 3.3   | 4.1   | 4.1   | 3.2   | 2.7   | 4.2   | 4.3   | 4.0   | 3.7   |       |       |
| 2.9               | 2.6  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 10.               | 4.1  | 4.7  | 4.9  | 4.0  | 3.1  | 2.7  | 2.8  | 1.9  | 2.4  | 2.9   | 3.8   | 3.7   | 2.6   | 2.2   | 4.3   | 4.4   | 3.6   | 3.7   |       |       |
| 2.6               | 2.3  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 20.               | 4.6  | 4.9  | 4.5  | 3.0  | 2.7  | 2.6  | 2.4  | 1.6  | 2.1  | 2.6   | 3.8   | 3.2   | 2.5   | 2.3   | 4.3   | 4.2   | 3.2   | 3.5   |       |       |
| 2.5               | 2.1  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 30.               | 4.7  | 4.9  | 4.3  | 3.3  | 3.1  | 2.8  | 2.5  | 1.5  | 1.7  | 2.2   | 3.4   | 2.8   | 2.3   | 2.3   | 4.1   | 4.0   | 3.1   | 3.5   |       |       |
| 2.3               | 1.9  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 40.               | 4.9  | 4.6  | 4.0  | 3.6  | 3.2  | 2.7  | 2.4  | 1.2  | 1.4  | 1.9   | 3.3   | 2.8   | 2.6   | 2.6   | 4.3   | 4.1   | 3.2   | 3.5   |       |       |
| 2.4               | 1.9  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 50.               | 5.0  | 4.6  | 4.1  | 4.0  | 3.2  | 2.6  | 2.1  | 1.4  | 1.5  | 1.9   | 3.2   | 2.8   | 2.8   | 2.8   | 4.4   | 3.9   | 3.4   | 3.6   |       |       |
| 2.5               | 1.9  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 60.               | 5.1  | 4.9  | 4.2  | 4.2  | 3.3  | 2.5  | 1.8  | 1.2  | 1.4  | 1.9   | 3.1   | 3.0   | 2.9   | 3.0   | 4.3   | 3.8   | 3.4   | 3.5   |       |       |
| 2.3               | 1.8  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 70.               | 4.8  | 4.2  | 4.0  | 3.9  | 2.9  | 2.3  | 1.7  | 1.2  | 1.5  | 2.0   | 3.0   | 3.0   | 3.0   | 3.2   | 4.0   | 3.4   | 3.3   | 3.4   |       |       |
| 2.0               | 1.5  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 80.               | 4.1  | 3.9  | 3.7  | 4.1  | 2.8  | 2.1  | 1.6  | 1.0  | 1.2  | 1.8   | 3.2   | 3.2   | 3.2   | 3.2   | 3.1   | 2.8   | 2.7   | 2.9   |       |       |
| 1.5               | 1.1  |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 90.               | 2.9  | 2.8  | 2.6  | 3.1  | 2.1  | 1.4  | .9   | .5   | .7   | 1.2   | 2.2   | 2.2   | 2.2   | 2.1   | 1.9   | 1.9   | 1.9   | 2.0   |       |       |
| 1.0               | .8   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 100.              | 1.1  | 1.1  | 1.2  | 1.7  | 1.1  | .6   | .5   | .0   | .1   | .2    | .7    | .7    | .7    | .7    | .9    | .9    | 1.0   | 1.4   |       |       |
| .9                | .8   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 110.              | .5   | .5   | .7   | 1.0  | .8   | .6   | .6   | .1   | .1   | .1    | .3    | .3    | .2    | .2    | .3    | .4    | .6    | 1.0   |       |       |
| .9                | .9   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 120.              | .3   | .3   | .5   | .9   | .7   | .5   | .5   | .0   | .0   | .1    | .1    | .1    | .1    | .1    | .3    | .3    | .5    | 1.0   |       |       |
| 1.0               | .8   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 130.              | .2   | .3   | .4   | .9   | .7   | .5   | .5   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .2    | .2    | .4    | 1.0   |       |       |
| .8                | .8   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 140.              | .2   | .2   | .5   | .9   | .7   | .6   | .6   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .2    | .2    | .3    | .8    |       |       |
| .7                | .6   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 150.              | .2   | .3   | .4   | .8   | .6   | .6   | .6   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .2    | .2    | .2    | .5    |       |       |
| .5                | .4   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 160.              | .2   | .3   | .4   | .9   | .8   | .7   | .7   | .0   | .0   | .1    | .1    | .0    | .0    | .0    | .2    | .2    | .2    | .3    |       |       |
| .4                | .5   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 170.              | .2   | .2   | .3   | .7   | .7   | .7   | .7   | .2   | .2   | .2    | .2    | .0    | .0    | .0    | .1    | .1    | .2    | .3    |       |       |
| .3                | .4   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 180.              | .0   | .1   | .2   | .4   | .4   | .4   | .4   | .4   | .5   | .5    | .5    | .2    | .1    | .0    | .0    | .1    | .1    | .1    |       |       |
| .2                | .3   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 190.              | .0   | .0   | .0   | .3   | .2   | .2   | .2   | .7   | .7   | .7    | .8    | .3    | .2    | .2    | .0    | .0    | .0    | .0    |       |       |
| .1                | .1   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 200.              | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .7   | .7   | .7    | .9    | .4    | .3    | .2    | .0    | .0    | .0    | .0    |       |       |
| .0                | .0   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 210.              | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .6   | .6   | .7    | .9    | .4    | .3    | .2    | .0    | .0    | .0    | .0    |       |       |
| .0                | .0   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 220.              | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .6   | .6   | .8    | 1.1   | .4    | .3    | .2    | .0    | .0    | .0    | .0    |       |       |
| .0                | .0   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 230.              | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .6   | .6   | .9    | 1.1   | .5    | .3    | .2    | .0    | .0    | .0    | .0    |       |       |
| .0                | .0   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 240.              | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .5   | .5   | .9    | 1.0   | .6    | .3    | .3    | .0    | .0    | .0    | .0    |       |       |
| .0                | .0   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |

|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 250. | *   | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .5  | .5  | .9  | 1.2 | .7  | .6  | .5  | .2  | .2  | .2  | .1  |
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 260. | *   | .4  | .4  | .5  | .6  | .1  | .0  | .0  | .5  | .5  | 1.1 | 1.8 | 1.3 | 1.2 | .9  | .7  | .8  | .8  | .8  |
| .2   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 270. | *   | 1.0 | 1.2 | 1.3 | 1.7 | .3  | .1  | .0  | .5  | .8  | 1.6 | 3.0 | 2.6 | 2.4 | 2.2 | 2.2 | 2.3 | 2.5 | 2.5 |
| 1.2  | .7  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 280. | *   | 1.8 | 2.3 | 2.6 | 2.8 | 1.0 | .4  | .2  | .8  | 1.4 | 2.3 | 4.3 | 3.6 | 3.3 | 3.3 | 3.3 | 3.6 | 3.9 | 3.8 |
| 2.1  | 1.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 290. | *   | 2.3 | 3.0 | 3.5 | 3.9 | 1.8 | 1.0 | .5  | 1.3 | 2.0 | 3.0 | 4.8 | 4.1 | 3.8 | 3.7 | 3.6 | 4.0 | 4.3 | 4.2 |
| 2.4  | 1.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 300. | *   | 2.7 | 3.5 | 3.9 | 4.3 | 2.1 | 1.4 | .9  | 1.7 | 2.7 | 3.4 | 4.3 | 3.6 | 3.7 | 3.7 | 4.0 | 4.3 | 4.4 | 4.0 |
| 2.9  | 2.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 310. | *   | 2.9 | 3.6 | 3.9 | 4.3 | 2.5 | 1.7 | 1.1 | 2.2 | 3.1 | 3.5 | 3.9 | 3.4 | 3.4 | 3.9 | 3.8 | 4.2 | 4.2 | 3.6 |
| 2.5  | 2.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 320. | *   | 3.1 | 3.6 | 4.0 | 4.3 | 2.7 | 1.9 | 1.4 | 2.3 | 3.1 | 3.2 | 3.2 | 3.1 | 3.7 | 3.9 | 3.7 | 3.9 | 3.8 | 3.4 |
| 2.5  | 2.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 330. | *   | 3.2 | 3.6 | 4.0 | 4.1 | 2.7 | 2.2 | 1.5 | 2.4 | 2.6 | 3.0 | 3.4 | 3.4 | 3.9 | 3.8 | 3.5 | 3.6 | 3.4 | 3.5 |
| 2.9  | 2.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 340. | *   | 3.2 | 3.6 | 4.1 | 3.8 | 2.6 | 2.2 | 1.7 | 2.4 | 2.6 | 3.0 | 3.4 | 3.8 | 4.3 | 3.6 | 3.7 | 3.7 | 3.7 | 4.2 |
| 3.1  | 2.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 350. | *   | 3.3 | 3.8 | 4.4 | 4.0 | 2.9 | 2.3 | 2.0 | 2.8 | 2.9 | 3.3 | 4.0 | 4.5 | 3.9 | 3.2 | 3.9 | 4.2 | 3.9 | 3.9 |
| 3.1  | 2.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 360. | *   | 3.6 | 4.3 | 4.7 | 3.9 | 3.1 | 2.4 | 2.0 | 2.2 | 2.4 | 3.3 | 4.1 | 4.1 | 3.2 | 2.7 | 4.2 | 4.3 | 4.0 | 3.7 |
| 2.9  | 2.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 5.1 | 4.9 | 4.9 | 4.3 | 3.3 | 2.8 | 2.8 | 2.8 | 3.1 | 3.5 | 4.8 | 4.5 | 4.3 | 3.9 | 4.4 | 4.4 | 4.4 | 4.2 |
| 3.1   | 2.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | *   | 60  | 20  | 10  | 300 | 60  | 30  | 10  | 350 | 310 | 310 | 290 | 350 | 340 | 320 | 50  | 10  | 300 | 340 |
| 340   | 340 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

□ PAGE 5

JOB: I25SH7withparkinglotPMphaseI RUN: I25SH7withparkinglotPMphaseI

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

|         |   |               |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---------|---|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| WIND    | * | CONCENTRATION |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| ANGLE   | * | (PPM)         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| (DEGR.) | * | REC21         | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 |
|         | * | REC39         | REC40 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

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|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0.   | *   | 2.2 | 1.2 | 1.5 | 2.1 | 2.9 | 2.7 | 2.5 | 2.3 | .1  | .3  | .3  | .5  | .5  | .6  | .5  | 1.2 | 1.3 | 1.3 |
| 1.4  | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 10.  | *   | 2.0 | 1.0 | 1.3 | 1.8 | 2.8 | 2.6 | 2.3 | 2.1 | .1  | .1  | .1  | .2  | .3  | .3  | .4  | 1.5 | 1.4 | 1.5 |
| 1.5  | .8  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 20.  | *   | 1.7 | .9  | 1.1 | 1.6 | 2.6 | 2.4 | 2.2 | 2.1 | .0  | .0  | .1  | .1  | .1  | .2  | .2  | 1.5 | 1.4 | 1.4 |
| 1.4  | .9  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30.  | *   | 1.6 | .9  | 1.2 | 1.5 | 2.6 | 2.3 | 2.2 | 2.2 | .0  | .0  | .0  | .0  | .0  | .1  | .1  | 1.4 | 1.3 | 1.2 |
| 1.2  | .8  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 40.  | *   | 1.7 | 1.0 | 1.2 | 1.5 | 2.5 | 2.3 | 2.3 | 2.2 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 1.1 | 1.0 | 1.0 |
| 1.0  | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 50.  | *   | 1.6 | .8  | 1.1 | 1.6 | 2.6 | 2.5 | 2.5 | 2.4 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .9  | .9  | .9  |
| .9   | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 60.  | *   | 1.5 | .6  | 1.0 | 1.6 | 2.6 | 2.5 | 2.5 | 2.5 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .9  | .9  | .9  |
| .9   | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 70.  | *   | 1.1 | .2  | .6  | 1.3 | 2.5 | 2.5 | 2.4 | 2.2 | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .9  | .9  | .9  |
| 1.0  | .7  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 80.  | *   | .9  | .0  | .2  | .8  | 1.9 | 1.9 | 1.8 | 1.6 | .4  | .4  | .5  | .5  | .1  | .0  | .0  | .9  | .9  | 1.0 |
| 1.3  | 1.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 90.  | *   | .7  | .0  | .0  | .3  | 1.2 | 1.2 | .9  | .9  | 1.0 | 1.1 | 1.5 | 1.6 | .4  | .1  | .0  | 1.0 | 1.0 | 1.4 |
| 2.2  | 1.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 100. | *   | .7  | .0  | .0  | .1  | .4  | .4  | .4  | .3  | 1.8 | 2.2 | 2.6 | 2.8 | 1.1 | .5  | .2  | 1.2 | 1.5 | 2.1 |
| 3.2  | 2.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 110. | *   | .8  | .0  | .0  | .1  | .2  | .1  | .1  | .1  | 2.4 | 3.1 | 3.4 | 3.6 | 1.7 | .9  | .5  | 1.8 | 2.0 | 2.6 |
| 3.7  | 3.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 120. | *   | .8  | .0  | .0  | .1  | .1  | .0  | .0  | .0  | 2.7 | 3.3 | 3.7 | 3.8 | 2.1 | 1.4 | 1.1 | 2.1 | 2.6 | 3.0 |
| 3.5  | 3.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 130. | *   | .8  | .0  | .1  | .3  | .3  | .0  | .0  | .0  | 2.9 | 3.4 | 3.7 | 3.7 | 2.3 | 1.8 | 1.3 | 2.3 | 2.7 | 2.9 |
| 3.5  | 3.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

|      |     | sh7ph1v2.out |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 140. | *   | .7           | .0  | .3  | .6  | .7  | .0  | .0  | .0  | 3.0 | 3.4 | 3.4 | 3.4 | 2.3 | 1.9 | 1.4 | 2.4 | 2.6 | 2.8 |
| 3.2  | 3.0 |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 150. | *   | .6           | .0  | .5  | .9  | 1.0 | .2  | .0  | .0  | 3.1 | 3.3 | 3.5 | 3.5 | 2.4 | 1.8 | 1.5 | 2.5 | 2.3 | 2.5 |
| 3.1  | 2.8 |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 160. | *   | .6           | .2  | .8  | 1.2 | 1.2 | .5  | .1  | .0  | 3.2 | 3.3 | 3.5 | 3.5 | 2.4 | 1.8 | 1.6 | 2.1 | 2.2 | 2.3 |
| 2.8  | 2.6 |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 170. | *   | .6           | .5  | 1.2 | 1.4 | 1.2 | .8  | .4  | .1  | 3.5 | 3.6 | 3.7 | 3.1 | 2.4 | 2.3 | 2.0 | 1.7 | 2.0 | 2.2 |
| 2.5  | 2.6 |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 180. | *   | .5           | .9  | 1.3 | 1.2 | 1.1 | .9  | .6  | .3  | 3.6 | 3.7 | 3.6 | 3.0 | 2.5 | 2.4 | 2.1 | 1.4 | 1.7 | 2.1 |
| 2.5  | 2.6 |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 190. | *   | .3           | 1.2 | 1.4 | 1.1 | .9  | .8  | .7  | .5  | 3.6 | 3.5 | 3.5 | 2.8 | 2.4 | 2.3 | 2.3 | 1.3 | 1.5 | 1.9 |
| 2.5  | 2.5 |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 200. | *   | .1           | 1.3 | 1.0 | .8  | .7  | .6  | .5  | .6  | 3.2 | 3.3 | 3.3 | 3.1 | 2.5 | 2.5 | 2.5 | 1.2 | 1.3 | 1.8 |
| 2.4  | 2.2 |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 210. | *   | .0           | 1.0 | .7  | .7  | .7  | .5  | .4  | .4  | 3.4 | 3.6 | 3.6 | 3.1 | 2.8 | 2.6 | 2.3 | 1.0 | 1.3 | 1.6 |
| 2.4  | 2.2 |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 220. | *   | .0           | 1.0 | .7  | .7  | .7  | .4  | .3  | .3  | 3.7 | 3.8 | 3.8 | 3.1 | 2.8 | 2.5 | 2.3 | 1.0 | 1.2 | 1.6 |
| 2.4  | 2.2 |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 230. | *   | .0           | .9  | .7  | .7  | .7  | .4  | .3  | .3  | 4.1 | 4.3 | 4.0 | 3.3 | 2.9 | 2.4 | 2.2 | 1.0 | 1.3 | 1.5 |
| 2.3  | 2.2 |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 240. | *   | .0           | .9  | .7  | .7  | .7  | .4  | .3  | .3  | 4.4 | 4.2 | 3.8 | 3.4 | 2.8 | 2.2 | 2.0 | 1.1 | 1.3 | 1.6 |
| 2.3  | 2.3 |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 250. | *   | .0           | .7  | .6  | .7  | .8  | .6  | .4  | .4  | 4.4 | 3.8 | 3.5 | 3.4 | 2.7 | 2.2 | 1.9 | 1.1 | 1.2 | 1.7 |
| 2.6  | 2.5 |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 260. | *   | .0           | .7  | .8  | 1.0 | 1.5 | 1.3 | 1.0 | 1.2 | 3.8 | 3.6 | 3.4 | 3.3 | 2.5 | 2.0 | 1.8 | .7  | 1.1 | 1.4 |
| 2.3  | 2.3 |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 270. | *   | .3           | 1.1 | 1.4 | 2.0 | 3.2 | 2.9 | 2.8 | 2.6 | 2.5 | 2.4 | 2.4 | 2.7 | 1.9 | 1.4 | 1.2 | .3  | .4  | .8  |
| 1.5  | 1.4 |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 280. | *   | 1.0          | 1.8 | 2.3 | 3.0 | 4.1 | 3.7 | 3.5 | 3.3 | 1.2 | 1.1 | 1.4 | 1.7 | 1.2 | 1.0 | 1.1 | .2  | .2  | .2  |
| .6   | .6  |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 290. | *   | 1.5          | 2.4 | 2.6 | 3.3 | 4.4 | 3.8 | 3.8 | 3.4 | .6  | .7  | .8  | 1.4 | 1.2 | 1.2 | 1.3 | .2  | .2  | .2  |
| .3   | .3  |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 300. | *   | 1.7          | 2.4 | 2.7 | 3.4 | 4.2 | 3.5 | 3.5 | 3.4 | .4  | .6  | .8  | 1.2 | 1.3 | 1.3 | 1.2 | .2  | .2  | .2  |
| .2   | .3  |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 310. | *   | 1.9          | 2.5 | 2.6 | 3.0 | 3.7 | 3.3 | 3.3 | 3.3 | .4  | .5  | .7  | 1.1 | 1.1 | 1.1 | 1.1 | .1  | .1  | .1  |
| .1   | .1  |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 320. | *   | 1.9          | 2.4 | 2.3 | 2.8 | 3.4 | 3.2 | 3.1 | 3.1 | .4  | .4  | .7  | 1.2 | 1.2 | 1.2 | 1.3 | .0  | .0  | .0  |
| .0   | .0  |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 330. | *   | 2.4          | 1.9 | 2.2 | 2.5 | 3.4 | 3.1 | 3.2 | 3.1 | .4  | .5  | .8  | 1.2 | 1.3 | 1.3 | 1.3 | .0  | .0  | .0  |
| .1   | .0  |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 340. | *   | 2.6          | 1.8 | 2.0 | 2.6 | 3.3 | 3.2 | 3.0 | 2.7 | .3  | .4  | .6  | 1.1 | 1.2 | 1.2 | 1.2 | .3  | .3  | .4  |
| .4   | .1  |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 350. | *   | 2.5          | 1.4 | 1.7 | 2.4 | 3.1 | 3.0 | 2.8 | 2.5 | .3  | .4  | .5  | .9  | .9  | .9  | .9  | .8  | .8  | .9  |
| 1.0  | .3  |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 360. | *   | 2.2          | 1.2 | 1.5 | 2.1 | 2.9 | 2.7 | 2.5 | 2.3 | .1  | .3  | .3  | .5  | .5  | .6  | .5  | 1.2 | 1.3 | 1.3 |
| 1.4  | .6  |              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

|       |     | -----* |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 2.6    | 2.5 | 2.7 | 3.4 | 4.4 | 3.8 | 3.8 | 3.4 | 4.4 | 4.3 | 4.0 | 3.8 | 2.9 | 2.6 | 2.5 | 2.5 | 2.7 | 3.0 |
| 3.7   | 3.4 |        |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | *   | 340    | 310 | 300 | 300 | 290 | 290 | 290 | 290 | 240 | 230 | 230 | 120 | 230 | 210 | 200 | 150 | 130 | 120 |
| 110   | 110 |        |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

□ PAGE 6

JOB: I25SH7withparkinglotPMphaseI RUN: I25SH7withparkinglotPMphaseI

MODEL RESULTS  
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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

| WIND ANGLE (DEGR.) | * CONCENTRATION (PPM) | REC41 | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
|--------------------|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                 | *                     | .4    | .2    | .2    | .3    | .4    | 1.0   | 1.0   | 1.0   | 1.0   | 1.1   | 1.1   | 1.1   | 1.1   | .5    | .3    | .2    |
| 10.                | *                     | .6    | .4    | .0    | .0    | .1    | .4    | .4    | .4    | .4    | 1.7   | 1.7   | 1.7   | 1.7   | .9    | .6    | .5    |
| 20.                | *                     | .7    | .5    | .1    | .1    | .1    | .2    | .2    | .2    | .2    | 1.7   | 1.7   | 1.7   | 1.7   | 1.0   | .8    | .5    |
| 30.                | *                     | .7    | .6    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | 1.6   | 1.6   | 1.6   | 1.6   | 1.0   | .8    | .7    |
| 40.                | *                     | .6    | .5    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | 1.5   | 1.5   | 1.5   | 1.5   | .9    | .7    | .6    |
| 50.                | *                     | .5    | .4    | .2    | .2    | .1    | .1    | .1    | .1    | .1    | 1.4   | 1.4   | 1.3   | 1.3   | .9    | .7    | .5    |
| 60.                | *                     | .5    | .3    | .2    | .2    | .2    | .1    | .1    | .1    | .2    | 1.3   | 1.4   | 1.4   | 1.3   | .9    | .8    | .5    |
| 70.                | *                     | .6    | .4    | .3    | .3    | .3    | .2    | .2    | .2    | .2    | 1.3   | 1.3   | 1.3   | 1.3   | 1.0   | .9    | .5    |
| 80.                | *                     | .8    | .7    | .6    | .7    | .6    | .6    | .1    | .0    | .0    | 1.2   | 1.2   | 1.4   | 1.8   | 1.3   | 1.2   | 1.0   |

|       |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 90.   | * | 1.9 | 1.7 | 1.7 | 1.5 | 1.6 | 1.9 | .9  | .6  | .3  | 1.6 | 1.8 | 2.2 | 3.2 | 3.0 | 2.8 | 2.5 |
| 100.  | * | 2.7 | 2.5 | 2.4 | 2.4 | 2.5 | 3.0 | 1.5 | 1.2 | .8  | 2.2 | 2.4 | 3.1 | 4.4 | 4.1 | 3.6 | 3.1 |
| 110.  | * | 3.0 | 3.0 | 2.5 | 2.5 | 2.7 | 3.5 | 1.8 | 1.3 | 1.2 | 2.3 | 2.6 | 3.5 | 4.4 | 3.8 | 3.2 | 3.2 |
| 120.  | * | 3.0 | 3.2 | 2.4 | 2.4 | 3.0 | 3.7 | 1.9 | 1.3 | 1.1 | 2.6 | 2.9 | 3.4 | 4.0 | 3.4 | 3.3 | 3.2 |
| 130.  | * | 2.8 | 3.0 | 2.3 | 2.3 | 3.1 | 3.9 | 1.9 | 1.4 | 1.0 | 2.7 | 3.1 | 3.1 | 3.7 | 3.1 | 3.1 | 3.0 |
| 140.  | * | 2.8 | 2.9 | 2.1 | 2.1 | 3.3 | 4.1 | 2.4 | 1.5 | 1.1 | 2.9 | 2.9 | 2.8 | 3.2 | 2.7 | 3.1 | 3.2 |
| 150.  | * | 2.6 | 2.6 | 1.9 | 2.0 | 3.4 | 4.2 | 2.6 | 1.7 | 1.4 | 2.6 | 2.8 | 2.9 | 3.1 | 2.8 | 3.3 | 3.1 |
| 160.  | * | 2.5 | 2.3 | 1.8 | 2.1 | 3.6 | 4.1 | 2.7 | 2.1 | 1.7 | 2.6 | 2.5 | 2.6 | 2.9 | 3.2 | 3.1 | 2.8 |
| 170.  | * | 2.6 | 2.4 | 1.9 | 2.6 | 4.0 | 4.2 | 3.0 | 2.3 | 1.8 | 2.4 | 2.5 | 2.7 | 3.2 | 3.2 | 3.1 | 2.6 |
| 180.  | * | 2.4 | 2.1 | 1.9 | 3.1 | 4.4 | 4.2 | 3.0 | 2.4 | 2.0 | 1.8 | 2.0 | 2.5 | 3.0 | 3.3 | 2.8 | 2.1 |
| 190.  | * | 2.2 | 1.9 | 2.2 | 3.7 | 4.5 | 4.1 | 2.9 | 2.5 | 2.2 | 1.8 | 1.9 | 2.4 | 3.1 | 3.0 | 2.4 | 2.0 |
| 200.  | * | 2.0 | 1.8 | 2.3 | 4.2 | 4.5 | 3.4 | 2.9 | 2.7 | 2.4 | 1.4 | 1.6 | 2.3 | 3.0 | 2.8 | 2.2 | 1.8 |
| 210.  | * | 1.9 | 1.9 | 3.0 | 4.6 | 4.3 | 3.6 | 2.7 | 2.6 | 2.5 | 1.1 | 1.6 | 2.1 | 3.2 | 2.6 | 2.1 | 1.8 |
| 220.  | * | 2.1 | 2.1 | 3.5 | 4.6 | 4.4 | 3.4 | 2.8 | 2.8 | 2.5 | .9  | 1.4 | 1.7 | 2.9 | 2.3 | 1.9 | 1.8 |
| 230.  | * | 2.2 | 2.1 | 4.5 | 4.7 | 4.3 | 3.7 | 3.0 | 2.6 | 2.3 | .8  | 1.1 | 1.7 | 2.6 | 2.1 | 1.9 | 1.9 |
| 240.  | * | 2.3 | 2.3 | 4.5 | 4.5 | 3.9 | 3.8 | 2.9 | 2.4 | 1.9 | .7  | .9  | 1.3 | 2.3 | 2.0 | 1.9 | 1.9 |
| 250.  | * | 2.5 | 2.4 | 4.2 | 4.2 | 3.4 | 3.2 | 2.3 | 2.0 | 1.6 | .4  | .6  | 1.1 | 2.0 | 2.0 | 1.7 | 1.7 |
| 260.  | * | 2.3 | 2.3 | 3.5 | 3.0 | 2.8 | 2.7 | 1.9 | 1.6 | 1.3 | .1  | .3  | .7  | 1.4 | 1.4 | 1.3 | 1.2 |
| 270.  | * | 1.6 | 1.6 | 2.0 | 1.8 | 1.7 | 1.8 | 1.4 | 1.2 | 1.1 | .0  | .0  | .2  | .8  | .8  | .8  | .6  |
| 280.  | * | .6  | .7  | .9  | .9  | 1.1 | 1.3 | 1.1 | 1.1 | 1.1 | .0  | .0  | .0  | .3  | .3  | .3  | .2  |
| 290.  | * | .4  | .4  | .5  | .6  | .8  | 1.1 | 1.1 | 1.1 | 1.1 | .0  | .0  | .0  | .1  | .1  | .1  | .1  |
| 300.  | * | .3  | .3  | .6  | .6  | .8  | 1.1 | 1.1 | 1.1 | 1.1 | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 310.  | * | .2  | .2  | .6  | .6  | .8  | 1.1 | 1.1 | 1.1 | 1.1 | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 320.  | * | .0  | .0  | .6  | .6  | .9  | 1.4 | 1.4 | 1.4 | 1.4 | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 330.  | * | .0  | .0  | .6  | .7  | .9  | 1.4 | 1.4 | 1.4 | 1.4 | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 340.  | * | .0  | .0  | .6  | .7  | 1.0 | 1.5 | 1.5 | 1.5 | 1.5 | .1  | .1  | .1  | .1  | .0  | .0  | .0  |
| 350.  | * | .2  | .1  | .3  | .6  | .8  | 1.5 | 1.5 | 1.5 | 1.4 | .4  | .4  | .5  | .5  | .2  | .0  | .0  |
| 360.  | * | .4  | .2  | .2  | .3  | .4  | 1.0 | 1.0 | 1.0 | 1.0 | 1.1 | 1.1 | 1.1 | 1.1 | .5  | .3  | .2  |
| MAX   | * | 3.0 | 3.2 | 4.5 | 4.7 | 4.5 | 4.2 | 3.0 | 2.8 | 2.5 | 2.9 | 3.1 | 3.5 | 4.4 | 4.1 | 3.6 | 3.2 |
| DEGR. | * | 120 | 120 | 230 | 230 | 190 | 150 | 180 | 220 | 210 | 140 | 130 | 110 | 100 | 100 | 100 | 110 |

THE HIGHEST CONCENTRATION OF 5.10 PPM OCCURRED AT RECEPTOR REC1 .

PAGE

JOB: I25SH7withparkinglotPMphaseI

RUN: I25SH7withparkinglotPMphaseI

DATE : 11/22/10  
TIME : 12:40:59

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|         |        | * CO/LINK (PPM)   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|---------|--------|-------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|         |        | * ANGLE (DEGREES) |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|         |        | REC1              | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 |
| REC19   | REC20  | 60                | 20   | 10   | 300  | 60   | 30   | 10   | 350  | 310  | 310   | 290   | 350   | 340   | 320   | 50    | 10    | 300   | 340   |
| LINK #  | LINK # |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 340     | 340    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| *-----* |        |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .0      | 1 *    | .6                | .6   | .6   | .8   | .0   | .1   | .2   | .1   | .4   | .5    | .8    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0      | 2 *    | .5                | .6   | .5   | .6   | .0   | .0   | .1   | .0   | .3   | .3    | .4    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0      | 3 *    | 1.1               | .8   | .9   | 1.2  | .0   | .1   | .2   | .1   | .4   | .5    | .9    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0      | 4 *    | .9                | .9   | .8   | 1.0  | .0   | .0   | .1   | .0   | .3   | .2    | .4    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .1      | 5 *    | .2                | .0   | .0   | .0   | .6   | .3   | .1   | .2   | .0   | .0    | .0    | .7    | .7    | .7    | .6    | .7    | .9    | .3    |
| .0      | 6 *    | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .4    | .5    | .5    | .1    |
| .1      | 7 *    | .1                | .0   | .0   | .0   | .7   | .3   | .1   | .2   | .0   | .1    | .5    | 1.0   | 1.0   | 1.1   | 1.1   | 1.0   | 1.3   | .2    |
| .0      | 8 *    | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .8    | .8    | .9    | .0    |
| .4      | 9 *    | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .2    | .0    | .0    | .5    |
| .5      | 10 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .1    | .0    | .0    | .8    |
| .0      | 11 *   | .4                | .8   | .7   | .2   | .0   | .0   | .1   | .1   | .2   | .4    | .4    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .2      | 12 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .4    | .1    | .0    | .2    |
| .1      | 13 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .4    | .0    | .0    | .1    |
| .1      | 14 *   | .2                | .0   | .0   | .0   | .3   | .2   | .1   | .1   | .0   | .0    | .0    | .3    | .3    | .3    | .1    | .2    | .3    | .2    |
| .1      | .1     |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |

|    |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| .0 | 15 * | .1 | .0 | .0 | .0 | .1 | .2 | .1 | .1 | .0 | .0 | .3 | .4 | .3 | .0 | .0 | .0 | .0 |
| .1 | 16 * | .2 | .0 | .0 | .0 | .2 | .2 | .1 | .1 | .0 | .0 | .2 | .2 | .2 | .0 | .2 | .3 | .2 |
| .0 | 17 * | .1 | .0 | .0 | .0 | .1 | .1 | .1 | .1 | .0 | .0 | .3 | .3 | .2 | .0 | .0 | .0 | .0 |
| .0 | 18 * | .1 | .2 | .2 | .3 | .0 | .0 | .1 | .1 | .2 | .2 | .3 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 19 * | .1 | .2 | .2 | .2 | .0 | .0 | .1 | .1 | .2 | .2 | .2 | .0 | .0 | .1 | .0 | .0 | .0 |
| .0 | 20 * | .1 | .0 | .0 | .0 | .2 | .2 | .1 | .1 | .0 | .0 | .7 | .6 | .5 | .0 | .0 | .0 | .0 |
| .0 | 21 * | .1 | .4 | .5 | .0 | .0 | .0 | .3 | .3 | .0 | .0 | .3 | .3 | .2 | .0 | .0 | .1 | .0 |
| .0 | 22 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 23 * | .1 | .0 | .0 | .0 | .3 | .4 | .3 | .1 | .2 | .2 | .2 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 24 * | .0 | .2 | .3 | .0 | .0 | .0 | .2 | .2 | .0 | .0 | .3 | .2 | .1 | .0 | .0 | .1 | .0 |
| .0 | 25 * | .0 | .0 | .0 | .0 | .2 | .2 | .1 | .4 | .4 | .4 | .3 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 26 * | .0 | .0 | .0 | .0 | .1 | .0 | .0 | .0 | .0 | .1 | .2 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0 | 27 * | .1 | .2 | .2 | .0 | .0 | .1 | .2 | .2 | .0 | .0 | .4 | .3 | .2 | .0 | .0 | .0 | .0 |
| .0 | 28 * | .0 | .0 | .0 | .0 | .4 | .3 | .1 | .2 | .5 | .4 | .2 | .0 | .0 | .0 | .0 | .0 | .0 |
| .1 | 29 * | .1 | .0 | .0 | .0 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .2 | .0 | .1 |
| .3 | 30 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .1 | .4 | .0 | .5 |
| .8 | 31 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .2 | .1 | .0 | .7 |
| .0 | 32 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .3 | 33 * | .0 | .0 | .0 | .0 | .0 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .2 | .0 | .3 |

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JOB: I25SH7withparkinglotPMphaseI

RUN: I25SH7withparkinglotPMphaseI

DATE : 11/22/10  
TIME : 12:40:59

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |        | * CO/LINK (PPM)<br>* ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|--------|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |        | REC21                                | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 |
| REC39  | REC40  | 340                                  | 310   | 300   | 300   | 290   | 290   | 290   | 290   | 240   | 230   | 230   | 120   | 230   | 210   | 200   | 150   | 130   | 120   |
| LINK # | LINK # | -----*                               |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 1 *    | .0                                   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 2 *    | .0                                   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 3 *    | .0                                   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 4 *    | .0                                   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 5 *    | .0                                   | .2    | .4    | .4    | .7    | .5    | .4    | .3    | .4    | .4    | .5    | .0    | .4    | .3    | .3    | .1    | .0    | .0    |
| .0     | 6 *    | .0                                   | .1    | .2    | .2    | .3    | .2    | .2    | .1    | .2    | .2    | .3    | .0    | .2    | .2    | .2    | .0    | .0    | .0    |
| .0     | 7 *    | .0                                   | .2    | .3    | .4    | .6    | .4    | .3    | .2    | .4    | .4    | .5    | .0    | .4    | .3    | .3    | .1    | .0    | .0    |
| .0     | 8 *    | .0                                   | .1    | .2    | .2    | .3    | .2    | .1    | .1    | .2    | .2    | .3    | .0    | .1    | .2    | .2    | .0    | .0    | .0    |
| .5     | 9 *    | .3                                   | .2    | .1    | .2    | .3    | .5    | .6    | .7    | .2    | .2    | .1    | .6    | .0    | .0    | .0    | .2    | .3    | .4    |
| .3     | 10 *   | .3                                   | .2    | .2    | .3    | .7    | .9    | 1.0   | 1.0   | .1    | .1    | .0    | .4    | .0    | .0    | .0    | .2    | .3    | .3    |
| .0     | 11 *   | .0                                   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 12 *   | .2                                   | .1    | .0    | .0    | .0    | .0    | .1    | .2    | 1.2   | 1.2   | .9    | 1.4   | .0    | .0    | .0    | .2    | .5    | .7    |



|     |    |      |     |     |    |     |    |    |    |    |     |     |    |     |    |    |    |    |    |    |
|-----|----|------|-----|-----|----|-----|----|----|----|----|-----|-----|----|-----|----|----|----|----|----|----|
| 1.0 | .7 | 13 * | .2  | .1  | .0 | .0  | .0 | .0 | .1 | .1 | 1.3 | 1.2 | .6 | 1.4 | .0 | .0 | .0 | .2 | .4 | .5 |
| .7  | .5 | 14 * | .0  | .1  | .2 | .2  | .3 | .3 | .3 | .2 | .1  | .1  | .3 | .0  | .4 | .2 | .2 | .1 | .0 | .0 |
| .1  | .2 | 15 * | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 16 * | .1  | .1  | .2 | .2  | .3 | .3 | .3 | .2 | .1  | .0  | .1 | .0  | .4 | .3 | .2 | .1 | .1 | .1 |
| .4  | .6 | 17 * | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 18 * | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 19 * | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 20 * | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 21 * | .0  | .0  | .0 | .1  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 22 * | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 23 * | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 24 * | .0  | .0  | .0 | .1  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 25 * | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 26 * | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 27 * | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 28 * | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 29 * | .1  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 30 * | .2  | .1  | .0 | .1  | .0 | .1 | .1 | .1 | .1  | .1  | .3 | .0  | .6 | .6 | .6 | .8 | .7 | .7 |
| .6  | .4 | 31 * | 1.0 | 1.0 | .9 | 1.0 | .9 | .4 | .3 | .2 | .1  | .2  | .1 | .0  | .0 | .0 | .0 | .2 | .1 | .0 |
| .0  | .1 | 32 * | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .1 | .0 | .0 |
| .0  | .0 | 33 * | .2  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0  | .0  | .0 | .4  | .5 | .5 | .2 | .3 | .3 | .3 |
| .1  | .0 |      |     |     |    |     |    |    |    |    |     |     |    |     |    |    |    |    |    |    |

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JOB: I25SH7withparkinglotPMphaseI

RUN: I25SH7withparkinglotPMphaseI

DATE : 11/22/10  
TIME : 12:40:59

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |   | CO/LINK (PPM)   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|---|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |   | ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|        |   | REC41           | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
| LINK # | * | 120             | 120   | 230   | 230   | 190   | 150   | 180   | 220   | 210   | 140   | 130   | 110   | 100   | 100   | 100   | 110   |
| 1      | * | .0              | .0    | .1    | .2    | .0    | .0    | .0    | .3    | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .1    |
| 2      | * | .0              | .0    | .1    | .1    | .0    | .0    | .0    | .2    | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 3      | * | .0              | .0    | .2    | .3    | .0    | .0    | .0    | .3    | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 4      | * | .0              | .0    | .1    | .1    | .0    | .0    | .0    | .2    | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 5      | * | .2              | .3    | .4    | .3    | .4    | .5    | .3    | .0    | .0    | .3    | .4    | .4    | .5    | .5    | .5    | .4    |
| 6      | * | .1              | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 7      | * | .1              | .2    | .3    | .2    | .4    | .4    | .3    | .0    | .0    | .3    | .3    | .4    | .4    | .4    | .4    | .4    |
| 8      | * | .0              | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 9      | * | .4              | .3    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .1    | .1    | .0    |
| 10     | * | .3              | .3    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .1    | .1    | .0    |
| 11     | * | .0              | .0    | .1    | .1    | .0    | .0    | .0    | .3    | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .2    |
| 12     | * | .2              | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .1    | .1    | .0    |
| 13     | * | .2              | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 14     | * | .4              | .4    | .5    | .4    | .4    | .4    | .3    | .0    | .0    | .2    | .3    | .4    | .5    | .5    | .4    | .2    |
| 15     | * | .0              | .0    | .6    | .5    | .7    | .7    | .3    | .0    | .0    | .2    | .2    | .2    | .2    | .2    | .2    | .1    |
| 16     | * | .7              | .8    | .7    | .7    | .6    | .6    | .4    | .0    | .1    | .2    | .3    | .5    | .7    | .5    | .4    | .2    |
| 17     | * | .0              | .0    | .6    | 1.0   | .9    | 1.0   | .4    | .0    | .0    | .2    | .2    | .3    | .4    | .3    | .2    | .1    |
| 18     | * | .0              | .0    | .0    | .1    | .0    | .0    | .0    | .2    | .2    | .0    | .0    | .0    | .0    | .1    | .1    | .3    |
| 19     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .2    | .2    | .0    | .0    | .0    | .2    | .4    | .5    | .7    |
| 20     | * | .0              | .0    | .5    | .4    | .7    | .6    | .4    | .0    | .0    | .2    | .2    | .1    | .1    | .2    | .2    | .2    |
| 21     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .3    | .3    | .7    | .6    | .6    | .6    | .4    | .3    | .2    |
| 22     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .2    | .1    | .0    | .0    | .0    |

## sh7ph1v2.out

|    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 23 | * | .0 | .0 | .1 | .1 | .1 | .0 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 24 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .2 | .2 | .3 | .3 | .3 | .0 | .0 | .0 |
| 25 | * | .0 | .0 | .1 | .1 | .2 | .0 | .2 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 26 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 27 | * | .0 | .0 | .0 | .1 | .0 | .0 | .2 | .6 | .6 | .3 | .3 | .3 | .3 | .2 | .1 |
| 28 | * | .0 | .0 | .1 | .0 | .1 | .0 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 29 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 30 | * | .2 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 31 | * | .2 | .2 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 32 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 33 | * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

'I25SH7withparkinglotPMPA', 60 , 175 , 0 , 0 , 56 , 0.3048 , 1 , 1  
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 'Receptor 2', 4516 , 2514 , 5  
 'Receptor 3', 4556 , 2514 , 5  
 'Receptor 4', 4596 , 2514 , 5  
 'Receptor 5', 4596 , 2474 , 5  
 'Receptor 6', 4596 , 2434 , 5  
 'Receptor 7', 4596 , 2394 , 5  
 'Receptor 8', 4684 , 2394 , 5  
 'Receptor 9', 4684 , 2434 , 5  
 'Receptor 10', 4684 , 2474 , 5  
 'Receptor 11', 4684 , 2514 , 5  
 'Receptor 12', 4724 , 2514 , 5  
 'Receptor 13', 4764 , 2514 , 5  
 'Receptor 14', 4804 , 2514 , 5  
 'Receptor 15', 5529 , 2514 , 5  
 'Receptor 16', 5569 , 2514 , 5  
 'Receptor 17', 5609 , 2514 , 5  
 'Receptor 18', 5649 , 2514 , 5  
 'Receptor 19', 5680 , 2474 , 5  
 'Receptor 20', 5712 , 2434 , 5  
 'Receptor 21', 5748 , 2394 , 5  
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 'Receptor 23', 5787 , 2434 , 5  
 'Receptor 24', 5748 , 2474 , 5  
 'Receptor 25', 5716 , 2514 , 5  
 'Receptor 26', 5756 , 2514 , 5  
 'Receptor 27', 5796 , 2514 , 5  
 'Receptor 28', 5836 , 2514 , 5  
 'Receptor 29', 5760 , 2673 , 5  
 'Receptor 30', 5720 , 2673 , 5  
 'Receptor 31', 5680 , 2673 , 5  
 'Receptor 32', 5640 , 2673 , 5  
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 'Receptor 37', 5542 , 2761 , 5  
 'Receptor 38', 5550 , 2721 , 5  
 'Receptor 39', 5560 , 2681 , 5  
 'Receptor 40', 5520 , 2681 , 5  
 'Receptor 41', 5480 , 2681 , 5  
 'Receptor 42', 5440 , 2681 , 5  
 'Receptor 43', 4813 , 2681 , 5  
 'Receptor 44', 4773 , 2681 , 5  
 'Receptor 45', 4733 , 2681 , 5  
 'Receptor 46', 4693 , 2681 , 5  
 'Receptor 47', 4693 , 2721 , 5  
 'Receptor 48', 4693 , 2761 , 5  
 'Receptor 49', 4693 , 2801 , 5  
 'Receptor 50', 4581 , 2801 , 5  
 'Receptor 51', 4581 , 2761 , 5  
 'Receptor 52', 4581 , 2721 , 5  
 'Receptor 53', 4581 , 2681 , 5  
 'Receptor 54', 4541 , 2681 , 5  
 'Receptor 55', 4501 , 2681 , 5  
 'Receptor 56', 4461 , 2681 , 5  
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 'sh7ebapp1-1 que', 'AG', 4591 , 2570 , 4131 , 2570 , 0 , 24 , 2  
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 'sh7ebapp2-1', 'AG', 4131 , 2546 , 4640 , 2546 , 1433 , 22.8 , 0 , 44  
 2  
 'sh7ebapp2-1 que', 'AG', 4591 , 2546 , 4131 , 2546 , 0 , 24 , 2  
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 'sh7ebapp/dep1-1', 'AG', 4640 , 2570 , 5623 , 2570 , 1628 , 22.8 , 0 , 44  
 2  
 'sh7ebapp/dep1-1 que', 'AG', 5601 , 2570 , 4683 , 2570 , 0 , 24 , 2  
 110 , 48 , 2 , 1035 , 143.34 , 1600 , 1 , 3  
 1  
 'sh7ebapp/dep2-1', 'AG', 4640 , 2546 , 5623 , 2546 , 1628 , 22.8 , 0 , 44  
 2  
 'sh7ebapp/dep2-1 que', 'AG', 5601 , 2546 , 4683 , 2546 , 0 , 24 , 2  
 110 , 48 , 2 , 1035 , 143.34 , 1600 , 1 , 3  
 1  
 'sh7ebdep1-1', 'AG', 5623 , 2570 , 6132 , 2570 , 1475 , 22.8 , 0 , 56  
 1

'sh7ebdep2-1','AG', 5623 , 2546 , 6132 , 2546 , 1475 , 22.8 , 0 , 32  
2  
'sh7ebleftturn','AG', 4591 , 2595 , 4391 , 2595 , 0 , 24 , 2  
110 , 91 , 2 , 325 , 143.34 , 1600 , 1 , 3  
1  
'sh7wbapp1-1','AG', 6132 , 2635 , 5623 , 2635 , 1875 , 22.1 , 0 , 56  
2  
'sh7wbapp1-1 que','AG', 5645 , 2635 , 6132 , 2635 , 0 , 36 , 3  
110 , 48 , 2 , 1875 , 143.34 , 1600 , 1 , 3  
1  
'sh7wbapp/dep1-1','AG', 5623 , 2625 , 4640 , 2625 , 1010 , 22.1 , 0 , 44  
2  
'sh7wbapp/dep1-1 que','AG', 4683 , 2625 , 5577 , 2625 , 0 , 24 , 2  
110 , 58 , 2 , 668 , 143.34 , 1600 , 1 , 3  
1  
'sh7wbapp/dep2-1','AG', 5623 , 2649 , 4640 , 2649 , 1010 , 22.1 , 0 , 44  
2  
'sh7wbapp/dep2-1 que','AG', 4683 , 2649 , 5577 , 2649 , 0 , 24 , 2  
110 , 58 , 2 , 668 , 143.34 , 1600 , 1 , 3  
1  
'sh7wbdep1-1','AG', 4640 , 2625 , 4131 , 2625 , 905 , 22.1 , 0 , 44  
1  
'sh7wbdep2-1','AG', 4640 , 2649 , 4131 , 2649 , 905 , 22.1 , 0 , 44  
2  
'sh7wbleftturn','AG', 4683 , 2601 , 4883 , 2601 , 0 , 24 , 2  
110 , 91 , 2 , 290 , 143.34 , 1600 , 1 , 3  
1  
'pklotsbapp','AG', 4613 , 3598 , 4613 , 2598 , 905 , 22.6 , 0 , 44  
2  
'pklotsbapp que','AG', 4613 , 2671 , 4613 , 3598 , 0 , 24 , 2  
110 , 72 , 2 , 20 , 143.34 , 1600 , 1 , 3  
1  
'pklotsbdep','AG', 4622 , 2598 , 4622 , 1598 , 475 , 22.6 , 0 , 32  
2  
'pklotsbleftturn','AG', 4631 , 2671 , 4631 , 2891 , 0 , 12 , 1  
110 , 72 , 2 , 585 , 143.34 , 1600 , 1 , 3  
1  
'pklotnbapp','AG', 4658 , 1598 , 4658 , 2598 , 490 , 22.5 , 0 , 32  
2  
'pklotnbapp que','AG', 4658 , 2524 , 4658 , 1598 , 0 , 12 , 1  
110 , 90 , 2 , 20 , 143.34 , 1600 , 1 , 3  
1  
'pklotnbdep','AG', 4661 , 2598 , 4661 , 3598 , 740 , 22.5 , 0 , 44  
2  
'pklotnbleftturn','AG', 4646 , 2524 , 4646 , 2324 , 0 , 12 , 1  
110 , 86 , 2 , 175 , 143.34 , 1600 , 1 , 3  
1  
'i25sbrampapp1','AG', 5896.9 , 3596.9 , 5540.1 , 2935.4 , 1026 , 22.6 , 0 , 44  
1  
'i25sbrampapp2','AG', 5540.1 , 2935.4 , 5612 , 2598 , 1026 , 22.6 , 0 , 44  
1  
'i25sbrampdep1','AG', 5612 , 2598 , 5799.6 , 2374.3 , 1186 , 22.6 , 0 , 44  
1  
'i25sbrampdep2','AG', 5799.6 , 2374.3 , 5681.8 , 1596.9 , 1186 , 22.6 , 0 , 44  
2  
'i25sbrampleftturn','AG', 5609 , 2671 , 5568 , 2891 , 0 , 12 , 1  
110 , 63 , 2 , 880 , 143.34 , 1600 , 1 , 3  
1 , 0 , 4 , 1000 , 0 , 'Y', 10 , 0 , 36

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The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S ZO = 175. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

| V/C QUEUE<br>(VEH) | LINK DESCRIPTION        | * X1     | Y1     | X2     | Y2     | * LENGTH<br>(FT) | BRG TYPE<br>(DEG) | VPH   | EF<br>(G/MI) | H<br>(FT) | W<br>(FT) |
|--------------------|-------------------------|----------|--------|--------|--------|------------------|-------------------|-------|--------------|-----------|-----------|
| .74                | 1. sh7ebapp1-1          | * 4131.0 | 2570.0 | 4640.0 | 2570.0 | * 509.           | 90. AG            | 1433. | 22.8         | .0        | 44.0      |
| .74                | 2. sh7ebapp1-1 que      | * 4591.0 | 2570.0 | 4425.4 | 2570.0 | * 166.           | 270. AG           | 357.  | 100.0        | .0        | 24.0      |
| .74                | 3. sh7ebapp2-1          | * 4131.0 | 2546.0 | 4640.0 | 2546.0 | * 509.           | 90. AG            | 1433. | 22.8         | .0        | 44.0      |
| .74                | 4. sh7ebapp2-1 que      | * 4591.0 | 2546.0 | 4425.4 | 2546.0 | * 166.           | 270. AG           | 357.  | 100.0        | .0        | 24.0      |
| .61                | 5. sh7ebapp/dep1-1      | * 4640.0 | 2570.0 | 5623.0 | 2570.0 | * 983.           | 90. AG            | 1628. | 22.8         | .0        | 44.0      |
| .61                | 6. sh7ebapp/dep1-1 que  | * 5601.0 | 2570.0 | 5465.3 | 2570.0 | * 136.           | 270. AG           | 336.  | 100.0        | .0        | 24.0      |
| .61                | 7. sh7ebapp/dep2-1      | * 4640.0 | 2546.0 | 5623.0 | 2546.0 | * 983.           | 90. AG            | 1628. | 22.8         | .0        | 44.0      |
| .61                | 8. sh7ebapp/dep2-1 que  | * 5601.0 | 2546.0 | 5465.3 | 2546.0 | * 136.           | 270. AG           | 336.  | 100.0        | .0        | 24.0      |
| .74                | 9. sh7ebdep1-1          | * 5623.0 | 2570.0 | 6132.0 | 2570.0 | * 509.           | 90. AG            | 1475. | 22.8         | .0        | 56.0      |
| .74                | 10. sh7ebdep2-1         | * 5623.0 | 2546.0 | 6132.0 | 2546.0 | * 509.           | 90. AG            | 1475. | 22.8         | .0        | 32.0      |
| .74                | 11. sh7ebleftturn       | * 4591.0 | 2595.0 | 4503.0 | 2595.0 | * 88.            | 270. AG           | 636.  | 100.0        | .0        | 24.0      |
| .74                | 12. sh7wbapp1-1         | * 6132.0 | 2635.0 | 5623.0 | 2635.0 | * 509.           | 270. AG           | 1875. | 22.1         | .0        | 56.0      |
| .74                | 13. sh7wbapp1-1 que     | * 5645.0 | 2635.0 | 5809.0 | 2635.0 | * 164.           | 90. AG            | 503.  | 100.0        | .0        | 36.0      |
| .48                | 14. sh7wbapp/dep1-1     | * 5623.0 | 2625.0 | 4640.0 | 2625.0 | * 983.           | 270. AG           | 1010. | 22.1         | .0        | 44.0      |
| .48                | 15. sh7wbapp/dep1-1 que | * 4683.0 | 2625.0 | 4788.9 | 2625.0 | * 106.           | 90. AG            | 405.  | 100.0        | .0        | 24.0      |
| .48                | 16. sh7wbapp/dep2-1     | * 5623.0 | 2649.0 | 4640.0 | 2649.0 | * 983.           | 270. AG           | 1010. | 22.1         | .0        | 44.0      |
| .48                | 17. sh7wbapp/dep2-1 que | * 4683.0 | 2649.0 | 4788.9 | 2649.0 | * 106.           | 90. AG            | 405.  | 100.0        | .0        | 24.0      |
| .67                | 18. sh7wbdep1-1         | * 4640.0 | 2625.0 | 4131.0 | 2625.0 | * 509.           | 270. AG           | 905.  | 22.1         | .0        | 44.0      |
| .67                | 19. sh7wbdep2-1         | * 4640.0 | 2649.0 | 4131.0 | 2649.0 | * 509.           | 270. AG           | 905.  | 22.1         | .0        | 44.0      |
| .67                | 20. sh7wbleftturn       | * 4683.0 | 2601.0 | 4757.6 | 2601.0 | * 75.            | 90. AG            | 636.  | 100.0        | .0        | 24.0      |
| .02                | 21. pk1otsbapp          | * 4613.0 | 3598.0 | 4613.0 | 2598.0 | * 1000.          | 180. AG           | 905.  | 22.6         | .0        | 44.0      |
| .02                | 22. pk1otsbapp que      | * 4613.0 | 2671.0 | 4613.0 | 2674.9 | * 4.             | 360. AG           | 503.  | 100.0        | .0        | 24.0      |
| 1.18               | 23. pk1otsbdep          | * 4622.0 | 2598.0 | 4622.0 | 1598.0 | * 1000.          | 180. AG           | 475.  | 22.6         | .0        | 32.0      |
| 1.18               | 24. pk1otsbleftturn     | * 4631.0 | 2671.0 | 4631.0 | 3925.1 | * 1254.          | 360. AG           | 252.  | 100.0        | .0        | 12.0      |
| .09                | 25. pk1otnbapp          | * 4658.0 | 1598.0 | 4658.0 | 2598.0 | * 1000.          | 360. AG           | 490.  | 22.5         | .0        | 32.0      |
| .09                | 26. pk1otnbapp que      | * 4658.0 | 2524.0 | 4658.0 | 2514.2 | * 10.            | 180. AG           | 315.  | 100.0        | .0        | 12.0      |
| .60                | 27. pk1otnbdep          | * 4661.0 | 2598.0 | 4661.0 | 3598.0 | * 1000.          | 360. AG           | 740.  | 22.5         | .0        | 44.0      |
| .60                | 28. pk1otnbleftturn     | * 4646.0 | 2524.0 | 4646.0 | 2441.7 | * 82.            | 180. AG           | 301.  | 100.0        | .0        | 12.0      |
| 1.41               | 29. i25sbrampapp1       | * 5896.9 | 3596.9 | 5540.1 | 2935.4 | * 752.           | 208. AG           | 1026. | 22.6         | .0        | 44.0      |
| 1.41               | 30. i25sbrampapp2       | * 5540.1 | 2935.4 | 5612.0 | 2598.0 | * 345.           | 168. AG           | 1026. | 22.6         | .0        | 44.0      |
| 1.41               | 31. i25sbrampdep1       | * 5612.0 | 2598.0 | 5799.6 | 2374.3 | * 292.           | 140. AG           | 1186. | 22.6         | .0        | 44.0      |
| 1.41               | 32. i25sbrampdep2       | * 5799.6 | 2374.3 | 5681.8 | 1596.9 | * 786.           | 189. AG           | 1186. | 22.6         | .0        | 44.0      |
| 1.41               | 33. i25sbrampleftturn   | * 5609.0 | 2671.0 | 5062.2 | 5604.8 | * 2984.          | 349. AG           | 220.  | 100.0        | .0        | 12.0      |

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ADDITIONAL QUEUE LINK PARAMETERS

| LINK DESCRIPTION | * CYCLE LENGTH | RED TIME | CLEARANCE LOST TIME | APPROACH VOL | SATURATION FLOW RATE | IDLE EM FAC | SIGNAL TYPE | ARRIVAL RATE |
|------------------|----------------|----------|---------------------|--------------|----------------------|-------------|-------------|--------------|
|------------------|----------------|----------|---------------------|--------------|----------------------|-------------|-------------|--------------|

|                         | * | (SEC) | (SEC) | sh7pfav2.out<br>(SEC) | (VPH) | (VPH) | (gm/hr) |   |   |
|-------------------------|---|-------|-------|-----------------------|-------|-------|---------|---|---|
| 2. sh7ebapp1-1 que      | * | 110   | 51    | 2.0                   | 1188  | 1600  | 143.34  | 1 | 3 |
| 4. sh7ebapp2-1 que      | * | 110   | 51    | 2.0                   | 1188  | 1600  | 143.34  | 1 | 3 |
| 6. sh7ebapp/dep1-1 que  | * | 110   | 48    | 2.0                   | 1035  | 1600  | 143.34  | 1 | 3 |
| 8. sh7ebapp/dep2-1 que  | * | 110   | 48    | 2.0                   | 1035  | 1600  | 143.34  | 1 | 3 |
| 11. sh7eblftturn        | * | 110   | 91    | 2.0                   | 325   | 1600  | 143.34  | 1 | 3 |
| 13. sh7wbapp1-1 que     | * | 110   | 48    | 2.0                   | 1875  | 1600  | 143.34  | 1 | 3 |
| 15. sh7wbapp/dep1-1 que | * | 110   | 58    | 2.0                   | 668   | 1600  | 143.34  | 1 | 3 |
| 17. sh7wbapp/dep2-1 que | * | 110   | 58    | 2.0                   | 668   | 1600  | 143.34  | 1 | 3 |
| 20. sh7wblftturn        | * | 110   | 91    | 2.0                   | 290   | 1600  | 143.34  | 1 | 3 |
| 22. pk1lotsbapp que     | * | 110   | 72    | 2.0                   | 20    | 1600  | 143.34  | 1 | 3 |
| 24. pk1lotsblftturn     | * | 110   | 72    | 2.0                   | 585   | 1600  | 143.34  | 1 | 3 |
| 26. pk1lotnbapp que     | * | 110   | 90    | 2.0                   | 20    | 1600  | 143.34  | 1 | 3 |
| 28. pk1lotnblftturn     | * | 110   | 86    | 2.0                   | 175   | 1600  | 143.34  | 1 | 3 |
| 33. i25sbramplftturn    | * | 110   | 63    | 2.0                   | 880   | 1600  | 143.34  | 1 | 3 |

RECEPTOR LOCATIONS

| RECEPTOR        | * | COORDINATES (FT) |        |     | * |
|-----------------|---|------------------|--------|-----|---|
|                 | * | X                | Y      | Z   | * |
| 1. Receptor 1   | * | 4476.0           | 2514.0 | 5.0 | * |
| 2. Receptor 2   | * | 4516.0           | 2514.0 | 5.0 | * |
| 3. Receptor 3   | * | 4556.0           | 2514.0 | 5.0 | * |
| 4. Receptor 4   | * | 4596.0           | 2514.0 | 5.0 | * |
| 5. Receptor 5   | * | 4596.0           | 2474.0 | 5.0 | * |
| 6. Receptor 6   | * | 4596.0           | 2434.0 | 5.0 | * |
| 7. Receptor 7   | * | 4596.0           | 2394.0 | 5.0 | * |
| 8. Receptor 8   | * | 4684.0           | 2394.0 | 5.0 | * |
| 9. Receptor 9   | * | 4684.0           | 2434.0 | 5.0 | * |
| 10. Receptor 10 | * | 4684.0           | 2474.0 | 5.0 | * |
| 11. Receptor 11 | * | 4684.0           | 2514.0 | 5.0 | * |
| 12. Receptor 12 | * | 4724.0           | 2514.0 | 5.0 | * |
| 13. Receptor 13 | * | 4764.0           | 2514.0 | 5.0 | * |
| 14. Receptor 14 | * | 4804.0           | 2514.0 | 5.0 | * |
| 15. Receptor 15 | * | 5529.0           | 2514.0 | 5.0 | * |
| 16. Receptor 16 | * | 5569.0           | 2514.0 | 5.0 | * |
| 17. Receptor 17 | * | 5609.0           | 2514.0 | 5.0 | * |
| 18. Receptor 18 | * | 5649.0           | 2514.0 | 5.0 | * |
| 19. Receptor 19 | * | 5680.0           | 2474.0 | 5.0 | * |
| 20. Receptor 20 | * | 5712.0           | 2434.0 | 5.0 | * |
| 21. Receptor 21 | * | 5748.0           | 2394.0 | 5.0 | * |
| 22. Receptor 22 | * | 5816.0           | 2394.0 | 5.0 | * |
| 23. Receptor 23 | * | 5787.0           | 2434.0 | 5.0 | * |
| 24. Receptor 24 | * | 5748.0           | 2474.0 | 5.0 | * |
| 25. Receptor 25 | * | 5716.0           | 2514.0 | 5.0 | * |
| 26. Receptor 26 | * | 5756.0           | 2514.0 | 5.0 | * |
| 27. Receptor 27 | * | 5796.0           | 2514.0 | 5.0 | * |
| 28. Receptor 28 | * | 5836.0           | 2514.0 | 5.0 | * |
| 29. Receptor 29 | * | 5760.0           | 2673.0 | 5.0 | * |
| 30. Receptor 30 | * | 5720.0           | 2673.0 | 5.0 | * |
| 31. Receptor 31 | * | 5680.0           | 2673.0 | 5.0 | * |

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RECEPTOR LOCATIONS

| RECEPTOR        | * | COORDINATES (FT) |        |     | * |
|-----------------|---|------------------|--------|-----|---|
|                 | * | X                | Y      | Z   | * |
| 32. Receptor 32 | * | 5640.0           | 2673.0 | 5.0 | * |
| 33. Receptor 33 | * | 5631.0           | 2713.0 | 5.0 | * |
| 34. Receptor 34 | * | 5622.0           | 2753.0 | 5.0 | * |
| 35. Receptor 35 | * | 5614.0           | 2793.0 | 5.0 | * |
| 36. Receptor 36 | * | 5535.0           | 2801.0 | 5.0 | * |
| 37. Receptor 37 | * | 5542.0           | 2761.0 | 5.0 | * |
| 38. Receptor 38 | * | 5550.0           | 2721.0 | 5.0 | * |
| 39. Receptor 39 | * | 5560.0           | 2681.0 | 5.0 | * |
| 40. Receptor 40 | * | 5520.0           | 2681.0 | 5.0 | * |
| 41. Receptor 41 | * | 5480.0           | 2681.0 | 5.0 | * |
| 42. Receptor 42 | * | 5440.0           | 2681.0 | 5.0 | * |
| 43. Receptor 43 | * | 4813.0           | 2681.0 | 5.0 | * |
| 44. Receptor 44 | * | 4773.0           | 2681.0 | 5.0 | * |
| 45. Receptor 45 | * | 4733.0           | 2681.0 | 5.0 | * |
| 46. Receptor 46 | * | 4693.0           | 2681.0 | 5.0 | * |

|              |    |   |        |        |     |   |
|--------------|----|---|--------|--------|-----|---|
| 47. Receptor | 47 | * | 4693.0 | 2721.0 | 5.0 | * |
| 48. Receptor | 48 | * | 4693.0 | 2761.0 | 5.0 | * |
| 49. Receptor | 49 | * | 4693.0 | 2801.0 | 5.0 | * |
| 50. Receptor | 50 | * | 4581.0 | 2801.0 | 5.0 | * |
| 51. Receptor | 51 | * | 4581.0 | 2761.0 | 5.0 | * |
| 52. Receptor | 52 | * | 4581.0 | 2721.0 | 5.0 | * |
| 53. Receptor | 53 | * | 4581.0 | 2681.0 | 5.0 | * |
| 54. Receptor | 54 | * | 4541.0 | 2681.0 | 5.0 | * |
| 55. Receptor | 55 | * | 4501.0 | 2681.0 | 5.0 | * |
| 56. Receptor | 56 | * | 4461.0 | 2681.0 | 5.0 | * |

□  
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JOB: I25SH7withparkinglotPMPA

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

| WIND ANGLE (DEGR) | * CONCENTRATION (PPM) | REC1 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 | REC19 | REC20 |
|-------------------|-----------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | *                     | 3.9  | 4.6  | 5.0  | 4.1  | 3.3  | 2.6  | 2.2  | 2.2  | 2.8  | 3.4   | 4.4   | 4.4   | 3.7   | 3.0   | 4.5   | 4.5   | 4.1   | 4.0   |       |       |
| 3.2               | 2.8                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 10.               | *                     | 4.3  | 5.0  | 5.1  | 4.0  | 3.1  | 3.0  | 2.9  | 2.2  | 2.5  | 3.0   | 4.2   | 4.0   | 3.1   | 2.6   | 4.5   | 4.6   | 3.8   | 3.8   |       |       |
| 2.9               | 2.6                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 20.               | *                     | 4.8  | 5.3  | 5.0  | 3.4  | 2.9  | 2.7  | 2.5  | 1.7  | 2.2  | 2.7   | 4.0   | 3.5   | 2.7   | 2.5   | 4.4   | 4.2   | 3.4   | 3.7   |       |       |
| 2.7               | 2.3                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 30.               | *                     | 5.1  | 5.1  | 4.6  | 3.6  | 3.1  | 2.9  | 2.7  | 1.6  | 1.8  | 2.4   | 3.9   | 3.2   | 2.7   | 2.6   | 4.5   | 4.1   | 3.2   | 3.7   |       |       |
| 2.7               | 2.2                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 40.               | *                     | 5.0  | 4.8  | 4.1  | 3.9  | 3.3  | 2.9  | 2.5  | 1.3  | 1.7  | 2.3   | 3.6   | 3.0   | 2.7   | 2.7   | 4.5   | 4.2   | 3.5   | 3.7   |       |       |
| 2.6               | 2.1                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 50.               | *                     | 5.2  | 4.8  | 4.4  | 4.2  | 3.4  | 2.8  | 2.2  | 1.4  | 1.7  | 2.2   | 3.5   | 3.0   | 3.0   | 3.0   | 4.7   | 4.2   | 3.6   | 3.9   |       |       |
| 2.7               | 2.1                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 60.               | *                     | 5.3  | 5.1  | 4.4  | 4.5  | 3.6  | 2.6  | 1.9  | 1.3  | 1.6  | 2.2   | 3.4   | 3.2   | 3.2   | 3.3   | 4.7   | 3.9   | 3.6   | 3.6   |       |       |
| 2.4               | 1.9                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 70.               | *                     | 5.2  | 4.4  | 4.3  | 4.3  | 3.0  | 2.4  | 1.9  | 1.2  | 1.6  | 2.1   | 3.3   | 3.3   | 3.5   | 3.4   | 4.2   | 3.6   | 3.5   | 3.5   |       |       |
| 2.2               | 1.7                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 80.               | *                     | 4.5  | 4.2  | 3.9  | 4.2  | 3.0  | 2.1  | 1.6  | 1.1  | 1.4  | 2.1   | 3.3   | 3.3   | 3.3   | 3.4   | 3.2   | 3.0   | 2.8   | 3.1   |       |       |
| 1.8               | 1.2                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 90.               | *                     | 2.9  | 3.0  | 2.9  | 3.3  | 2.2  | 1.5  | 1.0  | .5   | .7   | 1.2   | 2.3   | 2.3   | 2.3   | 2.3   | 2.1   | 1.9   | 2.0   | 2.2   |       |       |
| 1.2               | 1.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 100.              | *                     | 1.1  | 1.2  | 1.3  | 1.7  | 1.2  | .7   | .6   | .1   | .2   | .2    | .8    | .7    | .7    | .7    | 1.0   | 1.0   | 1.1   | 1.6   |       |       |
| 1.1               | .9                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 110.              | *                     | .6   | .7   | .8   | 1.1  | .9   | .6   | .6   | .1   | .1   | .1    | .3    | .3    | .3    | .3    | .5    | .5    | .7    | 1.2   |       |       |
| 1.1               | 1.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 120.              | *                     | .3   | .4   | .6   | 1.0  | .8   | .6   | .6   | .1   | .1   | .1    | .1    | .1    | .1    | .1    | .3    | .4    | .6    | 1.2   |       |       |
| 1.2               | 1.0                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 130.              | *                     | .2   | .3   | .4   | 1.0  | .8   | .6   | .6   | .0   | .0   | .0    | .0    | .0    | .1    | .1    | .3    | .4    | .4    | 1.2   |       |       |
| 1.1               | .9                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 140.              | *                     | .2   | .3   | .5   | .9   | .7   | .6   | .6   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .2    | .2    | .4    | 1.0   |       |       |
| .9                | .8                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 150.              | *                     | .2   | .3   | .4   | .8   | .6   | .6   | .6   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .2    | .2    | .2    | .7    |       |       |
| .6                | .6                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 160.              | *                     | .2   | .3   | .4   | .9   | .8   | .7   | .7   | .0   | .0   | .1    | .1    | .0    | .0    | .0    | .2    | .2    | .3    | .5    |       |       |
| .5                | .6                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 170.              | *                     | .2   | .2   | .3   | .7   | .7   | .7   | .7   | .2   | .2   | .2    | .2    | .0    | .0    | .0    | .1    | .2    | .2    | .4    |       |       |
| .5                | .5                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 180.              | *                     | .0   | .1   | .2   | .4   | .4   | .4   | .4   | .4   | .5   | .5    | .5    | .2    | .1    | .0    | .0    | .1    | .1    | .3    |       |       |
| .2                | .4                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 190.              | *                     | .0   | .0   | .0   | .3   | .2   | .2   | .2   | .7   | .7   | .7    | .8    | .3    | .2    | .2    | .0    | .0    | .0    | .1    |       |       |
| .1                | .2                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 200.              | *                     | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .7   | .7   | .7    | .9    | .4    | .3    | .2    | .0    | .0    | .0    | .0    |       |       |
| .0                | .0                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 210.              | *                     | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .6   | .6   | .7    | .9    | .4    | .3    | .2    | .0    | .0    | .0    | .0    |       |       |
| .0                | .0                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 220.              | *                     | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .6   | .6   | .8    | 1.1   | .5    | .3    | .2    | .0    | .0    | .0    | .0    |       |       |
| .0                | .0                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 230.              | *                     | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .6   | .6   | .9    | 1.1   | .5    | .3    | .2    | .0    | .0    | .0    | .0    |       |       |
| .0                | .0                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
| 240.              | *                     | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .5   | .5   | .9    | 1.0   | .6    | .3    | .3    | .0    | .0    | .0    | .0    |       |       |
| .0                | .0                    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |

|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 250. | *   | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .5  | .5  | .9  | 1.2 | .7  | .6  | .5  | .2  | .2  | .2  | .2  |
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 260. | *   | .4  | .5  | .6  | .6  | .1  | .0  | .0  | .5  | .5  | 1.1 | 1.9 | 1.5 | 1.2 | 1.0 | .7  | .8  | .9  | .8  |
| .3   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 270. | *   | 1.1 | 1.3 | 1.5 | 1.9 | .3  | .1  | .0  | .5  | .8  | 1.6 | 3.0 | 2.8 | 2.6 | 2.5 | 2.3 | 2.4 | 2.6 | 2.7 |
| 1.3  | .8  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 280. | *   | 2.1 | 2.5 | 2.8 | 3.3 | 1.0 | .4  | .2  | .8  | 1.4 | 2.4 | 4.5 | 3.8 | 3.6 | 3.6 | 3.4 | 3.7 | 4.1 | 4.2 |
| 2.3  | 1.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 290. | *   | 2.7 | 3.3 | 3.7 | 4.2 | 1.9 | 1.0 | .6  | 1.3 | 2.1 | 3.4 | 4.8 | 4.1 | 4.0 | 4.0 | 3.9 | 4.3 | 4.6 | 4.3 |
| 2.6  | 1.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 300. | *   | 3.2 | 3.7 | 4.0 | 4.4 | 2.3 | 1.5 | 1.0 | 1.7 | 2.8 | 3.7 | 4.6 | 3.9 | 3.8 | 3.9 | 4.2 | 4.6 | 4.7 | 4.2 |
| 3.0  | 2.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 310. | *   | 3.3 | 3.8 | 4.2 | 4.6 | 2.6 | 1.8 | 1.3 | 2.3 | 3.2 | 3.6 | 4.1 | 3.6 | 3.9 | 4.1 | 4.0 | 4.4 | 4.4 | 3.8 |
| 2.8  | 2.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 320. | *   | 3.4 | 3.7 | 4.0 | 4.3 | 2.7 | 2.1 | 1.6 | 2.4 | 3.2 | 3.2 | 3.2 | 3.4 | 3.9 | 4.1 | 3.9 | 4.0 | 3.9 | 3.7 |
| 2.8  | 2.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 330. | *   | 3.6 | 3.8 | 4.2 | 4.3 | 2.9 | 2.2 | 1.7 | 2.5 | 2.7 | 3.1 | 3.6 | 3.8 | 4.3 | 4.1 | 3.8 | 3.9 | 3.7 | 4.0 |
| 3.2  | 2.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 340. | *   | 3.5 | 3.8 | 4.3 | 4.0 | 2.8 | 2.3 | 1.9 | 2.6 | 2.7 | 3.1 | 3.6 | 4.1 | 4.4 | 3.7 | 3.8 | 3.9 | 3.9 | 4.4 |
| 3.4  | 3.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 350. | *   | 3.5 | 4.1 | 4.6 | 4.2 | 3.2 | 2.5 | 2.0 | 2.9 | 3.0 | 3.7 | 4.1 | 4.7 | 4.3 | 3.5 | 4.2 | 4.6 | 4.1 | 4.3 |
| 3.5  | 3.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 360. | *   | 3.9 | 4.6 | 5.0 | 4.1 | 3.3 | 2.6 | 2.2 | 2.2 | 2.8 | 3.4 | 4.4 | 4.4 | 3.7 | 3.0 | 4.5 | 4.5 | 4.1 | 4.0 |
| 3.2  | 2.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 5.3 | 5.3 | 5.1 | 4.6 | 3.6 | 3.0 | 2.9 | 2.9 | 3.2 | 3.7 | 4.8 | 4.7 | 4.4 | 4.1 | 4.7 | 4.6 | 4.7 | 4.4 |
| 3.5   | 3.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | *   | 60  | 20  | 10  | 310 | 60  | 10  | 10  | 350 | 310 | 300 | 290 | 350 | 340 | 330 | 60  | 300 | 300 | 340 |
| 350   | 340 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

□ PAGE 5

JOB: I25SH7withparkinglotPMPA RUN: I25SH7withparkinglotPMPA

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

|         |   |               |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---------|---|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| WIND    | * | CONCENTRATION |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| ANGLE   | * | (PPM)         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| (DEGR.) | * | REC21         | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 |
|         | * | REC39         | REC40 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

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|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0.   | *   | 2.4 | 1.3 | 1.6 | 2.3 | 3.1 | 3.1 | 2.8 | 2.5 | .1  | .3  | .3  | .5  | .5  | .6  | .6  | 1.3 | 1.3 | 1.4 |
| 1.5  | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 10.  | *   | 2.1 | 1.1 | 1.4 | 2.1 | 2.9 | 2.8 | 2.5 | 2.2 | .1  | .1  | .1  | .2  | .3  | .4  | .4  | 1.5 | 1.5 | 1.5 |
| 1.7  | 1.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 20.  | *   | 1.9 | .9  | 1.3 | 1.7 | 2.7 | 2.6 | 2.3 | 2.2 | .0  | .0  | .1  | .1  | .1  | .2  | .2  | 1.6 | 1.5 | 1.5 |
| 1.4  | 1.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30.  | *   | 1.8 | 1.0 | 1.2 | 1.6 | 2.7 | 2.5 | 2.3 | 2.3 | .0  | .0  | .0  | .0  | .0  | .1  | .1  | 1.5 | 1.4 | 1.3 |
| 1.3  | .8  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 40.  | *   | 1.8 | 1.0 | 1.2 | 1.6 | 2.7 | 2.5 | 2.4 | 2.4 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 1.1 | 1.1 | 1.0 |
| 1.0  | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 50.  | *   | 1.9 | .8  | 1.1 | 1.7 | 2.7 | 2.6 | 2.6 | 2.6 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | 1.0 | 1.0 | 1.0 |
| 1.0  | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 60.  | *   | 1.6 | .6  | 1.0 | 1.6 | 2.6 | 2.6 | 2.5 | 2.5 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .9  | .9  | .9  |
| .9   | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 70.  | *   | 1.3 | .2  | .7  | 1.3 | 2.6 | 2.5 | 2.5 | 2.2 | .1  | .1  | .1  | .1  | .0  | .0  | .0  | 1.0 | .9  | .9  |
| 1.0  | .7  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 80.  | *   | 1.0 | .0  | .3  | .8  | 2.0 | 1.9 | 1.8 | 1.7 | .4  | .4  | .6  | .6  | .1  | .0  | .0  | 1.0 | .9  | 1.0 |
| 1.4  | 1.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 90.  | *   | .9  | .0  | .0  | .4  | 1.2 | 1.2 | .9  | .9  | 1.1 | 1.3 | 1.5 | 1.7 | .4  | .1  | .1  | 1.0 | 1.0 | 1.4 |
| 2.3  | 2.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 100. | *   | .9  | .0  | .0  | .1  | .5  | .4  | .4  | .3  | 1.9 | 2.3 | 2.8 | 3.0 | 1.1 | .5  | .2  | 1.2 | 1.5 | 2.1 |
| 3.4  | 3.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 110. | *   | 1.0 | .0  | .0  | .1  | .2  | .1  | .1  | .1  | 2.6 | 3.2 | 3.6 | 3.8 | 1.7 | 1.0 | .7  | 1.8 | 2.2 | 2.9 |
| 3.8  | 3.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 120. | *   | 1.0 | .0  | .0  | .2  | .2  | .0  | .0  | .0  | 3.0 | 3.6 | 3.8 | 3.9 | 2.3 | 1.4 | 1.1 | 2.3 | 2.6 | 3.0 |
| 3.7  | 3.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 130. | *   | .9  | .0  | .1  | .3  | .4  | .0  | .0  | .0  | 3.3 | 3.7 | 3.8 | 3.8 | 2.3 | 1.8 | 1.3 | 2.5 | 2.8 | 3.0 |
| 3.6  | 3.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |



|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 140. | *   | .9  | .0  | .3  | .8  | .8  | .1  | .0  | .0  | 3.3 | 3.5 | 3.5 | 3.5 | 2.4 | 1.9 | 1.4 | 2.6 | 2.8 | 2.9 |
| 3.6  | 3.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 150. | *   | .7  | .1  | .6  | 1.1 | 1.2 | .3  | .0  | .0  | 3.3 | 3.5 | 3.6 | 3.6 | 2.5 | 2.0 | 1.6 | 2.6 | 2.4 | 2.8 |
| 3.4  | 3.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 160. | *   | .8  | .2  | 1.0 | 1.5 | 1.5 | .6  | .2  | .0  | 3.3 | 3.3 | 3.8 | 3.6 | 2.5 | 2.0 | 1.7 | 2.3 | 2.4 | 2.6 |
| 3.1  | 2.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 170. | *   | .8  | .6  | 1.4 | 1.7 | 1.5 | .9  | .5  | .1  | 3.5 | 3.7 | 3.9 | 3.3 | 2.6 | 2.4 | 2.2 | 1.7 | 2.1 | 2.3 |
| 2.9  | 2.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 180. | *   | .7  | 1.1 | 1.7 | 1.5 | 1.3 | 1.1 | .8  | .5  | 3.8 | 3.9 | 3.9 | 3.2 | 2.6 | 2.5 | 2.4 | 1.6 | 1.8 | 2.1 |
| 2.8  | 2.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 190. | *   | .4  | 1.6 | 1.6 | 1.3 | 1.2 | .9  | .9  | .6  | 3.7 | 3.6 | 3.8 | 3.2 | 2.5 | 2.5 | 2.3 | 1.3 | 1.6 | 2.0 |
| 2.6  | 2.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 200. | *   | .1  | 1.5 | 1.2 | 1.0 | .9  | .7  | .7  | .6  | 3.5 | 3.5 | 3.6 | 3.2 | 2.6 | 2.6 | 2.6 | 1.2 | 1.3 | 1.8 |
| 2.6  | 2.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 210. | *   | .0  | 1.3 | .9  | .8  | .8  | .6  | .5  | .5  | 3.7 | 3.8 | 3.8 | 3.3 | 2.9 | 2.8 | 2.5 | 1.0 | 1.4 | 1.7 |
| 2.6  | 2.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 220. | *   | .0  | 1.2 | .8  | .9  | .8  | .6  | .4  | .4  | 3.9 | 4.1 | 3.9 | 3.6 | 2.9 | 2.6 | 2.4 | 1.1 | 1.3 | 1.6 |
| 2.5  | 2.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 230. | *   | .0  | 1.1 | .8  | .9  | .9  | .6  | .4  | .3  | 4.1 | 4.4 | 4.2 | 3.6 | 3.1 | 2.5 | 2.2 | 1.1 | 1.3 | 1.6 |
| 2.5  | 2.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 240. | *   | .0  | 1.0 | .8  | .9  | .8  | .6  | .4  | .3  | 4.6 | 4.4 | 3.8 | 3.6 | 2.9 | 2.5 | 2.2 | 1.1 | 1.5 | 1.8 |
| 2.6  | 2.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 250. | *   | .0  | .9  | .8  | .8  | .9  | .7  | .5  | .4  | 4.5 | 3.9 | 3.8 | 3.7 | 2.9 | 2.4 | 2.2 | 1.2 | 1.4 | 1.7 |
| 2.7  | 2.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 260. | *   | .0  | .8  | .9  | 1.2 | 1.7 | 1.4 | 1.1 | 1.2 | 3.8 | 3.7 | 3.5 | 3.6 | 2.8 | 2.2 | 1.9 | .9  | 1.1 | 1.5 |
| 2.7  | 2.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 270. | *   | .4  | 1.2 | 1.7 | 2.3 | 3.5 | 3.1 | 2.9 | 2.7 | 2.7 | 2.6 | 2.5 | 2.8 | 2.0 | 1.6 | 1.3 | .3  | .6  | .9  |
| 1.7  | 1.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 280. | *   | 1.1 | 2.1 | 2.6 | 3.4 | 4.6 | 3.9 | 3.6 | 3.4 | 1.3 | 1.2 | 1.6 | 1.8 | 1.3 | 1.2 | 1.2 | .3  | .3  | .3  |
| .6   | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 290. | *   | 1.6 | 2.6 | 2.9 | 3.6 | 4.8 | 4.1 | 3.7 | 3.8 | .7  | .7  | .9  | 1.4 | 1.2 | 1.2 | 1.3 | .3  | .2  | .2  |
| .3   | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 300. | *   | 1.7 | 2.7 | 3.0 | 3.7 | 4.5 | 3.9 | 3.7 | 3.5 | .5  | .6  | .9  | 1.2 | 1.3 | 1.3 | 1.2 | .2  | .2  | .2  |
| .3   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 310. | *   | 2.1 | 3.0 | 2.8 | 3.4 | 4.0 | 3.3 | 3.3 | 3.4 | .4  | .5  | .7  | 1.3 | 1.3 | 1.3 | 1.3 | .1  | .1  | .1  |
| .1   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 320. | *   | 2.3 | 2.6 | 2.5 | 2.9 | 3.7 | 3.2 | 3.3 | 3.3 | .4  | .5  | .7  | 1.2 | 1.2 | 1.3 | 1.3 | .0  | .0  | .0  |
| .0   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 330. | *   | 2.6 | 2.2 | 2.2 | 2.7 | 3.4 | 3.2 | 3.2 | 3.1 | .4  | .5  | .8  | 1.3 | 1.3 | 1.3 | 1.3 | .0  | .0  | .0  |
| .1   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 340. | *   | 2.9 | 1.8 | 2.1 | 2.6 | 3.3 | 3.2 | 3.0 | 2.9 | .4  | .6  | .7  | 1.2 | 1.2 | 1.3 | 1.2 | .3  | .3  | .4  |
| .4   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 350. | *   | 2.7 | 1.5 | 1.9 | 2.4 | 3.1 | 3.1 | 2.9 | 2.6 | .3  | .4  | .5  | .9  | .9  | .9  | .9  | .8  | .9  | .9  |
| 1.0  | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 360. | *   | 2.4 | 1.3 | 1.6 | 2.3 | 3.1 | 3.1 | 2.8 | 2.5 | .1  | .3  | .3  | .5  | .5  | .6  | .6  | 1.3 | 1.3 | 1.4 |
| 1.5  | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 2.9 | 3.0 | 3.0 | 3.7 | 4.8 | 4.1 | 3.7 | 3.8 | 4.6 | 4.4 | 4.2 | 3.9 | 3.1 | 2.8 | 2.6 | 2.6 | 2.8 | 3.0 |
| 3.8   | 3.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | *   | 340 | 310 | 300 | 300 | 290 | 290 | 300 | 290 | 240 | 240 | 230 | 120 | 230 | 210 | 200 | 140 | 130 | 130 |
| 110   | 110 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

□ PAGE  
6

JOB: I25SH7withparkinglotPMPA RUN: I25SH7withparkinglotPMPA

MODEL RESULTS  
-----

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

| WIND ANGLE (DEGR)* | CONCENTRATION (PPM) | REC41 | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
|--------------------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                 | *                   | .5    | .2    | .2    | .3    | .5    | 1.0   | 1.0   | 1.0   | 1.0   | 1.1   | 1.1   | 1.1   | 1.1   | .5    | .3    | .2    |
| 10.                | *                   | .6    | .4    | .1    | .1    | .1    | .4    | .4    | .4    | .4    | 1.7   | 1.7   | 1.7   | 1.7   | .9    | .6    | .5    |
| 20.                | *                   | .8    | .6    | .1    | .1    | .1    | .2    | .2    | .2    | .2    | 1.8   | 1.8   | 1.8   | 1.8   | 1.1   | .8    | .5    |
| 30.                | *                   | .7    | .6    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | 1.6   | 1.6   | 1.6   | 1.6   | 1.0   | .8    | .8    |
| 40.                | *                   | .6    | .5    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | 1.5   | 1.5   | 1.5   | 1.5   | .9    | .7    | .6    |
| 50.                | *                   | .5    | .5    | .2    | .2    | .2    | .1    | .1    | .1    | .1    | 1.5   | 1.5   | 1.4   | 1.4   | .9    | .7    | .6    |
| 60.                | *                   | .5    | .3    | .2    | .2    | .2    | .1    | .1    | .1    | .2    | 1.4   | 1.4   | 1.4   | 1.4   | 1.0   | .8    | .6    |
| 70.                | *                   | .6    | .4    | .3    | .3    | .3    | .2    | .2    | .2    | .2    | 1.3   | 1.3   | 1.3   | 1.4   | 1.0   | .9    | .7    |
| 80.                | *                   | .9    | .8    | .7    | .7    | .7    | .7    | .2    | .0    | .0    | 1.2   | 1.2   | 1.4   | 1.9   | 1.5   | 1.3   | 1.0   |

|      |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 90.  | * | 2.0 | 1.9 | 1.8 | 2.0 | 1.9 | 2.0 | 1.0 | .7  | .4  | 1.6 | 1.9 | 2.4 | 3.6 | 3.2 | 2.8 | 2.6 |
| 100. | * | 2.9 | 2.7 | 2.7 | 2.8 | 3.0 | 3.3 | 1.7 | 1.2 | 1.0 | 2.2 | 2.4 | 3.3 | 4.9 | 4.3 | 3.8 | 3.8 |
| 110. | * | 3.2 | 3.2 | 2.7 | 2.7 | 3.1 | 3.7 | 1.9 | 1.6 | 1.3 | 2.3 | 2.8 | 3.6 | 4.7 | 4.1 | 3.4 | 3.4 |
| 120. | * | 3.2 | 3.4 | 2.7 | 2.7 | 3.4 | 4.2 | 2.2 | 1.6 | 1.3 | 2.8 | 3.3 | 3.8 | 4.4 | 3.6 | 3.5 | 3.4 |
| 130. | * | 3.1 | 3.2 | 2.5 | 2.6 | 3.6 | 4.3 | 2.3 | 1.6 | 1.2 | 3.1 | 3.3 | 3.4 | 3.9 | 3.3 | 3.3 | 3.5 |
| 140. | * | 3.0 | 3.0 | 2.2 | 2.6 | 3.7 | 4.3 | 2.4 | 1.8 | 1.3 | 3.0 | 3.1 | 3.2 | 3.5 | 3.0 | 3.2 | 3.3 |
| 150. | * | 3.0 | 2.8 | 2.1 | 2.6 | 3.9 | 4.4 | 2.8 | 2.1 | 1.5 | 2.9 | 2.9 | 3.1 | 3.2 | 3.0 | 3.3 | 3.2 |
| 160. | * | 2.8 | 2.5 | 2.0 | 2.9 | 4.1 | 4.3 | 2.8 | 2.1 | 1.7 | 2.7 | 2.5 | 2.6 | 3.1 | 3.3 | 3.3 | 3.0 |
| 170. | * | 2.7 | 2.3 | 2.0 | 3.3 | 4.3 | 4.3 | 3.0 | 2.4 | 2.0 | 2.4 | 2.5 | 2.7 | 3.3 | 3.4 | 3.3 | 2.8 |
| 180. | * | 2.6 | 2.3 | 2.1 | 3.9 | 4.7 | 4.5 | 3.1 | 2.6 | 2.0 | 1.8 | 2.2 | 2.6 | 3.2 | 3.5 | 3.0 | 2.4 |
| 190. | * | 2.3 | 2.0 | 2.4 | 4.2 | 4.9 | 4.2 | 3.0 | 2.6 | 2.5 | 1.8 | 2.1 | 2.5 | 3.3 | 3.2 | 2.7 | 2.3 |
| 200. | * | 2.2 | 2.0 | 2.8 | 4.7 | 4.9 | 3.5 | 2.9 | 2.8 | 2.4 | 1.5 | 1.8 | 2.4 | 3.2 | 3.0 | 2.5 | 2.1 |
| 210. | * | 2.1 | 2.1 | 3.4 | 5.0 | 4.6 | 3.7 | 3.0 | 2.8 | 2.6 | 1.3 | 1.7 | 2.3 | 3.2 | 2.8 | 2.2 | 1.9 |
| 220. | * | 2.2 | 2.2 | 4.3 | 4.8 | 4.6 | 3.6 | 3.1 | 2.9 | 2.8 | 1.1 | 1.4 | 2.0 | 3.1 | 2.5 | 2.1 | 1.9 |
| 230. | * | 2.4 | 2.4 | 5.0 | 5.0 | 4.5 | 3.9 | 3.1 | 2.8 | 2.3 | .9  | 1.3 | 1.7 | 2.9 | 2.4 | 2.2 | 2.1 |
| 240. | * | 2.6 | 2.6 | 5.2 | 5.0 | 4.3 | 4.0 | 3.0 | 2.6 | 2.0 | .8  | 1.0 | 1.5 | 2.6 | 2.3 | 2.2 | 2.0 |
| 250. | * | 2.7 | 2.7 | 4.8 | 4.3 | 3.9 | 3.8 | 2.7 | 2.0 | 1.7 | .5  | .7  | 1.2 | 2.1 | 2.0 | 2.0 | 1.8 |
| 260. | * | 2.7 | 2.4 | 3.6 | 3.2 | 3.0 | 2.8 | 1.9 | 1.6 | 1.3 | .1  | .3  | .7  | 1.6 | 1.5 | 1.5 | 1.3 |
| 270. | * | 1.9 | 1.7 | 2.3 | 1.8 | 1.9 | 2.1 | 1.5 | 1.2 | 1.1 | .0  | .1  | .2  | .8  | .8  | .8  | .7  |
| 280. | * | .8  | .8  | .9  | 1.0 | 1.2 | 1.4 | 1.2 | 1.1 | 1.1 | .0  | .0  | .0  | .3  | .3  | .3  | .3  |
| 290. | * | .4  | .4  | .5  | .6  | .8  | 1.2 | 1.1 | 1.1 | 1.1 | .0  | .0  | .0  | .1  | .1  | .1  | .1  |
| 300. | * | .3  | .3  | .6  | .6  | .8  | 1.1 | 1.1 | 1.1 | 1.1 | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 310. | * | .2  | .3  | .6  | .6  | .8  | 1.2 | 1.2 | 1.2 | 1.2 | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 320. | * | .1  | .1  | .6  | .6  | .9  | 1.4 | 1.4 | 1.4 | 1.4 | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 330. | * | .0  | .0  | .6  | .7  | 1.0 | 1.4 | 1.4 | 1.4 | 1.4 | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| 340. | * | .1  | .0  | .6  | .7  | 1.0 | 1.5 | 1.5 | 1.5 | 1.5 | .1  | .1  | .1  | .1  | .0  | .0  | .0  |
| 350. | * | .2  | .1  | .4  | .6  | .8  | 1.5 | 1.5 | 1.5 | 1.5 | .4  | .5  | .5  | .5  | .2  | .0  | .0  |
| 360. | * | .5  | .2  | .2  | .3  | .5  | 1.0 | 1.0 | 1.0 | 1.0 | 1.1 | 1.1 | 1.1 | 1.1 | .5  | .3  | .2  |

|       |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | * | 3.2 | 3.4 | 5.2 | 5.0 | 4.9 | 4.5 | 3.1 | 2.9 | 2.8 | 3.1 | 3.3 | 3.8 | 4.9 | 4.3 | 3.8 | 3.8 |
| DEGR. | * | 120 | 120 | 240 | 210 | 190 | 180 | 230 | 220 | 220 | 130 | 120 | 120 | 100 | 100 | 100 | 100 |

THE HIGHEST CONCENTRATION OF 5.30 PPM OCCURRED AT RECEPTOR REC2 .

PAGE

7

JOB: I25SH7withparkinglotPMPA

RUN: I25SH7withparkinglotPMPA

DATE : 11/22/10  
TIME : 12:40:16

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |       | * CO/LINK (PPM)   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |  |
|--------|-------|-------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|        |       | * ANGLE (DEGREES) |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |  |
|        |       | REC1              | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 |  |
| REC19  | REC20 | 60                | 20   | 10   | 310  | 60   | 10   | 10   | 350  | 310  | 300   | 290   | 350   | 340   | 330   | 60    | 300   | 300   | 340   |  |
| LINK # | *     |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |  |
| 350    | 340   |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |  |
| -----* |       |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |  |
| .0     | 1 *   | .7                | .7   | .7   | .8   | .0   | .3   | .2   | .1   | .4   | .6    | .8    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
| .0     | 2 *   | .5                | .6   | .5   | .7   | .0   | .1   | .1   | .0   | .3   | .3    | .4    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
| .0     | 3 *   | 1.2               | .9   | .9   | 1.1  | .0   | .3   | .2   | .1   | .5   | .7    | .9    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
| .0     | 4 *   | .9                | .9   | .8   | .9   | .0   | .1   | .1   | .0   | .3   | .4    | .4    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
| .0     | 5 *   | .2                | .0   | .0   | .0   | .7   | .1   | .1   | .2   | .0   | .0    | .0    | .8    | .8    | .8    | .5    | 1.0   | 1.0   | .3    |  |
| .0     | 6 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .2    | .4    | .5    | .1    |  |
| .0     | 7 *   | .1                | .0   | .0   | .0   | .8   | .1   | .1   | .3   | .0   | .0    | .5    | 1.1   | 1.0   | 1.1   | 1.2   | 1.4   | 1.4   | .2    |  |
| .0     | 8 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .7    | .8    | .9    | .0    |  |
| .5     | 9 *   | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .4    | .0    | .0    | .5    |  |
| .5     | 10 *  | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .3    | .0    | .0    | .8    |  |
| .0     | 11 *  | .4                | .8   | .7   | .5   | .0   | .1   | .1   | .1   | .2   | .3    | .4    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
| .3     | 12 *  | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .6    | .0    | .0    | .2    |  |
| .3     | 13 *  | .0                | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .4    | .0    | .0    | .1    |  |
| .1     | 14 *  | .2                | .0   | .0   | .0   | .3   | .1   | .1   | .1   | .0   | .0    | .0    | .3    | .3    | .3    | .0    | .4    | .4    | .2    |  |

|     |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| .0  | 15 * | .1 | .0 | .0 | .0 | .1 | .0 | .1 | .1 | .0 | .0 | .3 | .4 | .4 | .0 | .0 | .0 | .0 |
| .1  | 16 * | .2 | .0 | .0 | .0 | .3 | .1 | .1 | .1 | .0 | .0 | .2 | .2 | .2 | .0 | .3 | .3 | .2 |
| .0  | 17 * | .1 | .0 | .0 | .0 | .1 | .1 | .1 | .1 | .0 | .0 | .3 | .3 | .3 | .0 | .0 | .0 | .0 |
| .0  | 18 * | .1 | .3 | .3 | .3 | .0 | .1 | .1 | .1 | .2 | .2 | .3 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | 19 * | .1 | .2 | .2 | .3 | .0 | .1 | .1 | .1 | .2 | .2 | .2 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | 20 * | .1 | .0 | .0 | .0 | .2 | .1 | .1 | .1 | .0 | .0 | .7 | .6 | .4 | .0 | .0 | .0 | .0 |
| .0  | 21 * | .1 | .4 | .5 | .0 | .0 | .3 | .3 | .3 | .0 | .0 | .3 | .3 | .2 | .0 | .1 | .1 | .0 |
| .0  | 22 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | 23 * | .1 | .0 | .0 | .0 | .3 | .3 | .3 | .1 | .2 | .2 | .2 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | 24 * | .0 | .3 | .3 | .0 | .0 | .2 | .2 | .2 | .0 | .0 | .3 | .2 | .2 | .0 | .1 | .1 | .0 |
| .0  | 25 * | .0 | .0 | .0 | .0 | .2 | .1 | .1 | .4 | .4 | .3 | .3 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | 26 * | .0 | .0 | .0 | .0 | .1 | .0 | .0 | .0 | .0 | .2 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | 27 * | .1 | .2 | .2 | .0 | .0 | .3 | .3 | .2 | .0 | .0 | .4 | .3 | .2 | .0 | .1 | .0 | .0 |
| .0  | 28 * | .0 | .0 | .0 | .0 | .4 | .1 | .1 | .2 | .5 | .5 | .2 | .0 | .0 | .0 | .0 | .0 | .0 |
| .1  | 29 * | .1 | .0 | .0 | .0 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .1 |
| .3  | 30 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .1 | .0 | .0 | .5 |
| 1.0 | 31 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .3 | .0 | .0 | .9 |
| .0  | 32 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| .3  | 33 * | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .3 |

PAGE

8

JOB: I25SH7withparkinglotPMPA

RUN: I25SH7withparkinglotPMPA

DATE : 11/22/10  
TIME : 12:40:16

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |        | * CO/LINK (PPM)<br>* ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|--------|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |        | REC21                                | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 |
| REC39  | REC40  | 340                                  | 310   | 300   | 300   | 290   | 290   | 300   | 290   | 240   | 240   | 230   | 120   | 230   | 210   | 200   | 140   | 130   | 130   |
| LINK # | LINK # | -----*                               |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| .0     | 1 *    | .0                                   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 2 *    | .0                                   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 3 *    | .0                                   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 4 *    | .0                                   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 5 *    | .0                                   | .2    | .4    | .4    | .7    | .6    | .2    | .3    | .4    | .5    | .5    | .0    | .5    | .4    | .3    | .0    | .0    | .0    |
| .0     | 6 *    | .0                                   | .1    | .2    | .2    | .3    | .2    | .1    | .1    | .2    | .2    | .3    | .0    | .2    | .2    | .2    | .0    | .0    | .0    |
| .0     | 7 *    | .0                                   | .2    | .4    | .4    | .7    | .5    | .1    | .3    | .4    | .5    | .5    | .0    | .4    | .3    | .3    | .0    | .0    | .0    |
| .0     | 8 *    | .0                                   | .1    | .2    | .2    | .3    | .2    | .0    | .1    | .2    | .2    | .3    | .0    | .1    | .2    | .2    | .0    | .0    | .0    |
| .5     | 9 *    | .3                                   | .2    | .1    | .2    | .3    | .5    | .8    | .7    | .2    | .1    | .1    | .6    | .0    | .0    | .0    | .3    | .3    | .4    |
| .3     | 10 *   | .3                                   | .2    | .2    | .3    | .7    | .9    | 1.1   | 1.1   | .1    | .0    | .0    | .4    | .0    | .0    | .0    | .2    | .3    | .3    |
| .0     | 11 *   | .0                                   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 12 *   | .2                                   | .1    | .0    | .0    | .0    | .0    | .3    | .2    | 1.3   | 1.2   | 1.0   | 1.5   | .0    | .0    | .0    | .4    | .5    | .5    |

|     |    |      |     |     |     |     |     |    |    |    |     |     |    |     |    |    |    |    |    |    |
|-----|----|------|-----|-----|-----|-----|-----|----|----|----|-----|-----|----|-----|----|----|----|----|----|----|
| 1.0 | .7 | 13 * | .2  | .1  | .0  | .0  | .0  | .0 | .2 | .1 | 1.3 | 1.0 | .6 | 1.4 | .0 | .0 | .0 | .3 | .4 | .4 |
| .7  | .5 | 14 * | .1  | .2  | .2  | .3  | .4  | .3 | .2 | .3 | .1  | .2  | .3 | .0  | .4 | .3 | .2 | .0 | .0 | .1 |
| .1  | .2 | 15 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 16 * | .1  | .2  | .2  | .2  | .3  | .3 | .2 | .3 | .1  | .2  | .2 | .0  | .5 | .3 | .2 | .1 | .1 | .2 |
| .4  | .6 | 17 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 18 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 19 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 20 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 21 * | .0  | .0  | .0  | .1  | .0  | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 22 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 23 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 24 * | .0  | .0  | .0  | .1  | .0  | .0 | .1 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 25 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 26 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 27 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 28 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 29 * | .1  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 30 * | .2  | .1  | .0  | .1  | .0  | .1 | .2 | .1 | .1  | .2  | .3 | .0  | .6 | .6 | .7 | .8 | .8 | .7 |
| .7  | .4 | 31 * | 1.2 | 1.3 | 1.1 | 1.2 | 1.1 | .5 | .2 | .2 | .2  | .1  | .1 | .0  | .0 | .0 | .0 | .2 | .1 | .2 |
| .0  | .1 | 32 * | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0 | .0  | .0 | .0 | .0 | .0 | .0 | .0 |
| .0  | .0 | 33 * | .2  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  | .0  | .0 | .4  | .5 | .5 | .3 | .3 | .2 | .2 |
| .1  | .0 |      |     |     |     |     |     |    |    |    |     |     |    |     |    |    |    |    |    |    |

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JOB: I25SH7withparkinglotPMPA

RUN: I25SH7withparkinglotPMPA

DATE : 11/22/10  
TIME : 12:40:16

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |   | * CO/LINK (PPM)   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|---|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |   | * ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|        |   | REC41             | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
| LINK # | * | 120               | 120   | 240   | 210   | 190   | 180   | 230   | 220   | 220   | 130   | 120   | 120   | 100   | 100   | 100   | 100   |
| 1      | * | .0                | .0    | .3    | .0    | .0    | .0    | .4    | .3    | .3    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 2      | * | .0                | .0    | .1    | .0    | .0    | .0    | .2    | .2    | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 3      | * | .0                | .0    | .3    | .1    | .0    | .0    | .3    | .3    | .3    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 4      | * | .0                | .0    | .2    | .0    | .0    | .0    | .2    | .2    | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 5      | * | .2                | .3    | .3    | .5    | .5    | .5    | .0    | .0    | .0    | .3    | .4    | .5    | .5    | .5    | .5    | .5    |
| 6      | * | .1                | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 7      | * | .1                | .2    | .1    | .4    | .4    | .4    | .0    | .0    | .0    | .3    | .4    | .4    | .4    | .4    | .4    | .4    |
| 8      | * | .0                | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 9      | * | .4                | .3    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .1    | .1    |
| 10     | * | .3                | .3    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .1    | .1    |
| 11     | * | .0                | .0    | .1    | .0    | .0    | .0    | .3    | .3    | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 12     | * | .2                | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .1    | .1    |
| 13     | * | .2                | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 14     | * | .4                | .5    | .5    | .5    | .5    | .5    | .0    | .0    | .0    | .2    | .3    | .4    | .6    | .5    | .4    | .4    |
| 15     | * | .0                | .0    | .6    | .7    | .7    | .5    | .0    | .0    | .0    | .2    | .2    | .3    | .3    | .2    | .2    | .2    |
| 16     | * | .8                | .8    | .8    | .7    | .6    | .7    | .1    | .1    | .0    | .3    | .3    | .4    | .7    | .6    | .4    | .4    |
| 17     | * | .0                | .0    | .9    | 1.0   | 1.0   | .8    | .0    | .0    | .0    | .2    | .2    | .3    | .4    | .3    | .2    | .2    |
| 18     | * | .0                | .0    | .1    | .0    | .0    | .0    | .3    | .2    | .2    | .0    | .0    | .0    | .0    | .1    | .1    | .2    |
| 19     | * | .0                | .0    | .1    | .0    | .0    | .0    | .3    | .2    | .2    | .0    | .0    | .0    | .2    | .4    | .5    | .6    |
| 20     | * | .0                | .0    | .4    | .7    | .8    | .6    | .0    | .0    | .0    | .1    | .1    | .2    | .2    | .2    | .2    | .2    |
| 21     | * | .0                | .0    | .1    | .0    | .0    | .0    | .3    | .3    | .3    | .7    | .6    | .6    | .6    | .4    | .3    | .2    |
| 22     | * | .0                | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .2    | .1    | .0    | .0    |

|    |   | sh7pfav2.out |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|---|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 23 | * | .0           | .0 | .1 | .1 | .1 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 24 | * | .0           | .0 | .0 | .0 | .0 | .0 | .2 | .2 | .3 | .4 | .4 | .3 | .2 | .1 | .1 | .1 |
| 25 | * | .0           | .0 | .1 | .2 | .2 | .2 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 26 | * | .0           | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 27 | * | .0           | .0 | .1 | .0 | .0 | .1 | .5 | .6 | .6 | .3 | .3 | .3 | .3 | .2 | .2 | .1 |
| 28 | * | .0           | .0 | .0 | .1 | .1 | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 29 | * | .0           | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 30 | * | .2           | .1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 31 | * | .3           | .3 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 32 | * | .0           | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .1 | .1 | .1 | .0 | .0 | .0 | .0 |
| 33 | * | .0           | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

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'SugarMillStationPMPackageA', 60 , 175 , 0 , 0 , 20 , 0.3048 , 1 , 1
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'Receptor 2', 862 , 22 , 5
'Receptor 3', 862 , 62 , 5
'Receptor 4', 902 , 62 , 5
'Receptor 5', 942 , 62 , 5
'Receptor 6', 942 , 174 , 5
'Receptor 7', 902 , 174 , 5
'Receptor 8', 862 , 174 , 5
'Receptor 9', 862 , 214 , 5
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'Receptor 11', 762 , 254 , 5
'Receptor 12', 762 , 214 , 5
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'Receptor 14', 722 , 174 , 5
'Receptor 15', 682 , 174 , 5
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'Receptor 17', 722 , 62 , 5
'Receptor 18', 762 , 62 , 5
'Receptor 19', 762 , 22 , 5
'Receptor 20', 762 , -18 , 5
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'SH119eblftturn', 'AG', 760 , 118 , 310 , 118 , 0 , 24 , 2
100 , 80 , 2 , 475 , 143.34 , 1600 , 1 , 3
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'SH119ebdep', 'AG', 812 , 94 , 1812 , 94 , 3055 , 23.7 , 0 , 44
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'SH119wbapp', 'AG', 1812 , 142 , 812 , 142 , 2730 , 46.9 , 0 , 44
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'SH119wbappque', 'AG', 864 , 142 , 1812 , 142 , 0 , 24 , 2
100 , 55 , 2 , 1575 , 143.34 , 1600 , 1 , 3
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'SH119wblftturn', 'AG', 864 , 118 , 1274 , 118 , 0 , 24 , 2
100 , 90 , 2 , 50 , 143.34 , 1600 , 1 , 3
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'SH119wbdep', 'AG', 812 , 142 , -188 , 142 , 2150 , 46.9 , 0 , 44
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'cntysbapp', 'AG', 794 , 1118 , 794 , 118 , 1135 , 45.5 , 0 , 44
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'cntysbappque', 'AG', 794 , 188 , 794 , 1118 , 0 , 24 , 2
100 , 90 , 2 , 315 , 143.34 , 1600 , 1 , 3
2
'cntysbleftturn', 'AG', 812 , 188 , 812 , 363 , 0 , 12 , 1
100 , 65 , 2 , 445 , 143.34 , 1600 , 1 , 3
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'cntysbdep', 'AG', 794 , 118 , 794 , -882 , 440 , 45.5 , 0 , 44
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'cntynbapp', 'AG', 830 , -882 , 830 , 118 , 801 , 45.5 , 0 , 44
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'cntynbappque', 'AG', 830 , 48 , 830 , -882 , 0 , 24 , 2
100 , 90 , 2 , 491 , 143.34 , 1600 , 1 , 3
1
'cntynbdep', 'AG', 830 , 118 , 830 , 1118 , 2067 , 45.5 , 0 , 44
2
'cntynbleftturn', 'AG', 812 , 48 , 812 , -127 , 0 , 12 , 1
100 , 65 , 2 , 200 , 143.34 , 1600 , 1 , 3
1 , 0 , 4 , 1000 , 0 , 'Y', 10 , 0 , 36

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JOB: SugarMillStationPMPackageA

RUN: SugarMillStationPMPackageA

DATE : 11/16/10  
TIME : 17:27:28

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

| V/C QUEUE<br>(VEH) | LINK DESCRIPTION   | * X1     | Y1     | X2      | Y2      | * LENGTH<br>(FT) | BRG TYPE<br>(DEG) | VPH   | EF<br>(G/MI) | H<br>(FT) | W<br>(FT) |
|--------------------|--------------------|----------|--------|---------|---------|------------------|-------------------|-------|--------------|-----------|-----------|
| 1.53               | 1. SH119ebapp      | * -188.0 | 94.0   | 812.0   | 94.0    | * 1000.          | 90. AG            | 3050. | 23.7         | .0        | 44.0      |
| 243.5              | 2. SH119ebappque   | * 760.0  | 94.0   | -4032.6 | 93.2    | * 4793.          | 270. AG           | 346.  | 100.0        | .0        | 24.0      |
| .93                | 3. SH119ebleftturn | * 760.0  | 118.0  | 613.5   | 118.0   | * 146.           | 270. AG           | 615.  | 100.0        | .0        | 24.0      |
| 7.4                | 4. SH119ebdep      | * 812.0  | 94.0   | 1812.0  | 94.0    | * 1000.          | 90. AG            | 3055. | 23.7         | .0        | 44.0      |
| 1.20               | 5. SH119wbapp      | * 1812.0 | 142.0  | 812.0   | 142.0   | * 1000.          | 270. AG           | 2730. | 46.9         | .0        | 44.0      |
| 85.1               | 6. SH119wbappque   | * 864.0  | 142.0  | 2539.8  | 142.0   | * 1676.          | 90. AG            | 423.  | 100.0        | .0        | 24.0      |
| .26                | 7. SH119wbleftturn | * 864.0  | 118.0  | 876.3   | 118.0   | * 12.            | 90. AG            | 692.  | 100.0        | .0        | 24.0      |
| 1.64               | 8. SH119wbdep      | * 812.0  | 142.0  | -188.0  | 142.0   | * 1000.          | 270. AG           | 2150. | 46.9         | .0        | 44.0      |
| 38.4               | 9. cntysbapp       | * 794.0  | 1118.0 | 794.0   | 118.0   | * 1000.          | 180. AG           | 1135. | 45.5         | .0        | 44.0      |
| .90                | 10. cntysbappque   | * 794.0  | 188.0  | 794.0   | 944.0   | * 756.           | 360. AG           | 692.  | 100.0        | .0        | 24.0      |
| 2.55               | 11. cntysbleftturn | * 812.0  | 188.0  | 812.0   | 383.4   | * 195.           | 360. AG           | 250.  | 100.0        | .0        | 12.0      |
| 86.8               | 12. cntysbdep      | * 794.0  | 118.0  | 794.0   | -882.0  | * 1000.          | 180. AG           | 440.  | 45.5         | .0        | 44.0      |
| .40                | 13. cntynbapp      | * 830.0  | -882.0 | 830.0   | 118.0   | * 1000.          | 360. AG           | 801.  | 45.5         | .0        | 44.0      |
| 3.6                | 14. cntynbappque   | * 830.0  | 48.0   | 830.0   | -1661.4 | * 1709.          | 180. AG           | 692.  | 100.0        | .0        | 24.0      |
|                    | 15. cntynbdep      | * 830.0  | 118.0  | 830.0   | 1118.0  | * 1000.          | 360. AG           | 2067. | 45.5         | .0        | 44.0      |
|                    | 16. cntynbleftturn | * 812.0  | 48.0   | 812.0   | -23.1   | * 71.            | 180. AG           | 250.  | 100.0        | .0        | 12.0      |

PAGE

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JOB: SugarMillStationPMPackageA

RUN: SugarMillStationPMPackageA

DATE : 11/16/10  
TIME : 17:27:28

ADDITIONAL QUEUE LINK PARAMETERS

| LINK DESCRIPTION   | * CYCLE LENGTH (SEC) | RED TIME (SEC) | CLEARANCE LOST TIME (SEC) | APPROACH VOL (VPH) | SATURATION FLOW RATE (VPH) | IDLE EM FAC (gm/hr) | SIGNAL TYPE | ARRIVAL RATE |
|--------------------|----------------------|----------------|---------------------------|--------------------|----------------------------|---------------------|-------------|--------------|
| 2. SH119ebappque   | * 100                | 45             | 2.0                       | 2500               | 1600                       | 143.34              | 1           | 3            |
| 3. SH119ebleftturn | * 100                | 80             | 2.0                       | 475                | 1600                       | 143.34              | 1           | 3            |
| 6. SH119wbappque   | * 100                | 55             | 2.0                       | 1575               | 1600                       | 143.34              | 1           | 3            |
| 7. SH119wbleftturn | * 100                | 90             | 2.0                       | 50                 | 1600                       | 143.34              | 1           | 3            |
| 10. cntysbappque   | * 100                | 90             | 2.0                       | 315                | 1600                       | 143.34              | 1           | 3            |
| 11. cntysbleftturn | * 100                | 65             | 2.0                       | 445                | 1600                       | 143.34              | 1           | 3            |
| 14. cntynbappque   | * 100                | 90             | 2.0                       | 491                | 1600                       | 143.34              | 1           | 3            |
| 16. cntynbleftturn | * 100                | 65             | 2.0                       | 200                | 1600                       | 143.34              | 1           | 3            |

RECEPTOR LOCATIONS

| RECEPTOR      | * X     | Y     | Z   | * |
|---------------|---------|-------|-----|---|
| 1. Receptor 1 | * 862.0 | -18.0 | 5.0 | * |
| 2. Receptor 2 | * 862.0 | 22.0  | 5.0 | * |
| 3. Receptor 3 | * 862.0 | 62.0  | 5.0 | * |
| 4. Receptor 4 | * 902.0 | 62.0  | 5.0 | * |
| 5. Receptor 5 | * 942.0 | 62.0  | 5.0 | * |
| 6. Receptor 6 | * 942.0 | 174.0 | 5.0 | * |
| 7. Receptor 7 | * 902.0 | 174.0 | 5.0 | * |

|              |    |   |       |       |     |   |
|--------------|----|---|-------|-------|-----|---|
| 8. Receptor  | 8  | * | 862.0 | 174.0 | 5.0 | * |
| 9. Receptor  | 9  | * | 862.0 | 214.0 | 5.0 | * |
| 10. Receptor | 10 | * | 862.0 | 254.0 | 5.0 | * |
| 11. Receptor | 11 | * | 762.0 | 254.0 | 5.0 | * |
| 12. Receptor | 12 | * | 762.0 | 214.0 | 5.0 | * |
| 13. Receptor | 13 | * | 762.0 | 174.0 | 5.0 | * |
| 14. Receptor | 14 | * | 722.0 | 174.0 | 5.0 | * |
| 15. Receptor | 15 | * | 682.0 | 174.0 | 5.0 | * |
| 16. Receptor | 16 | * | 682.0 | 62.0  | 5.0 | * |
| 17. Receptor | 17 | * | 722.0 | 62.0  | 5.0 | * |
| 18. Receptor | 18 | * | 762.0 | 62.0  | 5.0 | * |
| 19. Receptor | 19 | * | 762.0 | 22.0  | 5.0 | * |
| 20. Receptor | 20 | * | 762.0 | -18.0 | 5.0 | * |

3

JOB: SugarMillStationPMPackageA

RUN: SugarMillStationPMPackageA

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

| WIND ANGLE (DEGR) | * CONCENTRATION (PPM) | REC1 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 | REC19 | REC20 |
|-------------------|-----------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | * 5.8                 | 6.3  | 7.2  | 9.1  | 6.8  | 5.9  | 1.0  | 1.8  | 4.5  | 4.5  | 4.1   | 4.3   | 4.4   | 4.5   | 1.8   | 1.0   | 6.8   | 7.7   | 8.5   |       |       |
| 10.               | * 6.6                 | 4.2  | 4.9  | 6.7  | 5.4  | 5.0  | .2   | .6   | 1.8  | 1.8  | 1.8   | 6.6   | 6.7   | 6.7   | 3.5   | 2.3   | 7.8   | 9.0   | 9.5   |       |       |
| 20.               | * 5.9                 | 2.9  | 3.7  | 5.3  | 4.8  | 4.7  | .0   | .1   | .4   | .4   | .4    | 6.8   | 7.1   | 7.1   | 4.1   | 2.9   | 8.5   | 9.3   | 9.0   |       |       |
| 30.               | * 5.1                 | 2.7  | 3.3  | 5.1  | 4.9  | 4.9  | .0   | .0   | .1   | .1   | .1    | 6.5   | 6.6   | 6.5   | 4.0   | 3.0   | 8.6   | 8.7   | 7.8   |       |       |
| 40.               | * 5.2                 | 2.8  | 3.6  | 5.3  | 5.2  | 5.2  | .0   | .0   | .0   | .0   | .0    | 6.1   | 6.1   | 5.9   | 3.8   | 3.0   | 8.2   | 8.1   | 7.3   |       |       |
| 50.               | * 5.3                 | 3.0  | 3.8  | 5.6  | 5.6  | 5.6  | .0   | .0   | .0   | .0   | .0    | 5.7   | 5.7   | 5.1   | 3.6   | 2.8   | 8.2   | 7.7   | 7.4   |       |       |
| 60.               | * 5.6                 | 3.1  | 4.0  | 6.1  | 6.1  | 6.1  | .1   | .1   | .1   | .0   | .0    | 5.4   | 5.4   | 4.7   | 3.4   | 2.7   | 8.2   | 7.6   | 7.8   |       |       |
| 70.               | * 5.8                 | 3.2  | 4.2  | 6.8  | 6.7  | 6.7  | .6   | .6   | .6   | .1   | .0    | 5.2   | 5.3   | 4.7   | 3.6   | 3.0   | 8.3   | 7.9   | 8.1   |       |       |
| 80.               | * 5.1                 | 2.3  | 3.5  | 6.2  | 6.2  | 6.2  | 2.6  | 2.6  | 2.6  | .8   | .3    | 5.6   | 6.1   | 6.4   | 5.4   | 4.7   | 7.6   | 7.4   | 7.8   |       |       |
| 90.               | * 3.7                 | 1.1  | 1.9  | 4.2  | 4.1  | 4.1  | 5.8  | 5.9  | 6.0  | 2.5  | 1.3   | 6.6   | 7.7   | 9.1   | 7.9   | 7.3   | 5.4   | 5.5   | 5.9   |       |       |
| 100.              | * 2.7                 | .2   | .6   | 1.7  | 1.7  | 1.7  | 8.4  | 8.4  | 8.5  | 4.3  | 2.8   | 8.0   | 9.5   | 11.2  | 9.7   | 8.8   | 3.1   | 3.2   | 3.7   |       |       |
| 110.              | * 2.4                 | .0   | .0   | .4   | .4   | .4   | 8.5  | 8.5  | 8.5  | 4.8  | 3.4   | 8.7   | 9.4   | 10.5  | 8.7   | 8.4   | 1.7   | 2.1   | 2.6   |       |       |
| 120.              | * 2.4                 | .0   | .0   | .1   | .1   | .1   | 7.7  | 7.7  | 7.7  | 4.7  | 3.5   | 8.6   | 9.0   | 9.3   | 7.9   | 7.6   | 1.4   | 1.8   | 2.5   |       |       |
| 130.              | * 2.4                 | .0   | .0   | .0   | .0   | .0   | 7.1  | 7.1  | 7.1  | 4.3  | 3.2   | 8.3   | 8.2   | 8.5   | 6.9   | 7.1   | 1.5   | 1.9   | 2.7   |       |       |
| 140.              | * 2.7                 | .0   | .0   | .0   | .0   | .0   | 6.4  | 6.4  | 6.4  | 4.0  | 3.1   | 8.0   | 7.4   | 7.7   | 6.9   | 6.9   | 1.4   | 2.0   | 3.0   |       |       |
| 150.              | * 2.9                 | .0   | .0   | .0   | .0   | .0   | 6.0  | 6.0  | 6.2  | 3.8  | 3.1   | 7.7   | 6.7   | 7.4   | 7.0   | 7.2   | 1.6   | 1.9   | 3.1   |       |       |
| 160.              | * 3.2                 | .4   | .4   | .4   | .0   | .0   | 5.8  | 5.9  | 6.2  | 4.1  | 3.1   | 7.1   | 6.7   | 7.6   | 7.3   | 7.0   | 1.6   | 2.1   | 3.3   |       |       |
| 170.              | * 3.1                 | 1.4  | 1.4  | 1.4  | .4   | .3   | 6.1  | 6.3  | 7.1  | 5.1  | 4.4   | 6.5   | 6.6   | 7.9   | 7.4   | 7.0   | 1.3   | 1.9   | 3.1   |       |       |
| 180.              | * 2.0                 | 3.2  | 3.2  | 3.3  | 1.4  | .9   | 7.0  | 7.6  | 8.9  | 6.8  | 6.1   | 5.2   | 5.7   | 7.2   | 6.8   | 6.4   | .6    | 1.0   | 2.0   |       |       |
| 190.              | * .8                  | 4.4  | 4.4  | 4.4  | 2.3  | 1.6  | 7.4  | 8.2  | 9.3  | 7.7  | 7.2   | 3.6   | 4.4   | 6.0   | 6.0   | 5.7   | .1    | .4    | .8    |       |       |
| 200.              | * .2                  | 4.4  | 4.4  | 4.5  | 2.4  | 1.8  | 7.6  | 8.2  | 9.1  | 7.5  | 7.2   | 3.1   | 4.0   | 5.6   | 5.6   | 5.6   | .0    | .0    | .2    |       |       |
| 210.              | * .0                  | 3.9  | 4.0  | 4.0  | 2.3  | 1.8  | 7.8  | 8.1  | 8.6  | 7.4  | 7.3   | 2.9   | 3.8   | 5.7   | 5.7   | 5.7   | .0    | .0    | .0    |       |       |
| 220.              | * .0                  | 3.6  | 3.7  | 3.7  | 2.2  | 1.6  | 8.0  | 8.2  | 8.9  | 7.5  | 7.5   | 2.9   | 4.0   | 6.0   | 6.0   | 5.8   | .0    | .0    | .0    |       |       |
| 230.              | * .0                  | 3.4  | 3.6  | 3.2  | 2.2  | 1.6  | 8.3  | 8.5  | 9.8  | 8.0  | 7.9   | 2.9   | 4.0   | 6.4   | 6.3   | 5.9   | .0    | .0    | .0    |       |       |



|      |     |     |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|------|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| .0   | .0  |     |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
| 240. | *   | 3.2 | 3.5 | 2.8  | 2.1 | 1.5 | 9.0 | 9.3  | 10.4 | 8.4 | 8.2 | 3.0 | 4.1 | 6.9 | 6.6 | 6.3 | .1  | .1  | .1  |
| .0   | .0  |     |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
| 250. | *   | 3.2 | 3.5 | 2.8  | 2.3 | 1.9 | 9.6 | 10.1 | 11.1 | 8.5 | 8.0 | 2.8 | 4.1 | 7.3 | 7.0 | 6.7 | .4  | .5  | .5  |
| .0   | .0  |     |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
| 260. | *   | 3.5 | 4.1 | 3.9  | 3.5 | 3.2 | 9.6 | 9.9  | 11.0 | 8.4 | 7.4 | 2.3 | 3.4 | 6.8 | 6.6 | 6.4 | 1.9 | 1.9 | 1.9 |
| .6   | .3  |     |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
| 270. | *   | 4.6 | 5.6 | 6.4  | 5.6 | 5.3 | 7.2 | 7.7  | 9.0  | 7.2 | 6.3 | 1.2 | 2.0 | 4.6 | 4.4 | 4.3 | 4.3 | 4.3 | 4.5 |
| 2.1  | 1.2 |     |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
| 280. | *   | 5.8 | 7.0 | 7.9  | 7.4 | 7.2 | 4.5 | 5.1  | 6.4  | 5.6 | 5.4 | .3  | .6  | 1.9 | 1.9 | 1.9 | 6.3 | 6.5 | 6.6 |
| 3.4  | 2.2 |     |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
| 290. | *   | 6.5 | 7.1 | 7.7  | 7.4 | 7.2 | 2.9 | 3.6  | 5.1  | 5.1 | 5.0 | .0  | .1  | .4  | .4  | .4  | 6.5 | 6.9 | 7.2 |
| 4.0  | 2.8 |     |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
| 300. | *   | 6.6 | 7.0 | 7.3  | 7.1 | 7.3 | 2.8 | 3.3  | 5.1  | 5.3 | 5.3 | .0  | .0  | .1  | .1  | .1  | 6.3 | 6.6 | 6.8 |
| 4.1  | 2.9 |     |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
| 310. | *   | 6.5 | 6.3 | 7.2  | 7.0 | 7.4 | 2.8 | 3.5  | 5.4  | 5.5 | 5.5 | .0  | .0  | .0  | .0  | .0  | 6.0 | 6.4 | 6.5 |
| 4.0  | 3.0 |     |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
| 320. | *   | 6.3 | 6.0 | 7.5  | 7.7 | 7.5 | 2.9 | 3.9  | 6.0  | 6.0 | 6.0 | .0  | .0  | .0  | .0  | .0  | 5.7 | 6.0 | 6.0 |
| 3.8  | 2.9 |     |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
| 330. | *   | 6.6 | 6.5 | 8.2  | 8.4 | 8.1 | 3.0 | 3.9  | 6.6  | 6.6 | 6.5 | .0  | .0  | .0  | .0  | .0  | 5.7 | 5.7 | 5.7 |
| 3.8  | 3.0 |     |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
| 340. | *   | 7.2 | 7.3 | 9.8  | 8.9 | 7.6 | 2.8 | 3.9  | 6.9  | 6.9 | 6.8 | .5  | .5  | .5  | .0  | .0  | 5.5 | 5.5 | 5.7 |
| 3.9  | 3.0 |     |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
| 350. | *   | 7.6 | 8.3 | 10.3 | 8.2 | 7.1 | 2.2 | 3.4  | 6.6  | 6.5 | 6.4 | 1.9 | 1.9 | 1.9 | .6  | .3  | 5.9 | 6.2 | 6.7 |
| 5.0  | 4.1 |     |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
| 360. | *   | 6.3 | 7.2 | 9.1  | 6.8 | 5.9 | 1.0 | 1.8  | 4.5  | 4.5 | 4.1 | 4.3 | 4.4 | 4.5 | 1.8 | 1.0 | 6.8 | 7.7 | 8.5 |
| 6.9  | 5.8 |     |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |

-----\*

|       |     |     |     |      |     |     |     |      |      |     |     |     |     |      |     |     |     |     |     |
|-------|-----|-----|-----|------|-----|-----|-----|------|------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| MAX   | *   | 7.6 | 8.3 | 10.3 | 8.9 | 8.1 | 9.6 | 10.1 | 11.1 | 8.5 | 8.2 | 8.7 | 9.5 | 11.2 | 9.7 | 8.8 | 8.6 | 9.3 | 9.5 |
| 7.8   | 6.6 |     |     |      |     |     |     |      |      |     |     |     |     |      |     |     |     |     |     |
| DEGR. | *   | 350 | 350 | 350  | 340 | 330 | 250 | 250  | 250  | 250 | 240 | 110 | 100 | 100  | 100 | 100 | 30  | 20  | 10  |
| 10    | 10  |     |     |      |     |     |     |      |      |     |     |     |     |      |     |     |     |     |     |

THE HIGHEST CONCENTRATION OF 11.20 PPM OCCURRED AT RECEPTOR REC13.

PAGE

4

JOB: SugarMillStationPMPackageA

RUN: SugarMillStationPMPackageA

DATE : 11/16/10  
TIME : 17:27:28

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |       | * CO/LINK (PPM)   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|--------|-------|-------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |       | * ANGLE (DEGREES) |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|        |       | REC1              | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 |
| REC19  | REC20 | 350               | 350  | 350  | 340  | 330  | 250  | 250  | 250  | 240  | 110   | 100   | 100   | 100   | 100   | 100   | 30    | 20    | 10    |
| LINK # | *     | 10                | 10   |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| -----* |       |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 1.2    | 1     | .2                | .1   | .0   | .0   | .0   | 1.2  | 1.4  | 1.5  | 1.1  | .9    | .0    | .0    | .0    | .0    | .1    | 2.2   | 2.0   | 2.0   |
|        | .8    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .1     | 2     | .0                | .0   | .0   | .0   | .0   | .4   | .5   | .6   | .5   | .4    | .0    | .0    | .0    | .0    | .0    | .8    | .8    | .2    |
|        | .1    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .2     | 3     | .0                | .0   | .0   | .0   | .0   | .3   | .5   | .6   | .4   | .4    | .0    | .0    | .0    | .0    | .1    | 1.0   | .9    | .2    |
|        | .1    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .1     | 4     | .8                | 1.2  | 2.0  | 2.0  | 2.2  | .3   | .1   | .0   | .0   | .0    | .9    | .9    | 1.4   | 1.4   | 1.3   | .0    | .0    | .0    |
|        | .2    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .3     | 5     | .9                | 1.3  | 2.0  | 2.1  | 2.1  | 4.1  | 3.3  | 2.0  | .0   | .0    | 2.1   | 2.7   | 4.5   | 3.4   | 2.7   | .1    | .1    | .2    |
|        | .4    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .0     | 6     | .1                | .1   | .1   | .4   | .5   | .6   | .2   | .0   | .0   | .0    | .6    | .8    | 1.0   | .8    | .6    | .0    | .0    | .0    |
|        | .0    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .0     | 7     | .1                | .1   | .2   | .2   | .1   | .1   | .0   | .0   | .0   | .0    | .0    | .0    | .1    | .1    | .0    | .0    | .0    | .0    |
|        | .0    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 1.0    | 8     | .3                | .2   | .1   | .1   | .1   | 1.3  | 1.9  | 2.9  | 2.3  | 1.6   | .0    | .0    | 1.0   | 1.8   | 2.4   | 1.6   | 1.6   | 1.5   |
|        | .7    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 1.3    | 9     | 1.0               | 1.1  | 1.1  | .9   | .7   | .3   | .5   | .9   | .9   | .9    | 1.4   | 1.5   | 1.5   | .9    | .6    | .8    | 1.1   | 1.7   |
|        | 1.0   |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 1.0    | 10    | .8                | .9   | 1.1  | .9   | .7   | .0   | .0   | .0   | .5   | .9    | 1.7   | 1.6   | .0    | .1    | .1    | .7    | 1.0   | 1.2   |
|        | .8    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .2     | 11    | .1                | .2   | .2   | .2   | .2   | .0   | .0   | .0   | .2   | .3    | .3    | .3    | .0    | .0    | .0    | .2    | .2    | .2    |
|        | .1    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .4     | 12    | .1                | .0   | .0   | .0   | .0   | .1   | .1   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .2    |
|        | .5    |                   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|        | 13    | .9                | .7   | .4   | .0   | .0   | .1   | .1   | .0   | .0   | .0    | .0    | .0    | .0    | .1    | .1    | .0    | .0    | .0    |

|     |      | sgm1pkga.out |     |     |     |     |    |     |     |     |     |     |     |     |     |    |     |     |     |
|-----|------|--------------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|
| .0  | .1   |              |     |     |     |     |    |     |     |     |     |     |     |     |     |    |     |     |     |
|     | 14 * | .4           | .0  | .0  | .0  | .0  | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0 | .0  | .0  | .0  |
| .0  | .0   |              |     |     |     |     |    |     |     |     |     |     |     |     |     |    |     |     |     |
|     | 15 * | 1.9          | 2.4 | 3.1 | 2.1 | 1.5 | .8 | 1.5 | 2.6 | 2.6 | 2.8 | 1.7 | 1.7 | 1.7 | 1.1 | .8 | 1.2 | 1.6 | 2.1 |
| 2.0 | 1.8  |              |     |     |     |     |    |     |     |     |     |     |     |     |     |    |     |     |     |
|     | 16 * | .0           | .0  | .0  | .0  | .0  | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0 | .0  | .0  | .0  |
| .0  | .0   |              |     |     |     |     |    |     |     |     |     |     |     |     |     |    |     |     |     |

```

'SugarMillStationPMPA', 60 , 175 , 0 , 0 , 20 , 0.3048 , 1 , 1
'Receptor 1', 874 , -42 , 5
'Receptor 2', 874 , -2 , 5
'Receptor 3', 874 , 38 , 5
'Receptor 4', 914 , 38 , 5
'Receptor 5', 954 , 38 , 5
'Receptor 6', 954 , 198 , 5
'Receptor 7', 914 , 198 , 5
'Receptor 8', 874 , 198 , 5
'Receptor 9', 874 , 238 , 5
'Receptor 10', 874 , 278 , 5
'Receptor 11', 750 , 278 , 5
'Receptor 12', 750 , 238 , 5
'Receptor 13', 750 , 198 , 5
'Receptor 14', 710 , 198 , 5
'Receptor 15', 670 , 198 , 5
'Receptor 16', 670 , 38 , 5
'Receptor 17', 710 , 38 , 5
'Receptor 18', 750 , 38 , 5
'Receptor 19', 750 , -2 , 5
'Receptor 20', 750 , -42 , 5
'SugarMillStationPMPA', 22 , 1 , 1 , 'CO'
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'SH119eboutapp', 'AG', -188 , 70 , 812 , 70 , 1524 , 23.7 , 0 , 44
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'SH119eboutappque', 'AG', 760 , 70 , -188 , 70 , 0 , 24 , 2
100 , 47 , 2 , 1250 , 143.34 , 1600 , 1 , 3
1
'SH119ebinapp', 'AG', -188 , 94 , 812 , 94 , 1524 , 23.7 , 0 , 44
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'SH119ebinappque', 'AG', 760 , 94 , -188 , 94 , 0 , 24 , 2
100 , 47 , 2 , 1250 , 143.34 , 1600 , 1 , 3
2
'SH119ebleftturn', 'AG', 760 , 118 , 310 , 118 , 0 , 24 , 2
100 , 81 , 2 , 472 , 143.34 , 1600 , 1 , 3
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1
'SH119ebindep', 'AG', 812 , 94 , 1812 , 94 , 1523 , 23.7 , 0 , 44
1
'SH119wboutapp', 'AG', 1812 , 166 , 812 , 166 , 1365 , 46.9 , 0 , 44
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'SH119wboutappque', 'AG', 864 , 166 , 1812 , 166 , 0 , 24 , 2
100 , 58 , 2 , 788 , 143.34 , 1600 , 1 , 3
1
'SH119wbinapp', 'AG', 1812 , 142 , 812 , 142 , 1365 , 46.9 , 0 , 44
2
'SH119wbinappque', 'AG', 864 , 142 , 1812 , 142 , 0 , 24 , 2
100 , 58 , 2 , 788 , 143.34 , 1600 , 1 , 3
2
'SH119wbleftturn', 'AG', 864 , 118 , 1274 , 118 , 0 , 24 , 2
100 , 92 , 2 , 50 , 143.34 , 1600 , 1 , 3
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'SH119wboutdep', 'AG', 812 , 166 , -188 , 166 , 1072 , 46.9 , 0 , 44
1
'SH119wbindep', 'AG', 812 , 142 , -188 , 142 , 1072 , 46.9 , 0 , 44
1
'cntysbapp', 'AG', 788 , 1118 , 788 , 118 , 1116 , 45.5 , 0 , 56
2
'cntysbappque', 'AG', 788 , 188 , 788 , 1118 , 0 , 36 , 3
100 , 75 , 2 , 312 , 143.34 , 1600 , 1 , 3
2
'cntysbleftturn', 'AG', 812 , 188 , 812 , 363 , 0 , 24 , 2
100 , 84 , 2 , 436 , 143.34 , 1600 , 1 , 3
1
'cntysbdep', 'AG', 788 , 118 , 788 , -882 , 437 , 45.5 , 0 , 56
1
'cntynbapp', 'AG', 836 , -882 , 836 , 118 , 800 , 45.5 , 0 , 56
2
'cntynbappque', 'AG', 836 , 48 , 836 , -882 , 0 , 36 , 3
100 , 77 , 2 , 490 , 143.34 , 1600 , 1 , 3
1
'cntynbdep', 'AG', 836 , 118 , 836 , 1118 , 2067 , 45.5 , 0 , 56
2
'cntynbleftturn', 'AG', 812 , 48 , 812 , -127 , 0 , 24 , 2
100 , 86 , 2 , 200 , 143.34 , 1600 , 1 , 3
1 , 0 , 4 , 1000 , 0 , 'Y', 10 , 0 , 36

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JOB: SugarMillStationPMPA

RUN: SugarMillStationPMPA

DATE : 11/22/10  
TIME : 12:46:48

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      ZO = 175. CM  
U = 1.0 M/S      CLAS = 4 (D)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

| V/C QUEUE<br>(VEH) | LINK DESCRIPTION    | * X1     | Y1     | X2     | Y2     | * LENGTH<br>(FT) | BRG TYPE<br>(DEG) | VPH   | EF<br>(G/MI) | H<br>(FT) | W<br>(FT) |
|--------------------|---------------------|----------|--------|--------|--------|------------------|-------------------|-------|--------------|-----------|-----------|
|                    | 1. SH119eboutapp    | * -188.0 | 70.0   | 812.0  | 70.0   | * 1000.          | 90. AG            | 1524. | 23.7         | .0        | 44.0      |
| .80                | 2. SH119eboutappque | * 760.0  | 70.0   | 597.1  | 70.0   | * 163.           | 270. AG           | 361.  | 100.0        | .0        | 24.0      |
| 8.3                | 3. SH119ebinapp     | * -188.0 | 94.0   | 812.0  | 94.0   | * 1000.          | 90. AG            | 1524. | 23.7         | .0        | 44.0      |
| .80                | 4. SH119ebinappque  | * 760.0  | 94.0   | 597.1  | 94.0   | * 163.           | 270. AG           | 361.  | 100.0        | .0        | 24.0      |
| 8.3                | 5. SH119ebleftturn  | * 760.0  | 118.0  | 589.0  | 117.9  | * 171.           | 270. AG           | 623.  | 100.0        | .0        | 24.0      |
| .98                | 6. SH119eboutdep    | * 812.0  | 70.0   | 1812.0 | 70.0   | * 1000.          | 90. AG            | 1523. | 23.7         | .0        | 44.0      |
| 8.7                | 7. SH119ebindep     | * 812.0  | 94.0   | 1812.0 | 94.0   | * 1000.          | 90. AG            | 1523. | 23.7         | .0        | 44.0      |
|                    | 8. SH119wboutapp    | * 1812.0 | 166.0  | 812.0  | 166.0  | * 1000.          | 270. AG           | 1365. | 46.9         | .0        | 44.0      |
| .65                | 9. SH119wboutappque | * 864.0  | 166.0  | 989.0  | 166.0  | * 125.           | 90. AG            | 446.  | 100.0        | .0        | 24.0      |
| 6.3                | 10. SH119wbinapp    | * 1812.0 | 142.0  | 812.0  | 142.0  | * 1000.          | 270. AG           | 1365. | 46.9         | .0        | 44.0      |
| .65                | 11. SH119wbinappque | * 864.0  | 142.0  | 989.0  | 142.0  | * 125.           | 90. AG            | 446.  | 100.0        | .0        | 24.0      |
| 6.3                | 12. SH119wbleftturn | * 864.0  | 118.0  | 876.6  | 118.0  | * 13.            | 90. AG            | 707.  | 100.0        | .0        | 24.0      |
| .39                | 13. SH119wboutdep   | * 812.0  | 166.0  | -188.0 | 166.0  | * 1000.          | 270. AG           | 1072. | 46.9         | .0        | 44.0      |
| .6                 | 14. SH119wbindep    | * 812.0  | 142.0  | -188.0 | 142.0  | * 1000.          | 270. AG           | 1072. | 46.9         | .0        | 44.0      |
|                    | 15. cntysbapp       | * 788.0  | 1118.0 | 788.0  | 118.0  | * 1000.          | 180. AG           | 1116. | 45.5         | .0        | 56.0      |
| .31                | 16. cntysbappque    | * 788.0  | 188.0  | 788.0  | 230.7  | * 43.            | 360. AG           | 865.  | 100.0        | .0        | 36.0      |
| 2.2                | 17. cntysbleftturn  | * 812.0  | 188.0  | 812.0  | 620.8  | * 433.           | 360. AG           | 646.  | 100.0        | .0        | 24.0      |
| 1.14               | 18. cntysbdep       | * 788.0  | 118.0  | 788.0  | -882.0 | * 1000.          | 180. AG           | 437.  | 45.5         | .0        | 56.0      |
|                    | 19. cntynbapp       | * 836.0  | -882.0 | 836.0  | 118.0  | * 1000.          | 360. AG           | 800.  | 45.5         | .0        | 56.0      |
| .54                | 20. cntynbappque    | * 836.0  | 48.0   | 836.0  | -20.6  | * 69.            | 180. AG           | 888.  | 100.0        | .0        | 36.0      |
| 3.5                | 21. cntynbdep       | * 836.0  | 118.0  | 836.0  | 1118.0 | * 1000.          | 360. AG           | 2067. | 45.5         | .0        | 56.0      |
| .63                | 22. cntynbleftturn  | * 812.0  | 48.0   | 812.0  | -1.0   | * 49.            | 180. AG           | 661.  | 100.0        | .0        | 24.0      |
| 2.5                |                     |          |        |        |        |                  |                   |       |              |           |           |

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JOB: SugarMillStationPMPA

RUN: SugarMillStationPMPA

DATE : 11/22/10  
TIME : 12:46:48

ADDITIONAL QUEUE LINK PARAMETERS

| LINK DESCRIPTION    | * CYCLE LENGTH<br>(SEC) | RED TIME<br>(SEC) | CLEARANCE LOST TIME<br>(SEC) | APPROACH VOL<br>(VPH) | SATURATION FLOW RATE<br>(VPH) | IDLE EM FAC<br>(gm/hr) | SIGNAL TYPE | ARRIVAL RATE |
|---------------------|-------------------------|-------------------|------------------------------|-----------------------|-------------------------------|------------------------|-------------|--------------|
| 2. SH119eboutappque | * 100                   | 47                | 2.0                          | 1250                  | 1600                          | 143.34                 | 1           | 3            |
| 4. SH119ebinappque  | * 100                   | 47                | 2.0                          | 1250                  | 1600                          | 143.34                 | 1           | 3            |
| 5. SH119ebleftturn  | * 100                   | 81                | 2.0                          | 472                   | 1600                          | 143.34                 | 1           | 3            |
| 9. SH119wboutappque | * 100                   | 58                | 2.0                          | 788                   | 1600                          | 143.34                 | 1           | 3            |
| 11. SH119wbinappque | * 100                   | 58                | 2.0                          | 788                   | 1600                          | 143.34                 | 1           | 3            |
| 12. SH119wbleftturn | * 100                   | 92                | 2.0                          | 50                    | 1600                          | 143.34                 | 1           | 3            |
| 16. cntysbappque    | * 100                   | 75                | 2.0                          | 312                   | 1600                          | 143.34                 | 1           | 3            |
| 17. cntysbleftturn  | * 100                   | 84                | 2.0                          | 436                   | 1600                          | 143.34                 | 1           | 3            |
| 20. cntynbappque    | * 100                   | 77                | 2.0                          | 490                   | 1600                          | 143.34                 | 1           | 3            |
| 22. cntynbleftturn  | * 100                   | 86                | 2.0                          | 200                   | 1600                          | 143.34                 | 1           | 3            |

RECEPTOR LOCATIONS

| RECEPTOR        | * | X     | COORDINATES (FT) | Y   | Z | * |
|-----------------|---|-------|------------------|-----|---|---|
| 1. Receptor 1   | * | 874.0 | -42.0            | 5.0 | * |   |
| 2. Receptor 2   | * | 874.0 | -2.0             | 5.0 | * |   |
| 3. Receptor 3   | * | 874.0 | 38.0             | 5.0 | * |   |
| 4. Receptor 4   | * | 914.0 | 38.0             | 5.0 | * |   |
| 5. Receptor 5   | * | 954.0 | 38.0             | 5.0 | * |   |
| 6. Receptor 6   | * | 954.0 | 198.0            | 5.0 | * |   |
| 7. Receptor 7   | * | 914.0 | 198.0            | 5.0 | * |   |
| 8. Receptor 8   | * | 874.0 | 198.0            | 5.0 | * |   |
| 9. Receptor 9   | * | 874.0 | 238.0            | 5.0 | * |   |
| 10. Receptor 10 | * | 874.0 | 278.0            | 5.0 | * |   |
| 11. Receptor 11 | * | 750.0 | 278.0            | 5.0 | * |   |
| 12. Receptor 12 | * | 750.0 | 238.0            | 5.0 | * |   |
| 13. Receptor 13 | * | 750.0 | 198.0            | 5.0 | * |   |
| 14. Receptor 14 | * | 710.0 | 198.0            | 5.0 | * |   |
| 15. Receptor 15 | * | 670.0 | 198.0            | 5.0 | * |   |
| 16. Receptor 16 | * | 670.0 | 38.0             | 5.0 | * |   |
| 17. Receptor 17 | * | 710.0 | 38.0             | 5.0 | * |   |
| 18. Receptor 18 | * | 750.0 | 38.0             | 5.0 | * |   |
| 19. Receptor 19 | * | 750.0 | -2.0             | 5.0 | * |   |
| 20. Receptor 20 | * | 750.0 | -42.0            | 5.0 | * |   |

3

JOB: SugarMillStationPMPA

RUN: SugarMillStationPMPA

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

| WIND ANGLE (DEGR) | * CONCENTRATION (PPM) | REC1 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 | REC19 | REC20 |  |
|-------------------|-----------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| 0.                | 6.0                   | 6.6  | 7.9  | 6.2  | 5.4  | .9   | 1.6  | 3.9  | 3.7  | 3.7  | 2.8   | 2.8   | 3.0   | 1.3   | .7    | 6.3   | 7.0   | 7.8   |       |       |       |  |
| 6.3               | 5.2                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 10.               | 4.2                   | 4.7  | 6.1  | 5.0  | 4.4  | .1   | .5   | 1.6  | 1.6  | 1.5  | 4.5   | 4.8   | 4.8   | 2.5   | 1.5   | 7.1   | 8.3   | 8.9   |       |       |       |  |
| 7.0               | 6.4                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 20.               | 2.9                   | 3.5  | 4.8  | 4.3  | 3.9  | .0   | .1   | .4   | .4   | .4   | 5.2   | 5.3   | 5.5   | 3.3   | 2.3   | 8.1   | 9.0   | 8.3   |       |       |       |  |
| 6.7               | 6.1                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 30.               | 2.5                   | 3.0  | 4.5  | 4.1  | 3.8  | .0   | .0   | .1   | .1   | .1   | 5.0   | 5.0   | 5.5   | 3.3   | 2.6   | 8.4   | 8.5   | 7.4   |       |       |       |  |
| 5.6               | 5.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 40.               | 2.3                   | 3.1  | 4.4  | 4.0  | 3.7  | .0   | .0   | .1   | .1   | .1   | 4.7   | 4.7   | 5.6   | 3.3   | 2.6   | 7.8   | 7.9   | 6.7   |       |       |       |  |
| 5.5               | 5.6                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 50.               | 2.3                   | 2.9  | 4.5  | 4.2  | 4.1  | .0   | .0   | .0   | .0   | .0   | 4.3   | 4.3   | 5.6   | 3.3   | 2.4   | 7.7   | 7.2   | 6.5   |       |       |       |  |
| 5.8               | 5.4                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 60.               | 2.4                   | 2.9  | 4.4  | 4.3  | 4.3  | .1   | .1   | .1   | .0   | .0   | 4.1   | 4.1   | 5.8   | 3.4   | 2.5   | 7.4   | 6.5   | 6.6   |       |       |       |  |
| 6.0               | 5.1                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 70.               | 2.3                   | 3.0  | 4.6  | 4.6  | 4.6  | .4   | .4   | .4   | .0   | .0   | 4.0   | 4.1   | 6.1   | 3.9   | 3.1   | 7.0   | 6.6   | 6.8   |       |       |       |  |
| 6.1               | 4.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 80.               | 1.6                   | 2.3  | 4.1  | 4.1  | 4.1  | 1.4  | 1.4  | 1.6  | .4   | .2   | 4.2   | 4.7   | 7.4   | 5.3   | 4.4   | 6.2   | 6.1   | 6.3   |       |       |       |  |
| 5.3               | 3.5                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 90.               | .6                    | 1.2  | 2.5  | 2.4  | 2.4  | 3.4  | 3.6  | 3.9  | 1.5  | .9   | 5.1   | 6.5   | 9.6   | 7.5   | 6.4   | 4.3   | 4.6   | 5.5   |       |       |       |  |
| 4.0               | 2.2                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 100.              | .1                    | .3   | .9   | .9   | .9   | 5.3  | 5.6  | 6.0  | 3.0  | 1.8  | 6.2   | 8.3   | 10.7  | 8.7   | 7.6   | 2.5   | 3.0   | 4.0   |       |       |       |  |
| 2.5               | 1.3                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 110.              | .0                    | .0   | .2   | .2   | .2   | 5.7  | 6.3  | 6.9  | 3.8  | 2.6  | 7.0   | 9.5   | 10.1  | 8.1   | 7.1   | 1.5   | 2.0   | 3.1   |       |       |       |  |
| 1.6               | 1.1                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 120.              | .0                    | .0   | .0   | .0   | .0   | 5.5  | 6.4  | 6.9  | 4.0  | 2.8  | 7.5   | 9.4   | 8.9   | 7.0   | 6.4   | 1.0   | 1.5   | 2.6   |       |       |       |  |
| 1.4               | 1.2                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 130.              | .0                    | .0   | .0   | .0   | .0   | 5.5  | 6.4  | 6.7  | 4.0  | 2.7  | 7.6   | 9.0   | 7.8   | 6.2   | 6.1   | .8    | 1.2   | 2.1   |       |       |       |  |
| 1.2               | 1.2                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 140.              | .0                    | .0   | .0   | .0   | .0   | 5.6  | 6.2  | 6.5  | 4.1  | 3.0  | 7.8   | 8.0   | 6.9   | 6.0   | 5.9   | .7    | .9    | 1.8   |       |       |       |  |
| 1.4               | 1.4                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 150.              | .0                    | .0   | .0   | .0   | .0   | 5.6  | 6.0  | 6.2  | 4.0  | 3.1  | 7.3   | 7.0   | 7.0   | 5.8   | 5.9   | .8    | 1.0   | 1.5   |       |       |       |  |
| 1.4               | 1.4                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 160.              | .2                    | .2   | .2   | .0   | .0   | 5.7  | 5.9  | 6.2  | 4.0  | 3.2  | 6.5   | 6.3   | 6.6   | 5.9   | 5.8   | .7    | 1.1   | 1.6   |       |       |       |  |
| 1.6               | 1.6                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 170.              | .6                    | .6   | .6   | .1   | .1   | 5.8  | 6.0  | 6.7  | 4.8  | 3.9  | 5.8   | 5.8   | 6.4   | 5.8   | 5.4   | .6    | .8    | 1.5   |       |       |       |  |
| 1.4               | 1.4                   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 180.              | 1.3                   | 1.3  | 1.4  | .5   | .3   | 6.3  | 6.6  | 7.9  | 5.9  | 5.3  | 4.4   | 4.8   | 6.0   | 5.4   | 5.1   | .2    | .4    | 1.0   |       |       |       |  |

|      |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 1.0  | 1.0   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 190. | * .4  | 1.8 | 1.9 | 2.3 | .9  | .7  | 6.6 | 7.3 | 9.0 | 7.1 | 6.5 | 3.4 | 3.8 | 5.0 | 5.0 | 4.8 | .0  | .1  | .4  |  |
| 200. | * .1  | 1.9 | 1.9 | 2.7 | 1.1 | .8  | 6.9 | 7.7 | 8.7 | 7.4 | 7.3 | 2.8 | 3.7 | 5.0 | 4.9 | 4.8 | .0  | .0  | .1  |  |
| 210. | * .0  | 1.8 | 1.9 | 3.2 | 1.2 | .8  | 7.5 | 8.0 | 8.4 | 7.2 | 7.7 | 2.8 | 3.6 | 5.0 | 5.0 | 4.7 | .0  | .0  | .0  |  |
| 220. | * .0  | 1.6 | 1.9 | 3.6 | 1.3 | .9  | 7.7 | 8.0 | 8.6 | 7.5 | 7.9 | 2.7 | 3.5 | 5.3 | 5.0 | 4.6 | .0  | .0  | .0  |  |
| 230. | * .0  | 1.4 | 2.0 | 3.9 | 1.7 | .9  | 8.4 | 8.6 | 9.0 | 8.2 | 8.1 | 2.4 | 3.3 | 5.4 | 5.0 | 4.6 | .0  | .0  | .0  |  |
| 240. | * .0  | 1.3 | 2.3 | 4.1 | 2.2 | 1.2 | 8.7 | 8.6 | 9.5 | 8.7 | 7.9 | 2.4 | 3.2 | 5.3 | 4.9 | 4.6 | .0  | .0  | .0  |  |
| 250. | * .0  | 1.3 | 2.8 | 4.3 | 2.6 | 1.8 | 9.1 | 8.6 | 9.8 | 8.5 | 7.1 | 2.2 | 3.0 | 5.1 | 4.9 | 4.7 | .2  | .2  | .2  |  |
| 260. | * .2  | 1.4 | 3.8 | 5.3 | 3.8 | 3.0 | 8.2 | 8.3 | 9.6 | 7.8 | 6.3 | 1.5 | 2.4 | 4.5 | 4.4 | 4.4 | .9  | 1.0 | 1.0 |  |
| 270. | * .6  | 2.1 | 5.2 | 6.9 | 5.4 | 4.6 | 6.4 | 6.7 | 8.2 | 6.4 | 5.5 | .7  | 1.2 | 2.9 | 2.9 | 2.8 | 2.3 | 2.5 | 2.8 |  |
| 280. | * 1.5 | 3.4 | 6.8 | 8.0 | 6.5 | 6.1 | 3.9 | 4.8 | 6.4 | 5.0 | 4.7 | .1  | .3  | 1.1 | 1.1 | 1.1 | 4.0 | 4.3 | 4.6 |  |
| 290. | * 2.1 | 4.8 | 8.0 | 8.1 | 6.5 | 6.0 | 2.8 | 3.7 | 5.3 | 4.6 | 4.5 | .0  | .0  | .3  | .3  | .3  | 4.7 | 5.3 | 5.8 |  |
| 300. | * 2.5 | 5.8 | 7.9 | 7.0 | 6.2 | 6.3 | 2.6 | 3.3 | 5.0 | 4.6 | 4.6 | .0  | .0  | .0  | .0  | .0  | 4.9 | 5.6 | 6.0 |  |
| 310. | * 2.7 | 6.3 | 7.5 | 6.2 | 6.1 | 6.2 | 2.5 | 3.3 | 5.1 | 4.9 | 4.9 | .0  | .0  | .0  | .0  | .0  | 5.4 | 5.9 | 6.1 |  |
| 320. | * 3.0 | 6.6 | 7.0 | 6.2 | 6.4 | 6.7 | 2.7 | 3.4 | 5.4 | 5.4 | 5.4 | .0  | .0  | .0  | .0  | .0  | 5.3 | 5.6 | 5.6 |  |
| 330. | * 3.0 | 7.1 | 6.7 | 7.1 | 7.4 | 7.0 | 2.7 | 3.7 | 5.7 | 5.7 | 5.7 | .1  | .1  | .1  | .0  | .0  | 5.4 | 5.5 | 5.5 |  |
| 340. | * 3.2 | 7.1 | 7.1 | 8.4 | 7.9 | 7.0 | 2.5 | 3.6 | 6.3 | 6.3 | 6.2 | .2  | .2  | .2  | .0  | .0  | 5.4 | 5.4 | 5.6 |  |
| 350. | * 4.0 | 7.5 | 7.5 | 9.1 | 7.2 | 6.4 | 1.8 | 2.9 | 5.8 | 5.8 | 5.7 | 1.1 | 1.1 | 1.1 | .3  | .2  | 5.6 | 5.8 | 6.3 |  |
| 360. | * 5.2 | 6.0 | 6.6 | 7.9 | 6.2 | 5.4 | .9  | 1.6 | 3.9 | 3.7 | 3.7 | 2.8 | 2.8 | 3.0 | 1.3 | .7  | 6.3 | 7.0 | 7.8 |  |

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|       |       |     |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |
|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| MAX   | * 6.4 | 7.5 | 8.0 | 9.1 | 7.9 | 7.0 | 9.1 | 8.6 | 9.8 | 8.7 | 8.1 | 7.8 | 9.5 | 10.7 | 8.7 | 7.6 | 8.4 | 9.0 | 8.9 |
| DEGR. | * 10  | 350 | 290 | 350 | 340 | 340 | 250 | 240 | 250 | 240 | 230 | 140 | 110 | 100  | 100 | 100 | 30  | 20  | 10  |

THE HIGHEST CONCENTRATION OF 10.70 PPM OCCURRED AT RECEPTOR REC13.

PAGE

4

JOB: SugarMillStationPMPA

RUN: SugarMillStationPMPA

DATE : 11/22/10  
TIME : 12:46:48

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |        | * CO/LINK (PPM)<br>* ANGLE (DEGREES) |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|--------|--------|--------------------------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |        | REC1                                 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 |
| REC19  | REC20  | 350                                  | 290  | 350  | 340  | 340  | 250  | 240  | 250  | 240  | 230   | 140   | 110   | 100   | 100   | 100   | 30    | 20    | 10    |
| LINK # | LINK # |                                      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 10     | 10     | -----*                               |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .6     | * .4   | .0                                   | .8   | .0   | .0   | .0   | .5   | .5   | .5   | .4   | .3    | .0    | .0    | .0    | .0    | .0    | 1.1   | 1.0   | 1.0   |
| .2     | * .1   | .0                                   | .3   | .0   | .0   | .0   | .2   | .2   | .2   | .2   | .2    | .0    | .0    | .0    | .0    | .0    | .9    | .9    | .6    |
| .5     | * .4   | .1                                   | .7   | .0   | .0   | .0   | .5   | .5   | .6   | .5   | .4    | .0    | .0    | .0    | .0    | .0    | .8    | .8    | .7    |
| .2     | * .1   | .0                                   | .3   | .0   | .0   | .0   | .2   | .2   | .2   | .2   | .2    | .0    | .0    | .0    | .0    | .0    | .6    | .6    | .3    |
| .2     | * .2   | .0                                   | .3   | .0   | .0   | .0   | .4   | .4   | .6   | .5   | .4    | .0    | .0    | .0    | .0    | .0    | .8    | .7    | .3    |
| .0     | * .0   | .4                                   | .0   | 1.0  | 1.0  | 1.0  | .0   | .0   | .0   | .0   | .0    | .3    | .4    | .4    | .4    | .4    | .0    | .0    | .0    |
| .0     | * .1   | .4                                   | .0   | .7   | .8   | .8   | .1   | .1   | .0   | .0   | .0    | .3    | .5    | .5    | .5    | .5    | .0    | .0    | .0    |
|        | * .1   | .4                                   | .0   | .7   | .7   | .7   | 2.1  | 2.0  | 1.2  | .2   | .1    | .7    | 1.4   | 2.1   | 1.6   | 1.3   | .1    | .1    | .1    |

sgm1pav2.out

|     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| .1  | .2   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 9 *  | .1  | .0  | .2  | .2  | .4  | .8  | .6  | .0  | .0  | .0  | .2  | .4  | .4  | .3  | .2  | .0  | .0  | .0  |
| .0  | .0   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 10 * | .4  | .0  | .8  | .9  | .9  | .9  | .9  | .2  | .0  | .0  | .7  | 1.2 | 1.6 | 1.4 | 1.2 | .0  | .0  | .1  |
| .1  | .2   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 11 * | .1  | .0  | .2  | .3  | .5  | .2  | .1  | .0  | .0  | .0  | .2  | .3  | .3  | .3  | .2  | .0  | .0  | .0  |
| .0  | .0   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 12 * | .1  | .0  | .2  | .2  | .0  | .0  | .0  | .0  | .0  | .0  | .1  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | .0   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 13 * | .1  | .6  | .1  | .1  | .0  | .6  | .4  | 1.3 | .9  | .7  | .2  | .0  | .6  | 1.0 | 1.3 | .6  | .6  | .5  |
| .4  | .3   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 14 * | .1  | .7  | .1  | .0  | .0  | .7  | .6  | 1.2 | .8  | .6  | .1  | .0  | .0  | .2  | .4  | .7  | .7  | .6  |
| .5  | .3   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 15 * | .9  | .0  | 1.0 | .8  | .6  | .4  | .4  | .8  | .9  | .8  | 1.7 | 1.4 | 1.4 | .9  | .7  | .8  | 1.1 | 1.5 |
| 1.2 | 1.0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 16 * | .1  | .0  | .1  | .1  | .0  | .1  | .0  | .2  | .6  | .6  | .8  | 1.4 | 1.3 | .6  | .3  | .2  | .3  | .3  |
| .2  | .2   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 17 * | .6  | .0  | .8  | .7  | .6  | .1  | .0  | .3  | .8  | .9  | .8  | .9  | .5  | .3  | .2  | .6  | .7  | .8  |
| .7  | .6   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 18 * | .1  | .3  | .0  | .0  | .0  | .1  | .1  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .3  |
| .4  | .5   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 19 * | .9  | 1.0 | .5  | .1  | .0  | .1  | .1  | .0  | .0  | .0  | .1  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | .1   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 20 * | .8  | 2.2 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .1  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | .0   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 21 * | 1.8 | .0  | 2.7 | 2.0 | 1.5 | 1.1 | 1.5 | 2.5 | 2.7 | 2.9 | 1.5 | 1.6 | 1.6 | 1.2 | .9  | 1.2 | 1.5 | 1.8 |
| 1.7 | 1.6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 22 * | .1  | .8  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  |
| .0  | .1   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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'I25ThorntonParkwayInterchangePMpackageA', 60 , 175 , 0 , 0 , 56 , 0.3048 , 1 , 1
'Receptor 1', 672 , 52 , 5
'Receptor 2', 712 , 52 , 5
'Receptor 3', 752 , 52 , 5
'Receptor 4', 792 , 52 , 5
'Receptor 5', 792 , 2 , 5
'Receptor 6', 792 , -38 , 5
'Receptor 7', 792 , -78 , 5
'Receptor 8', 856 , -56 , 5
'Receptor 9', 856 , -16 , 5
'Receptor 10', 856 , 24 , 5
'Receptor 11', 856 , 64 , 5
'Receptor 12', 896 , 64 , 5
'Receptor 13', 936 , 64 , 5
'Receptor 14', 976 , 64 , 5
'Receptor 15', 1256 , 64 , 5
'Receptor 16', 1296 , 64 , 5
'Receptor 17', 1336 , 64 , 5
'Receptor 18', 1376 , 64 , 5
'Receptor 19', 1376 , 24 , 5
'Receptor 20', 1376 , -16 , 5
'Receptor 21', 1376 , -56 , 5
'Receptor 22', 1452 , -68 , 5
'Receptor 23', 1452 , -28 , 5
'Receptor 24', 1452 , 12 , 5
'Receptor 25', 1452 , 52 , 5
'Receptor 26', 1492 , 52 , 5
'Receptor 27', 1532 , 52 , 5
'Receptor 28', 1572 , 52 , 5
'Receptor 29', 1572 , 194 , 5
'Receptor 30', 1532 , 194 , 5
'Receptor 31', 1492 , 194 , 5
'Receptor 32', 1452 , 194 , 5
'Receptor 33', 1452 , 234 , 5
'Receptor 34', 1452 , 274 , 5
'Receptor 35', 1452 , 314 , 5
'Receptor 36', 1388 , 302 , 5
'Receptor 37', 1388 , 262 , 5
'Receptor 38', 1388 , 222 , 5
'Receptor 39', 1388 , 182 , 5
'Receptor 40', 1348 , 182 , 5
'Receptor 41', 1308 , 182 , 5
'Receptor 42', 1264 , 182 , 5
'Receptor 43', 988 , 182 , 5
'Receptor 44', 948 , 182 , 5
'Receptor 45', 908 , 182 , 5
'Receptor 46', 868 , 182 , 5
'Receptor 47', 868 , 222 , 5
'Receptor 48', 868 , 262 , 5
'Receptor 49', 868 , 302 , 5
'Receptor 50', 792 , 314 , 5
'Receptor 51', 792 , 274 , 5
'Receptor 52', 792 , 234 , 5
'Receptor 53', 792 , 194 , 5
'Receptor 54', 752 , 194 , 5
'Receptor 55', 712 , 194 , 5
'Receptor 56', 672 , 194 , 5
'I25ThorntonParkwayInterchangePMpackageA', 18 , 1 , 1 , 'CO'
1
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2
'thornebapp que', 'AG', 802 , 90 , 122 , 90 , 0 , 36 , 3
100 , 53 , 2 , 1675 , 143.34 , 1600 , 1 , 3
1
'thornebdep/app', 'AG', 833 , 96 , 1411 , 96 , 2135 , 22.5 , 0 , 44
2
'thornebdep/app que', 'AG', 1386 , 96 , 858 , 96 , 0 , 24 , 2
100 , 41 , 2 , 1785 , 143.34 , 1600 , 1 , 3
2
'thornebleftturn', 'AG', 1386 , 114 , 1186 , 114 , 0 , 12 , 1
100 , 82 , 2 , 350 , 143.34 , 1600 , 1 , 3
1
'thornebdep', 'AG', 1411 , 90 , 2122 , 90 , 2425 , 22.5 , 0 , 56
1
'thornwbapp', 'AG', 2122 , 156 , 1411 , 156 , 2150 , 22.5 , 0 , 56
2
'thornwbapp que', 'AG', 1442 , 156 , 2122 , 156 , 0 , 36 , 3
100 , 59 , 2 , 1725 , 143.34 , 1600 , 1 , 3
1
'thornwbdep/app', 'AG', 1411 , 150 , 833 , 150 , 1875 , 45.4 , 0 , 44
2
```



'thornwbdep/app que','AG', 858 , 150 , 1386 , 150 , 0 , 24 , 2  
100 , 41 , 2 , 1445 , 143.34 , 1600 , 1 , 3  
2  
'thornwbleftturn','AG', 858 , 126 , 1058 , 126 , 0 , 24 , 2  
100 , 88 , 2 , 430 , 143.34 , 1600 , 1 , 3  
1  
'thornwbdep','AG', 833 , 156 , 122 , 156 , 1745 , 45.4 , 0 , 56  
1  
'I25sbrampapp','AG', 824 , 1124 , 824 , 124 , 760 , 22.8 , 0 , 44  
2  
'I25sbrampleftturn','AG', 842 , 184 , 842 , 384 , 0 , 12 , 1  
100 , 59 , 2 , 460 , 143.34 , 1600 , 1 , 3  
1  
'I25sbrampdep','AG', 824 , 124 , 824 , -876 , 680 , 22.8 , 0 , 44  
1  
'I25nbrampapp','AG', 1420 , -876 , 1420 , 124 , 790 , 23.1 , 0 , 44  
2  
'I25nbrampleftturn','AG', 1402 , 62 , 1402 , -138 , 0 , 12 , 1  
100 , 59 , 2 , 150 , 143.34 , 1600 , 1 , 3  
1  
'I25nbrampdep','AG', 1420 , 124 , 1420 , 1124 , 775 , 23.1 , 0 , 44  
1 , 0 , 4 , 1000 , 0 , 'Y', 10 , 0 , 36

JOB: I25ThorntonParkwayInterchangePMpackageA

RUN: I25ThorntonParkwayInterchangePMpackageA

DATE : 11/22/10  
TIME : 13: 3:41

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

| V/C QUEUE<br>(VEH) | LINK DESCRIPTION       | * X1   | Y1     | X2     | Y2     | * LENGTH<br>(FT) | BRG TYPE<br>(DEG) | VPH   | EF<br>(G/MI) | H<br>(FT) | W<br>(FT) |
|--------------------|------------------------|--------|--------|--------|--------|------------------|-------------------|-------|--------------|-----------|-----------|
| .81                | 1. thornebapp          | 122.0  | 90.0   | 833.0  | 90.0   | 711.             | 90. AG            | 1925. | 22.5         | .0        | 56.0      |
| 8.6                | 2. thornebapp que      | 802.0  | 90.0   | 632.6  | 90.0   | 169.             | 270. AG           | 611.  | 100.0        | .0        | 36.0      |
| 1.01               | 3. thornebdep/app      | 833.0  | 96.0   | 1411.0 | 96.0   | 578.             | 90. AG            | 2135. | 22.5         | .0        | 44.0      |
| 23.6               | 4. thornebdep/app que  | 1386.0 | 96.0   | 921.2  | 96.0   | 465.             | 270. AG           | 315.  | 100.0        | .0        | 24.0      |
| 1.56               | 5. thornebleftturn     | 1386.0 | 114.0  | -125.2 | 114.0  | 1511.            | 270. AG           | 315.  | 100.0        | .0        | 12.0      |
| 76.8               | 6. thornebdep          | 1411.0 | 90.0   | 2122.0 | 90.0   | 711.             | 90. AG            | 2425. | 22.5         | .0        | 56.0      |
|                    | 7. thornwbapp          | 2122.0 | 156.0  | 1411.0 | 156.0  | 711.             | 270. AG           | 2150. | 22.5         | .0        | 56.0      |
| .97                | 8. thornwbapp que      | 1442.0 | 156.0  | 1715.2 | 156.0  | 273.             | 90. AG            | 681.  | 100.0        | .0        | 36.0      |
| 13.9               | 9. thornwbdep/app      | 1411.0 | 150.0  | 833.0  | 150.0  | 578.             | 270. AG           | 1875. | 45.4         | .0        | 44.0      |
| .82                | 10. thornwbdep/app que | 858.0  | 150.0  | 1025.0 | 150.0  | 167.             | 90. AG            | 315.  | 100.0        | .0        | 24.0      |
| 8.5                | 11. thornwbleftturn    | 858.0  | 126.0  | 1910.6 | 126.0  | 1053.            | 90. AG            | 677.  | 100.0        | .0        | 24.0      |
| 1.68               | 12. thornwbdep         | 833.0  | 156.0  | 122.0  | 156.0  | 711.             | 270. AG           | 1745. | 45.4         | .0        | 56.0      |
| 53.5               | 13. I25sbrampapp       | 824.0  | 1124.0 | 824.0  | 124.0  | 1000.            | 180. AG           | 760.  | 22.8         | .0        | 44.0      |
| .78                | 14. I25sbrampleftturn  | 842.0  | 184.0  | 842.0  | 336.3  | 152.             | 360. AG           | 227.  | 100.0        | .0        | 12.0      |
| 7.7                | 15. I25sbrampdep       | 824.0  | 124.0  | 824.0  | -876.0 | 1000.            | 180. AG           | 680.  | 22.8         | .0        | 44.0      |
|                    | 16. I25nbrampapp       | 1420.0 | -876.0 | 1420.0 | 124.0  | 1000.            | 360. AG           | 790.  | 23.1         | .0        | 44.0      |
| .25                | 17. I25nbrampleftturn  | 1402.0 | 62.0   | 1402.0 | 13.6   | 48.              | 180. AG           | 227.  | 100.0        | .0        | 12.0      |
| 2.5                | 18. I25nbrampdep       | 1420.0 | 124.0  | 1420.0 | 1124.0 | 1000.            | 360. AG           | 775.  | 23.1         | .0        | 44.0      |

PAGE

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JOB: I25ThorntonParkwayInterchangePMpackageA

RUN: I25ThorntonParkwayInterchangePMpackageA

DATE : 11/22/10  
TIME : 13: 3:41

ADDITIONAL QUEUE LINK PARAMETERS

| LINK DESCRIPTION       | * CYCLE LENGTH<br>(SEC) | RED TIME<br>(SEC) | CLEARANCE LOST TIME<br>(SEC) | APPROACH VOL<br>(VPH) | SATURATION FLOW RATE<br>(VPH) | IDLE EM FAC<br>(gm/hr) | SIGNAL TYPE | ARRIVAL RATE |
|------------------------|-------------------------|-------------------|------------------------------|-----------------------|-------------------------------|------------------------|-------------|--------------|
| 2. thornebapp que      | 100                     | 53                | 2.0                          | 1675                  | 1600                          | 143.34                 | 1           | 3            |
| 4. thornebdep/app que  | 100                     | 41                | 2.0                          | 1785                  | 1600                          | 143.34                 | 1           | 3            |
| 5. thornebleftturn     | 100                     | 82                | 2.0                          | 350                   | 1600                          | 143.34                 | 1           | 3            |
| 8. thornwbapp que      | 100                     | 59                | 2.0                          | 1725                  | 1600                          | 143.34                 | 1           | 3            |
| 10. thornwbdep/app que | 100                     | 41                | 2.0                          | 1445                  | 1600                          | 143.34                 | 1           | 3            |
| 11. thornwbleftturn    | 100                     | 88                | 2.0                          | 430                   | 1600                          | 143.34                 | 1           | 3            |
| 14. I25sbrampleftturn  | 100                     | 59                | 2.0                          | 460                   | 1600                          | 143.34                 | 1           | 3            |
| 17. I25nbrampleftturn  | 100                     | 59                | 2.0                          | 150                   | 1600                          | 143.34                 | 1           | 3            |

RECEPTOR LOCATIONS

| RECEPTOR      | * X   | Y    | Z   | * * * |
|---------------|-------|------|-----|-------|
| 1. Receptor 1 | 672.0 | 52.0 | 5.0 | *     |
| 2. Receptor 2 | 712.0 | 52.0 | 5.0 | *     |
| 3. Receptor 3 | 752.0 | 52.0 | 5.0 | *     |
| 4. Receptor 4 | 792.0 | 52.0 | 5.0 | *     |
| 5. Receptor 5 | 792.0 | 2.0  | 5.0 | *     |

|              |    |   |        |       |     |   |
|--------------|----|---|--------|-------|-----|---|
| 6. Receptor  | 6  | * | 792.0  | -38.0 | 5.0 | * |
| 7. Receptor  | 7  | * | 792.0  | -78.0 | 5.0 | * |
| 8. Receptor  | 8  | * | 856.0  | -56.0 | 5.0 | * |
| 9. Receptor  | 9  | * | 856.0  | -16.0 | 5.0 | * |
| 10. Receptor | 10 | * | 856.0  | 24.0  | 5.0 | * |
| 11. Receptor | 11 | * | 856.0  | 64.0  | 5.0 | * |
| 12. Receptor | 12 | * | 896.0  | 64.0  | 5.0 | * |
| 13. Receptor | 13 | * | 936.0  | 64.0  | 5.0 | * |
| 14. Receptor | 14 | * | 976.0  | 64.0  | 5.0 | * |
| 15. Receptor | 15 | * | 1256.0 | 64.0  | 5.0 | * |
| 16. Receptor | 16 | * | 1296.0 | 64.0  | 5.0 | * |
| 17. Receptor | 17 | * | 1336.0 | 64.0  | 5.0 | * |
| 18. Receptor | 18 | * | 1376.0 | 64.0  | 5.0 | * |
| 19. Receptor | 19 | * | 1376.0 | 24.0  | 5.0 | * |
| 20. Receptor | 20 | * | 1376.0 | -16.0 | 5.0 | * |
| 21. Receptor | 21 | * | 1376.0 | -56.0 | 5.0 | * |
| 22. Receptor | 22 | * | 1452.0 | -68.0 | 5.0 | * |
| 23. Receptor | 23 | * | 1452.0 | -28.0 | 5.0 | * |
| 24. Receptor | 24 | * | 1452.0 | 12.0  | 5.0 | * |
| 25. Receptor | 25 | * | 1452.0 | 52.0  | 5.0 | * |
| 26. Receptor | 26 | * | 1492.0 | 52.0  | 5.0 | * |
| 27. Receptor | 27 | * | 1532.0 | 52.0  | 5.0 | * |
| 28. Receptor | 28 | * | 1572.0 | 52.0  | 5.0 | * |
| 29. Receptor | 29 | * | 1572.0 | 194.0 | 5.0 | * |
| 30. Receptor | 30 | * | 1532.0 | 194.0 | 5.0 | * |
| 31. Receptor | 31 | * | 1492.0 | 194.0 | 5.0 | * |
| 32. Receptor | 32 | * | 1452.0 | 194.0 | 5.0 | * |
| 33. Receptor | 33 | * | 1452.0 | 234.0 | 5.0 | * |
| 34. Receptor | 34 | * | 1452.0 | 274.0 | 5.0 | * |
| 35. Receptor | 35 | * | 1452.0 | 314.0 | 5.0 | * |
| 36. Receptor | 36 | * | 1388.0 | 302.0 | 5.0 | * |
| 37. Receptor | 37 | * | 1388.0 | 262.0 | 5.0 | * |

□  
3

JOB: I25ThorntonParkwayInterchangePMpackageA

RUN: I25ThorntonParkwayInterchangePMpackageA

DATE : 11/22/10  
TIME : 13: 3:41

RECEPTOR LOCATIONS

| RECEPTOR     | *  | COORDINATES (FT) |        |       | *   |   |
|--------------|----|------------------|--------|-------|-----|---|
|              |    | X                | Y      | Z     |     |   |
| 38. Receptor | 38 | *                | 1388.0 | 222.0 | 5.0 | * |
| 39. Receptor | 39 | *                | 1388.0 | 182.0 | 5.0 | * |
| 40. Receptor | 40 | *                | 1348.0 | 182.0 | 5.0 | * |
| 41. Receptor | 41 | *                | 1308.0 | 182.0 | 5.0 | * |
| 42. Receptor | 42 | *                | 1264.0 | 182.0 | 5.0 | * |
| 43. Receptor | 43 | *                | 988.0  | 182.0 | 5.0 | * |
| 44. Receptor | 44 | *                | 948.0  | 182.0 | 5.0 | * |
| 45. Receptor | 45 | *                | 908.0  | 182.0 | 5.0 | * |
| 46. Receptor | 46 | *                | 868.0  | 182.0 | 5.0 | * |
| 47. Receptor | 47 | *                | 868.0  | 222.0 | 5.0 | * |
| 48. Receptor | 48 | *                | 868.0  | 262.0 | 5.0 | * |
| 49. Receptor | 49 | *                | 868.0  | 302.0 | 5.0 | * |
| 50. Receptor | 50 | *                | 792.0  | 314.0 | 5.0 | * |
| 51. Receptor | 51 | *                | 792.0  | 274.0 | 5.0 | * |
| 52. Receptor | 52 | *                | 792.0  | 234.0 | 5.0 | * |
| 53. Receptor | 53 | *                | 792.0  | 194.0 | 5.0 | * |
| 54. Receptor | 54 | *                | 752.0  | 194.0 | 5.0 | * |
| 55. Receptor | 55 | *                | 712.0  | 194.0 | 5.0 | * |
| 56. Receptor | 56 | *                | 672.0  | 194.0 | 5.0 | * |

□  
4

JOB: I25ThorntonParkwayInterchangePMpackageA

RUN: I25ThorntonParkwayInterchangePMpackageA

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
ANGLE \* (PPM)  
(DEGR)\* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18

REC19 REC20

| *-----* |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0.      | *   | 4.4 | 4.4 | 4.5 | 4.6 | 3.2 | 2.5 | 2.3 | 2.5 | 2.6 | 3.3 | 4.6 | 4.8 | 5.4 | 5.4 | 5.0 | 5.0 | 5.1 | 5.1 |
| 3.6     | 3.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 10.     | *   | 4.5 | 4.5 | 4.7 | 4.5 | 3.3 | 2.7 | 2.6 | 2.4 | 2.8 | 3.2 | 4.5 | 4.7 | 5.3 | 5.4 | 5.2 | 5.2 | 5.2 | 5.0 |
| 3.5     | 3.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 20.     | *   | 4.5 | 4.7 | 4.7 | 4.3 | 3.2 | 2.7 | 2.6 | 2.2 | 2.5 | 3.2 | 4.4 | 4.7 | 5.4 | 5.3 | 5.2 | 5.2 | 5.4 | 4.8 |
| 3.7     | 3.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30.     | *   | 4.6 | 4.8 | 4.8 | 4.3 | 3.3 | 3.0 | 2.8 | 2.4 | 2.9 | 3.6 | 4.9 | 5.0 | 5.6 | 5.4 | 5.2 | 5.4 | 5.4 | 4.7 |
| 3.8     | 3.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 40.     | *   | 4.8 | 5.1 | 5.3 | 4.7 | 3.4 | 3.1 | 2.9 | 2.6 | 3.2 | 3.7 | 5.2 | 5.5 | 5.8 | 5.6 | 5.6 | 5.6 | 5.7 | 5.0 |
| 3.9     | 3.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 50.     | *   | 5.6 | 5.6 | 5.5 | 5.3 | 3.9 | 3.3 | 2.9 | 2.7 | 3.2 | 4.2 | 5.6 | 5.9 | 6.1 | 5.9 | 5.9 | 5.9 | 5.6 | 5.3 |
| 4.5     | 3.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 60.     | *   | 5.8 | 6.1 | 5.9 | 5.8 | 3.9 | 3.6 | 3.2 | 2.8 | 3.4 | 4.4 | 6.2 | 6.5 | 6.5 | 6.3 | 6.3 | 6.2 | 5.9 | 5.6 |
| 4.5     | 3.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 70.     | *   | 6.7 | 6.7 | 6.5 | 6.4 | 4.3 | 3.3 | 2.7 | 2.6 | 3.4 | 4.4 | 6.7 | 7.0 | 6.9 | 6.9 | 6.5 | 6.2 | 5.7 | 5.7 |
| 4.3     | 2.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 80.     | *   | 6.2 | 5.9 | 5.7 | 5.9 | 3.4 | 2.5 | 2.1 | 1.7 | 2.4 | 3.8 | 6.4 | 6.6 | 6.5 | 6.3 | 5.6 | 5.4 | 5.2 | 5.3 |
| 3.3     | 1.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 90.     | *   | 4.1 | 3.9 | 3.8 | 4.0 | 2.2 | 1.5 | 1.1 | .8  | 1.4 | 2.1 | 4.3 | 4.4 | 4.5 | 4.2 | 3.6 | 3.5 | 3.4 | 3.8 |
| 1.9     | .9  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 100.    | *   | 1.6 | 1.6 | 1.6 | 1.7 | .8  | .6  | .5  | .2  | .3  | .6  | 1.9 | 1.9 | 1.8 | 1.8 | 1.7 | 1.6 | 1.7 | 2.1 |
| 1.0     | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 110.    | *   | .5  | .5  | .5  | .6  | .5  | .5  | .5  | .1  | .1  | .1  | .5  | .5  | .5  | .5  | .6  | .6  | .8  | 1.2 |
| .7      | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 120.    | *   | .3  | .3  | .4  | .6  | .6  | .6  | .6  | .1  | .1  | .1  | .1  | .1  | .1  | .1  | .2  | .3  | .6  | 1.0 |
| .7      | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 130.    | *   | .3  | .3  | .4  | .6  | .6  | .6  | .6  | .1  | .1  | .1  | .1  | .1  | .1  | .1  | .2  | .2  | .4  | 1.0 |
| .6      | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 140.    | *   | .2  | .2  | .4  | .6  | .6  | .6  | .5  | .1  | .1  | .1  | .1  | .1  | .1  | .1  | .2  | .3  | .4  | .9  |
| .5      | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 150.    | *   | .2  | .2  | .3  | .6  | .6  | .6  | .6  | .0  | .0  | .0  | .0  | .1  | .1  | .1  | .2  | .3  | .4  | .9  |
| .6      | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 160.    | *   | .2  | .2  | .3  | .7  | .7  | .7  | .7  | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .2  | .3  | .4  | .8  |
| .6      | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 170.    | *   | .1  | .2  | .3  | .7  | .7  | .7  | .7  | .2  | .2  | .2  | .2  | .1  | .0  | .0  | .1  | .2  | .3  | .7  |
| .6      | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 180.    | *   | .1  | .1  | .2  | .5  | .5  | .5  | .5  | .5  | .5  | .5  | .5  | .2  | .1  | .1  | .1  | .1  | .2  | .4  |
| .4      | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 190.    | *   | .0  | .0  | .1  | .2  | .2  | .2  | .2  | .7  | .7  | .7  | .7  | .3  | .2  | .1  | .0  | .0  | .1  | .2  |
| .2      | .2  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 200.    | *   | .0  | .0  | .0  | .1  | .1  | .1  | .1  | .7  | .7  | .7  | .7  | .4  | .2  | .2  | .0  | .0  | .0  | .0  |
| .0      | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 210.    | *   | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .6  | .6  | .6  | .6  | .3  | .2  | .2  | .1  | .1  | .0  | .0  |
| .0      | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 220.    | *   | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .5  | .5  | .5  | .5  | .3  | .2  | .2  | .1  | .1  | .1  | .1  |
| .1      | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 230.    | *   | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .5  | .5  | .5  | .5  | .3  | .2  | .2  | .1  | .1  | .1  | .1  |
| .1      | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 240.    | *   | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .5  | .5  | .5  | .6  | .4  | .2  | .2  | .1  | .1  | .1  | .1  |
| .1      | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 250.    | *   | .1  | .2  | .2  | .2  | .0  | .0  | .0  | .4  | .4  | .4  | .9  | .6  | .6  | .5  | .3  | .4  | .4  | .4  |
| .1      | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 260.    | *   | .7  | .7  | .8  | .9  | .1  | .0  | .0  | .4  | .5  | .8  | 2.3 | 1.9 | 1.7 | 1.7 | 1.8 | 1.8 | 1.9 | 1.8 |
| .6      | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 270.    | *   | 1.9 | 2.1 | 2.2 | 2.5 | .6  | .4  | .1  | .8  | 1.1 | 1.8 | 4.2 | 3.8 | 3.4 | 3.3 | 4.2 | 4.1 | 4.3 | 4.4 |
| 2.0     | 1.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 280.    | *   | 3.2 | 3.5 | 4.0 | 4.3 | 1.6 | .9  | .5  | 1.2 | 1.8 | 3.0 | 5.7 | 5.0 | 4.7 | 4.8 | 6.3 | 6.4 | 6.4 | 6.5 |
| 3.7     | 2.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 290.    | *   | 3.9 | 4.5 | 4.9 | 5.1 | 2.4 | 1.6 | 1.1 | 1.8 | 2.6 | 3.9 | 5.6 | 5.0 | 5.0 | 5.6 | 6.9 | 6.9 | 7.0 | 6.9 |
| 4.4     | 3.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 300.    | *   | 4.0 | 4.7 | 5.1 | 5.2 | 2.8 | 1.9 | 1.5 | 2.5 | 3.1 | 4.1 | 5.1 | 4.6 | 4.8 | 5.7 | 6.5 | 6.6 | 6.5 | 6.5 |
| 4.3     | 3.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 310.    | *   | 4.2 | 4.8 | 5.0 | 5.0 | 2.9 | 2.1 | 1.6 | 2.6 | 3.1 | 3.7 | 4.5 | 4.3 | 4.9 | 5.8 | 5.9 | 5.9 | 5.9 | 5.9 |
| 4.1     | 3.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 320.    | *   | 4.0 | 4.5 | 4.5 | 4.5 | 2.8 | 2.2 | 1.8 | 2.4 | 2.9 | 3.3 | 4.0 | 4.1 | 5.2 | 6.0 | 5.4 | 5.4 | 5.4 | 5.4 |
| 3.7     | 3.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 330.    | *   | 4.1 | 4.4 | 4.4 | 4.5 | 2.8 | 2.3 | 1.9 | 2.5 | 2.8 | 3.0 | 3.8 | 4.4 | 5.4 | 5.8 | 5.2 | 5.2 | 5.2 | 5.2 |
| 3.7     | 2.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 340.    | *   | 4.2 | 4.3 | 4.3 | 4.4 | 2.7 | 2.0 | 1.7 | 2.4 | 2.5 | 3.2 | 4.0 | 4.7 | 5.3 | 5.5 | 4.9 | 4.9 | 4.9 | 4.9 |
| 3.4     | 2.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 350.    | *   | 4.3 | 4.3 | 4.4 | 4.4 | 3.0 | 2.3 | 1.9 | 2.4 | 2.8 | 3.3 | 4.4 | 5.1 | 5.5 | 5.5 | 5.0 | 5.0 | 5.1 | 5.1 |
| 3.6     | 2.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 360.    | *   | 4.4 | 4.4 | 4.5 | 4.6 | 3.2 | 2.5 | 2.3 | 2.5 | 2.6 | 3.3 | 4.6 | 4.8 | 5.4 | 5.4 | 5.0 | 5.0 | 5.1 | 5.1 |
| 3.6     | 3.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 6.7 | 6.7 | 6.5 | 6.4 | 4.3 | 3.6 | 3.2 | 2.8 | 3.4 | 4.4 | 6.7 | 7.0 | 6.9 | 6.9 | 6.9 | 6.9 | 7.0 | 6.9 |
| 4.5   | 3.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | *   | 70  | 70  | 70  | 70  | 70  | 60  | 60  | 60  | 70  | 60  | 70  | 70  | 70  | 70  | 290 | 290 | 290 | 290 |
| 50    | 50  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

□  
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PAGE

JOB: I25ThorntonParkwayInterchangePMpackageA

RUN: I25ThorntonParkwayInterchangePMpackageA

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
 ANGLE \* (PPM)  
 (DEGR)\* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32 REC33 REC34 REC35 REC36 REC37 REC38  
 REC39 REC40

| WIND ANGLE (DEGR) | *   | REC21 | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 | REC39 | REC40 |
|-------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | *   | 2.5   | 2.4   | 2.9   | 3.3   | 4.5   | 4.2   | 4.2   | 4.2   | .1    | .1    | .2    | .6    | .6    | .6    | .6    | .6    | .6    | .6    | .6    |       |
| .6                | .2  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 10.               | *   | 2.8   | 2.2   | 2.6   | 3.2   | 4.0   | 4.1   | 4.0   | 4.0   | .0    | .0    | .1    | .3    | .3    | .3    | .3    | .8    | .8    | .8    | .8    |       |
| .8                | .4  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 20.               | *   | 2.7   | 2.0   | 2.4   | 2.9   | 4.1   | 4.0   | 4.0   | 4.0   | .0    | .0    | .0    | .1    | .1    | .1    | .1    | .8    | .8    | .8    | .8    |       |
| .8                | .4  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 30.               | *   | 2.7   | 2.0   | 2.4   | 3.0   | 4.2   | 4.2   | 4.2   | 4.2   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .7    | .7    | .7    | .7    |       |
| .7                | .4  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 40.               | *   | 2.8   | 1.9   | 2.5   | 3.1   | 4.3   | 4.3   | 4.3   | 4.2   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .6    | .6    | .6    | .6    |       |
| .6                | .4  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50.               | *   | 2.8   | 2.0   | 2.4   | 3.2   | 4.6   | 4.6   | 4.5   | 4.3   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .6    | .6    | .6    | .6    |       |
| .6                | .3  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 60.               | *   | 2.5   | 1.7   | 2.3   | 3.2   | 4.7   | 4.6   | 4.5   | 4.3   | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .5    | .5    | .5    | .5    |       |
| .6                | .4  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 70.               | *   | 2.0   | 1.2   | 1.7   | 2.7   | 4.7   | 4.6   | 4.3   | 4.1   | .2    | .2    | .3    | .3    | .0    | .0    | .0    | .5    | .5    | .5    | .5    |       |
| 1.1               | .8  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80.               | *   | 1.2   | .5    | 1.0   | 1.9   | 3.8   | 3.8   | 3.6   | 3.2   | 1.0   | 1.0   | 1.1   | 1.1   | .1    | .0    | .0    | .5    | .6    | .9    | .9    |       |
| 2.6               | 2.2 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 90.               | *   | .6    | .1    | .3    | .7    | 2.3   | 2.1   | 2.0   | 1.9   | 2.4   | 2.7   | 2.8   | 3.1   | 1.1   | .4    | .1    | .7    | 1.1   | 2.0   | 2.0   |       |
| 4.9               | 4.4 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100.              | *   | .4    | .0    | .1    | .2    | .9    | .9    | .9    | .7    | 4.2   | 4.6   | 4.9   | 5.2   | 2.2   | 1.2   | .6    | 1.4   | 2.0   | 3.5   | 3.5   |       |
| 6.7               | 6.3 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 110.              | *   | .4    | .0    | .0    | .0    | .2    | .2    | .2    | .2    | 5.6   | 5.8   | 5.9   | 6.1   | 3.4   | 2.1   | 1.3   | 2.2   | 3.2   | 4.5   | 4.5   |       |
| 6.7               | 6.4 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 120.              | *   | .5    | .0    | .0    | .0    | .1    | .1    | .1    | .1    | 5.8   | 5.9   | 5.9   | 6.1   | 3.7   | 2.7   | 2.0   | 2.9   | 3.5   | 4.7   | 4.7   |       |
| 6.2               | 6.0 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 130.              | *   | .5    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | 5.5   | 5.5   | 5.7   | 5.7   | 3.7   | 2.8   | 2.3   | 3.0   | 3.6   | 4.3   | 4.3   |       |
| 5.4               | 5.7 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 140.              | *   | .5    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | 5.2   | 5.2   | 5.2   | 5.2   | 3.5   | 2.7   | 2.2   | 2.9   | 3.3   | 3.9   | 3.9   |       |
| 5.0               | 5.4 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 150.              | *   | .6    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | 4.9   | 4.9   | 4.9   | 5.0   | 3.5   | 2.7   | 2.2   | 3.0   | 3.2   | 3.7   | 3.7   |       |
| 5.0               | 5.2 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160.              | *   | .6    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | 4.8   | 4.8   | 4.8   | 4.9   | 3.3   | 2.4   | 2.0   | 2.7   | 3.0   | 3.5   | 3.5   |       |
| 5.2               | 5.3 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 170.              | *   | .6    | .3    | .3    | .3    | .3    | .1    | .0    | .0    | 4.8   | 4.8   | 4.9   | 4.8   | 3.4   | 2.7   | 2.2   | 2.7   | 3.0   | 3.8   | 3.8   |       |
| 5.5               | 5.4 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 180.              | *   | .4    | .6    | .6    | .6    | .6    | .2    | .1    | .1    | 5.0   | 5.0   | 5.1   | 5.2   | 3.5   | 2.9   | 2.6   | 2.6   | 2.9   | 3.7   | 3.7   |       |
| 5.5               | 5.3 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 190.              | *   | .2    | .8    | .8    | .8    | .8    | .4    | .2    | .2    | 5.0   | 5.0   | 5.2   | 5.1   | 3.7   | 3.1   | 2.6   | 2.4   | 2.8   | 3.6   | 3.6   |       |
| 5.1               | 5.2 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200.              | *   | .0    | .8    | .8    | .8    | .8    | .4    | .3    | .2    | 5.0   | 5.1   | 5.1   | 4.9   | 3.6   | 3.0   | 2.7   | 2.1   | 2.5   | 3.5   | 3.5   |       |
| 5.0               | 5.0 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 210.              | *   | .0    | .7    | .7    | .7    | .7    | .4    | .3    | .2    | 5.1   | 5.3   | 5.4   | 4.8   | 3.7   | 3.2   | 2.9   | 2.4   | 2.9   | 3.5   | 3.5   |       |
| 5.4               | 5.4 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 220.              | *   | .1    | .6    | .6    | .6    | .7    | .4    | .3    | .2    | 5.4   | 5.8   | 5.6   | 5.0   | 3.8   | 3.4   | 3.0   | 2.4   | 3.0   | 3.8   | 3.8   |       |
| 5.6               | 5.6 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 230.              | *   | .1    | .7    | .7    | .7    | .9    | .4    | .4    | .3    | 6.1   | 6.1   | 6.0   | 5.8   | 4.3   | 3.6   | 3.1   | 2.5   | 3.2   | 4.1   | 4.1   |       |
| 6.2               | 6.1 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 240.              | *   | .1    | .6    | .6    | .6    | .8    | .5    | .3    | .3    | 6.4   | 6.4   | 6.4   | 6.1   | 4.3   | 3.8   | 3.1   | 2.9   | 3.4   | 4.3   | 4.3   |       |
| 6.7               | 6.7 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250.              | *   | .1    | .6    | .6    | .6    | 1.0   | .7    | .6    | .5    | 7.0   | 6.9   | 6.7   | 6.8   | 4.6   | 3.7   | 3.0   | 2.6   | 3.3   | 4.7   | 4.7   |       |
| 7.2               | 7.2 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 260.              | *   | .1    | .6    | .8    | 1.1   | 2.1   | 1.8   | 1.6   | 1.6   | 6.8   | 6.5   | 6.3   | 6.3   | 3.9   | 2.9   | 2.2   | 1.8   | 2.5   | 3.8   | 3.8   |       |
| 6.9               | 6.9 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 270.              | *   | .8    | 1.2   | 1.8   | 2.4   | 4.2   | 4.0   | 3.9   | 4.0   | 4.4   | 4.3   | 4.2   | 4.3   | 2.5   | 1.6   | 1.2   | .7    | 1.2   | 2.3   | 2.3   |       |

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|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|
| 4.8  | 4.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |
| 280. | *   | 1.7 | 2.1 | 2.9 | 4.0 | 6.2 | 6.2 | 6.0 | 5.9 | 1.9 | 1.9 | 1.8 | 1.9 | 1.2 | .8 | .7 | .2 | .3 | .8 |
| 2.1  | 2.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |
| 290. | *   | 2.6 | 2.9 | 3.6 | 4.9 | 6.8 | 6.3 | 5.9 | 5.7 | .5  | .5  | .5  | .7  | .6  | .6 | .6 | .1 | .1 | .1 |
| .5   | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |
| 300. | *   | 2.9 | 3.1 | 3.8 | 4.8 | 5.8 | 5.6 | 5.2 | 5.2 | .3  | .3  | .4  | .6  | .6  | .6 | .6 | .1 | .1 | .1 |
| .2   | .2  |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |
| 310. | *   | 2.6 | 3.1 | 3.7 | 4.4 | 5.5 | 4.8 | 4.7 | 4.8 | .3  | .3  | .4  | .7  | .7  | .7 | .7 | .1 | .1 | .1 |
| .1   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |
| 320. | *   | 2.5 | 3.0 | 3.5 | 3.9 | 4.9 | 4.4 | 4.4 | 4.5 | .2  | .3  | .4  | .7  | .7  | .6 | .6 | .1 | .1 | .1 |
| .1   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |
| 330. | *   | 2.3 | 2.9 | 3.3 | 3.5 | 4.4 | 4.1 | 4.4 | 4.3 | .2  | .3  | .4  | .7  | .7  | .7 | .7 | .0 | .0 | .0 |
| .0   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |
| 340. | *   | 2.2 | 2.7 | 3.1 | 3.4 | 4.2 | 4.1 | 4.2 | 4.1 | .2  | .3  | .4  | .8  | .8  | .8 | .8 | .1 | .1 | .1 |
| .1   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |
| 350. | *   | 2.2 | 2.7 | 2.9 | 3.4 | 4.3 | 4.3 | 4.2 | 4.2 | .2  | .2  | .4  | .8  | .8  | .8 | .8 | .3 | .3 | .3 |
| .3   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |
| 360. | *   | 2.5 | 2.4 | 2.9 | 3.3 | 4.5 | 4.2 | 4.2 | 4.2 | .1  | .1  | .2  | .6  | .6  | .6 | .6 | .6 | .6 | .6 |
| .6   | .2  |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |

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|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 2.9 | 3.1 | 3.8 | 4.9 | 6.8 | 6.3 | 6.0 | 5.9 | 7.0 | 6.9 | 6.7 | 6.8 | 4.6 | 3.8 | 3.1 | 3.0 | 3.6 | 4.7 |
| 7.2   | 7.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | *   | 300 | 300 | 300 | 290 | 290 | 290 | 280 | 280 | 250 | 250 | 250 | 250 | 250 | 240 | 230 | 130 | 130 | 120 |
| 250   | 250 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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JOB: I25ThorntonParkwayInterchangePMpackageA RUN: I25ThorntonParkwayInterchangePMpackageA

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

| WIND ANGLE (DEGR) | * CONCENTRATION (PPM) | REC41 | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
|-------------------|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | *                     | .1    | .1    | .1    | .1    | .2    | .6    | .6    | .5    | .4    | .5    | .5    | .5    | .5    | .2    | .1    | .1    |
| 10.               | *                     | .2    | .2    | .0    | .0    | .1    | .3    | .3    | .2    | .1    | .8    | .8    | .9    | .9    | .3    | .2    | .1    |
| 20.               | *                     | .3    | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .8    | .8    | .9    | 1.0   | .5    | .3    | .2    |
| 30.               | *                     | .3    | .2    | .1    | .1    | .1    | .0    | .0    | .0    | .0    | .7    | .8    | .9    | 1.0   | .5    | .3    | .2    |
| 40.               | *                     | .3    | .2    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | .6    | .9    | 1.0   | 1.0   | .6    | .4    | .2    |
| 50.               | *                     | .2    | .2    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | .8    | 1.0   | 1.0   | 1.0   | .6    | .4    | .5    |
| 60.               | *                     | .2    | .2    | .2    | .2    | .2    | .2    | .1    | .1    | .1    | .7    | .9    | .9    | .9    | .7    | .6    | .5    |
| 70.               | *                     | .6    | .7    | .6    | .5    | .5    | .5    | .1    | .1    | .1    | .8    | .9    | .9    | 1.0   | .8    | .7    | .6    |
| 80.               | *                     | 2.0   | 2.0   | 1.9   | 1.9   | 2.0   | 2.3   | .7    | .4    | .1    | .9    | 1.2   | 1.5   | 2.3   | 2.2   | 2.2   | 2.2   |
| 90.               | *                     | 4.2   | 4.3   | 4.5   | 4.8   | 4.9   | 5.3   | 2.3   | 1.3   | .8    | 1.6   | 2.1   | 2.7   | 4.8   | 4.6   | 4.6   | 4.5   |
| 100.              | *                     | 6.2   | 6.1   | 6.8   | 7.3   | 7.2   | 7.6   | 3.9   | 2.6   | 1.9   | 2.6   | 3.2   | 4.2   | 7.0   | 6.8   | 6.6   | 6.3   |
| 110.              | *                     | 6.6   | 6.7   | 7.2   | 7.7   | 7.9   | 8.3   | 4.7   | 3.5   | 2.5   | 3.2   | 3.9   | 5.3   | 7.5   | 6.9   | 6.5   | 6.2   |
| 120.              | *                     | 6.0   | 6.3   | 7.0   | 7.4   | 7.5   | 7.6   | 4.8   | 3.5   | 2.9   | 3.4   | 4.1   | 5.0   | 6.7   | 6.0   | 5.5   | 5.3   |
| 130.              | *                     | 5.8   | 6.0   | 6.5   | 6.9   | 6.9   | 7.0   | 4.4   | 3.4   | 2.6   | 3.6   | 4.1   | 4.7   | 5.7   | 5.1   | 4.7   | 4.6   |
| 140.              | *                     | 5.8   | 5.8   | 6.2   | 6.4   | 6.4   | 6.3   | 4.3   | 3.3   | 2.6   | 3.4   | 3.9   | 4.0   | 4.9   | 4.2   | 4.5   | 4.5   |
| 150.              | *                     | 5.5   | 5.4   | 6.1   | 6.2   | 6.2   | 6.1   | 4.0   | 3.1   | 2.7   | 3.2   | 3.3   | 3.7   | 4.3   | 4.0   | 4.1   | 4.2   |
| 160.              | *                     | 5.3   | 5.2   | 5.8   | 5.8   | 5.7   | 5.5   | 3.6   | 2.9   | 2.5   | 2.7   | 3.0   | 3.2   | 4.3   | 3.9   | 4.0   | 4.0   |
| 170.              | *                     | 5.3   | 5.3   | 5.8   | 5.8   | 5.8   | 5.3   | 3.7   | 2.7   | 2.5   | 2.5   | 2.8   | 3.4   | 4.2   | 4.1   | 4.1   | 4.0   |
| 180.              | *                     | 5.2   | 5.2   | 5.9   | 5.9   | 5.7   | 5.4   | 3.5   | 2.9   | 2.5   | 2.2   | 2.7   | 3.1   | 4.2   | 4.2   | 4.1   | 4.0   |
| 190.              | *                     | 5.1   | 5.1   | 6.0   | 6.0   | 5.6   | 5.2   | 3.5   | 2.9   | 2.8   | 1.9   | 2.4   | 3.0   | 4.0   | 4.0   | 3.9   | 3.7   |
| 200.              | *                     | 5.0   | 5.0   | 6.0   | 5.8   | 5.8   | 4.7   | 3.4   | 3.2   | 3.0   | 1.9   | 2.2   | 2.8   | 3.9   | 3.8   | 3.7   | 3.4   |
| 210.              | *                     | 5.4   | 5.4   | 6.1   | 5.9   | 5.8   | 4.7   | 3.6   | 3.1   | 3.0   | 1.8   | 2.1   | 2.9   | 4.0   | 3.9   | 3.8   | 3.4   |
| 220.              | *                     | 5.6   | 5.6   | 6.3   | 6.2   | 5.8   | 4.9   | 3.8   | 3.4   | 3.0   | 1.7   | 2.1   | 2.8   | 4.4   | 4.2   | 4.0   | 3.7   |
| 230.              | *                     | 6.1   | 6.1   | 6.6   | 6.4   | 6.0   | 5.1   | 3.9   | 3.4   | 2.7   | 1.7   | 2.1   | 2.8   | 4.4   | 4.2   | 4.0   | 3.8   |
| 240.              | *                     | 6.7   | 6.7   | 6.9   | 6.6   | 6.1   | 5.5   | 3.9   | 3.3   | 2.7   | 1.6   | 2.1   | 2.7   | 4.6   | 4.4   | 4.2   | 4.1   |
| 250.              | *                     | 7.4   | 7.3   | 7.0   | 6.6   | 5.8   | 5.8   | 4.1   | 3.0   | 2.4   | 1.3   | 1.9   | 2.5   | 4.7   | 4.6   | 4.5   | 4.4   |
| 260.              | *                     | 6.8   | 6.8   | 6.1   | 5.8   | 5.6   | 5.6   | 3.5   | 2.4   | 1.9   | .7    | 1.2   | 2.0   | 4.1   | 4.1   | 4.1   | 4.0   |
| 270.              | *                     | 4.6   | 4.6   | 4.1   | 3.9   | 3.9   | 4.2   | 2.4   | 1.6   | 1.2   | .2    | .6    | 1.0   | 2.7   | 2.6   | 2.5   | 2.5   |
| 280.              | *                     | 2.0   | 2.1   | 1.9   | 1.9   | 2.1   | 2.5   | 1.3   | 1.0   | .9    | .0    | .1    | .2    | 1.2   | 1.2   | 1.1   | 1.0   |
| 290.              | *                     | .5    | .5    | .7    | .8    | 1.0   | 1.4   | 1.0   | .8    | .9    | .0    | .0    | .0    | .3    | .3    | .3    | .3    |
| 300.              | *                     | .2    | .2    | .3    | .5    | .7    | .9    | .9    | .9    | .8    | .0    | .0    | .0    | .1    | .1    | .1    | .1    |
| 310.              | *                     | .1    | .1    | .3    | .4    | .6    | 1.0   | 1.0   | 1.0   | .9    | .0    | .0    | .0    | .1    | .1    | .1    | .1    |
| 320.              | *                     | .1    | .1    | .3    | .4    | .6    | 1.0   | 1.0   | 1.0   | .8    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 330.              | *                     | .1    | .1    | .2    | .4    | .5    | 1.1   | 1.0   | .9    | .7    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 340.              | *                     | .0    | .0    | .2    | .3    | .4    | 1.1   | 1.1   | .9    | .7    | .1    | .1    | .1    | .1    | .0    | .0    | .0    |
| 350.              | *                     | .0    | .0    | .1    | .2    | .4    | .9    | .8    | .7    | .5    | .2    | .3    | .3    | .3    | .1    | .0    | .0    |

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|       |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 360.  | * | .1  | .1  | .1  | .1  | .2  | .6  | .6  | .5  | .4  | .5  | .5  | .5  | .5  | .2  | .1  | .1  |
| MAX   | * | 7.4 | 7.3 | 7.2 | 7.7 | 7.9 | 8.3 | 4.8 | 3.5 | 3.0 | 3.6 | 4.1 | 5.3 | 7.5 | 6.9 | 6.6 | 6.3 |
| DEGR. | * | 250 | 250 | 110 | 110 | 110 | 110 | 120 | 110 | 200 | 130 | 120 | 110 | 110 | 110 | 100 | 100 |

THE HIGHEST CONCENTRATION OF 8.30 PPM OCCURRED AT RECEPTOR REC46.

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JOB: I25ThorntonParkwayInterchangePMpackageA      RUN: I25ThorntonParkwayInterchangePMpackageA

DATE : 11/22/10  
TIME : 13: 3:41

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |        | CO/LINK (PPM)   |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |  |
|--------|--------|-----------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|        |        | ANGLE (DEGREES) |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |  |
| REC19  | REC20  | REC1            | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 |  |
| LINK # | LINK # | 70              | 70   | 70   | 70   | 70   | 60   | 60   | 60   | 70   | 60    | 70    | 70    | 70    | 70    | 290   | 290   | 290   | 290   |  |
| 50     | 50     |                 |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |  |
| .0     | 1      | 1.4             | 1.2  | .9   | .4   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .1    | .1    |  |
| .0     | 2      | 1.3             | 1.0  | .4   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .1    | .0    | .0    | .0    |  |
| .1     | 3      | .5              | .7   | 1.0  | 1.4  | .8   | .6   | .5   | .6   | .7   | 1.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   |  |
| .0     | 4      | .1              | .2   | .3   | .4   | .4   | .3   | .3   | .3   | .4   | .5    | .6    | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   |  |
| .0     | 5      | .5              | .5   | .5   | .5   | .3   | .3   | .2   | .2   | .2   | .4    | .6    | .6    | .6    | .6    | .6    | .6    | .6    | .6    |  |
| 1.1    | 6      | .1              | .1   | .1   | .1   | .1   | .0   | .1   | .1   | .2   | .0    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .0    |  |
| .7     | 7      | .1              | .1   | .1   | .1   | .2   | .1   | .1   | .1   | .2   | .1    | .1    | .1    | .2    | .2    | .0    | .0    | .0    | .0    |  |
| .8     | 8      | .1              | .1   | .1   | .1   | .1   | .1   | .1   | .1   | .1   | .0    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .0    |  |
| .0     | 9      | 1.1             | 1.3  | 1.4  | 1.4  | .9   | .8   | .7   | .7   | .7   | 1.2   | 1.5   | 1.5   | 1.4   | 1.4   | 1.4   | 1.4   | 1.5   | 1.5   |  |
| .0     | 10     | .2              | .2   | .2   | .2   | .1   | .1   | .0   | .0   | .0   | .1    | .2    | .1    | .0    | .0    | .1    | .1    | .1    | .1    |  |
| .9     | 11     | .7              | .9   | 1.1  | 1.3  | .9   | .7   | .6   | .6   | .8   | 1.0   | 1.4   | 1.4   | 1.4   | 1.4   | 1.2   | 1.3   | 1.3   | 1.3   |  |
| .0     | 12     | .3              | .1   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .3    | .3    | .3    | .2    |  |
| .0     | 13     | .1              | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .1    | .1    |  |
| .0     | 14     | .0              | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
| .0     | 15     | .1              | .2   | .3   | .4   | .4   | .5   | .5   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
| .5     | 16     | .0              | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
| .4     | 17     | .0              | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |
| .0     | 18     | .1              | .1   | .1   | .1   | .1   | .1   | .1   | .1   | .1   | .1    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .0    |  |

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JOB: I25ThorntonParkwayInterchangePMpackageA      RUN: I25ThorntonParkwayInterchangePMpackageA

DATE : 11/22/10  
TIME : 13: 3:41

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |        | CO/LINK (PPM)   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
|--------|--------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|        |        | ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |
| REC39  | REC40  | REC21           | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 |  |
| LINK # | LINK # | 300             | 300   | 300   | 290   | 290   | 290   | 280   | 280   | 250   | 250   | 250   | 250   | 250   | 240   | 230   | 130   | 130   | 120   |  |
| 250    | 250    |                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |

|     |      |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
|-----|------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|
| .1  | 1 *  | .1 | .0 | .0 | .1  | .1  | .1  | .2  | .1  | .1  | .1  | .1  | .1  | .1  | .1  | .0  | .0 | .0 | .0  |
| .1  | .1   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| .1  | 2 *  | .0 | .0 | .0 | .0  | .0  | .0  | .1  | .1  | .0  | .0  | .0  | .1  | .1  | .0  | .0  | .0 | .0 | .0  |
| .1  | .1   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| .9  | 3 *  | .6 | .5 | .7 | .9  | 1.4 | 1.0 | .9  | .8  | .6  | .7  | .8  | .8  | .5  | .5  | .4  | .0 | .0 | .0  |
| .9  | .8   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| .4  | 4 *  | .3 | .3 | .4 | .5  | .6  | .4  | .4  | .4  | .3  | .4  | .4  | .4  | .3  | .3  | .2  | .0 | .0 | .0  |
| .4  | .4   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| .5  | 5 *  | .3 | .3 | .3 | .4  | .5  | .4  | .5  | .4  | .3  | .4  | .4  | .5  | .4  | .3  | .2  | .0 | .0 | .0  |
| .5  | .5   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| .0  | 6 *  | .0 | .0 | .0 | .0  | .6  | 1.2 | 1.1 | 1.4 | .2  | .1  | .0  | .0  | .0  | .0  | .0  | .5 | .6 | .8  |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| .0  | 7 *  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .1  | 1.5 | 1.3 | 1.0 | .5  | .0  | .0  | .0  | .6 | .8 | 1.2 |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| .0  | 8 *  | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | 1.5 | 1.1 | .5  | .0  | .0  | .0  | .0  | .7 | .9 | 1.2 |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| 3.6 | 9 *  | .7 | .7 | .9 | 1.0 | 1.4 | 1.4 | 1.1 | 1.0 | .9  | 1.2 | 1.7 | 2.4 | 1.6 | 1.2 | 1.0 | .0 | .0 | .0  |
| 3.6 | 3.6  |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| .0  | 10 * | .1 | .1 | .0 | .1  | .1  | .0  | .1  | .1  | .0  | .0  | .0  | .0  | .1  | .0  | .0  | .0 | .0 | .0  |
| .0  | .1   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| 1.4 | 11 * | .5 | .5 | .7 | .8  | 1.2 | 1.2 | 1.0 | 1.0 | 1.3 | 1.3 | 1.3 | 1.3 | .8  | .7  | .6  | .6 | .7 | 1.0 |
| 1.4 | 1.4  |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| .1  | 12 * | .2 | .1 | .1 | .2  | .2  | .2  | .3  | .3  | .1  | .1  | .1  | .1  | .2  | .1  | .0  | .0 | .0 | .0  |
| .1  | .1   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| .0  | 13 * | .1 | .1 | .1 | .1  | .1  | .1  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0  |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| .0  | 14 * | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0  |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| .1  | 15 * | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .1  | .1  | .0  | .1  | .1  | .0 | .0 | .0  |
| .1  | .1   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| .0  | 16 * | .0 | .5 | .5 | .5  | .5  | .3  | .2  | .2  | .1  | .0  | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0  |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| .0  | 17 * | .0 | .0 | .1 | .3  | .1  | .0  | .1  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0  |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
| .0  | 18 * | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .1  | .2  | .3  | .5  | .5  | .5  | .6  | .6 | .6 | .5  |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |

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JOB: I25ThorntonParkwayInterchangePMpackageA

RUN: I25ThorntonParkwayInterchangePMpackageA

DATE : 11/22/10  
TIME : 13: 3:41

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

| LINK # | *<br>*<br>*<br>* | CO/LINK (PPM)   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|------------------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |                  | ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|        |                  | REC41           | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
|        |                  | 250             | 250   | 110   | 110   | 110   | 110   | 120   | 110   | 200   | 130   | 120   | 110   | 110   | 110   | 100   | 100   |
| 1      | *                | .2              | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .3    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 2      | *                | .1              | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .3    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 3      | *                | .8              | .8    | .8    | .8    | .8    | .9    | .7    | .4    | .1    | .4    | .5    | .5    | .8    | .8    | .6    | .6    |
| 4      | *                | .4              | .4    | .4    | .4    | .4    | .5    | .4    | .2    | .0    | .2    | .3    | .3    | .4    | .3    | .3    | .2    |
| 5      | *                | .5              | .5    | .4    | .4    | .4    | .5    | .3    | .2    | .2    | .2    | .2    | .3    | .4    | .4    | .3    | .4    |
| 6      | *                | .0              | .0    | .2    | .2    | .2    | .2    | .1    | .2    | .0    | .0    | .1    | .2    | .1    | .1    | .2    | .2    |
| 7      | *                | .0              | .0    | .1    | .1    | .1    | .1    | .0    | .2    | .0    | .0    | .1    | .1    | .1    | .1    | .2    | .2    |
| 8      | *                | .0              | .0    | .1    | .1    | .1    | .1    | .0    | .1    | .0    | .0    | .0    | .1    | .0    | .0    | .1    | .1    |
| 9      | *                | 3.6             | 3.5   | 3.5   | 3.6   | 3.6   | 3.6   | 1.8   | 1.2   | .3    | 1.0   | 1.2   | 1.6   | 2.4   | 1.7   | 1.6   | 1.3   |
| 10     | *                | .1              | .1    | .1    | .5    | .7    | .8    | .4    | .1    | .0    | .2    | .2    | .3    | .5    | .3    | .3    | .2    |
| 11     | *                | 1.4             | 1.4   | 1.5   | 1.5   | 1.5   | 1.5   | 1.0   | .8    | .1    | .6    | .7    | 1.0   | 1.3   | 1.1   | 1.1   | .9    |
| 12     | *                | .2              | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .6    | .0    | .0    | .0    | .8    | 1.7   | 1.6   | 2.0   |
| 13     | *                | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .4    | .6    | .5    | .5    | .5    | .3    | .2    | .2    |
| 14     | *                | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .5    | .3    | .3    | .3    | .1    | .0    | .1    | .0    |
| 15     | *                | .1              | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .2    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 16     | *                | .0              | .0    | .1    | .1    | .1    | .1    | .1    | .1    | .0    | .1    | .1    | .1    | .1    | .1    | .0    | .0    |
| 17     | *                | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 18     | *                | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |



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'thornebapp', 'AG', 122 , 90 , 833 , 90 , 1980 , 22.5 , 0 , 56
2
'thornebapp que', 'AG', 802 , 90 , 122 , 90 , 0 , 36 , 3
100 , 53 , 2 , 1750 , 143.34 , 1600 , 1 , 3
1
'thornebdep/app', 'AG', 833 , 96 , 1411 , 96 , 2270 , 22.5 , 0 , 44
2
'thornebdep/app que', 'AG', 1386 , 96 , 858 , 96 , 0 , 24 , 2
100 , 41 , 2 , 1795 , 143.34 , 1600 , 1 , 3
2
'thornebleftturn', 'AG', 1386 , 114 , 1186 , 114 , 0 , 12 , 1
100 , 81 , 2 , 475 , 143.34 , 1600 , 1 , 3
1
'thornebdep', 'AG', 1411 , 90 , 2122 , 90 , 2380 , 22.5 , 0 , 56
1
'thornwbapp', 'AG', 2122 , 156 , 1411 , 156 , 2350 , 22.5 , 0 , 56
2
'thornwbapp que', 'AG', 1442 , 156 , 2122 , 156 , 0 , 36 , 3
100 , 60 , 2 , 1800 , 143.34 , 1600 , 1 , 3
1
'thornwbdep/app', 'AG', 1411 , 150 , 833 , 150 , 2000 , 45.4 , 0 , 44
2

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'thornwbdep/app que','AG', 858 , 150 , 1386 , 150 , 0 , 24 , 2  
100 , 41 , 2 , 1600 , 143.34 , 1600 , 1 , 3  
2  
'thornwbleftturn','AG', 858 , 126 , 1058 , 126 , 0 , 24 , 2  
100 , 88 , 2 , 400 , 143.34 , 1600 , 1 , 3  
1  
'thornwbdep','AG', 833 , 156 , 122 , 156 , 2020 , 45.4 , 0 , 56  
1  
'I25sbrampapp','AG', 824 , 1124 , 824 , 124 , 940 , 22.8 , 0 , 44  
2  
'I25sbrampleftturn','AG', 842 , 184 , 842 , 384 , 0 , 12 , 1  
100 , 59 , 2 , 520 , 143.34 , 1600 , 1 , 3  
1  
'I25sbrampdep','AG', 824 , 124 , 824 , -876 , 630 , 22.8 , 0 , 44  
1  
'I25nbrampapp','AG', 1420 , -876 , 1420 , 124 , 785 , 23.1 , 0 , 44  
2  
'I25nbrampleftturn','AG', 1402 , 62 , 1402 , -138 , 0 , 12 , 1  
100 , 59 , 2 , 200 , 143.34 , 1600 , 1 , 3  
1  
'I25nbrampdep','AG', 1420 , 124 , 1420 , 1124 , 1025 , 23.1 , 0 , 44  
1 , 0 , 4 , 1000 , 0 , 'Y', 10 , 0 , 36

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The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

| V/C QUEUE<br>(VEH) | LINK DESCRIPTION       | * X1   | Y1     | X2      | Y2     | * LENGTH<br>(FT) | BRG TYPE<br>(DEG) | VPH   | EF<br>(G/MI) | H<br>(FT) | W<br>(FT) |
|--------------------|------------------------|--------|--------|---------|--------|------------------|-------------------|-------|--------------|-----------|-----------|
| 1.85               | 1. thornebapp          | 122.0  | 90.0   | 833.0   | 90.0   | 711.             | 90. AG            | 1980. | 22.5         | .0        | 56.0      |
| 9.5                | 2. thornebapp que      | 802.0  | 90.0   | 615.8   | 90.0   | 186.             | 270. AG           | 611.  | 100.0        | .0        | 36.0      |
| 1.02               | 3. thornebdep/app      | 833.0  | 96.0   | 1411.0  | 96.0   | 578.             | 90. AG            | 2270. | 22.5         | .0        | 44.0      |
| 26.2               | 4. thornebdep/app que  | 1386.0 | 96.0   | 870.0   | 96.0   | 516.             | 270. AG           | 315.  | 100.0        | .0        | 24.0      |
| 1.98               | 5. thornebleftturn     | 1386.0 | 114.0  | -1286.9 | 114.0  | 2673.            | 270. AG           | 311.  | 100.0        | .0        | 12.0      |
| 135.8              | 6. thornebdep          | 1411.0 | 90.0   | 2122.0  | 90.0   | 711.             | 90. AG            | 2380. | 22.5         | .0        | 56.0      |
|                    | 7. thornwbapp          | 2122.0 | 156.0  | 1411.0  | 156.0  | 711.             | 270. AG           | 2350. | 22.5         | .0        | 56.0      |
| 1.04               | 8. thornwbapp que      | 1442.0 | 156.0  | 1996.9  | 156.0  | 555.             | 90. AG            | 692.  | 100.0        | .0        | 36.0      |
| 28.2               | 9. thornwbdep/app      | 1411.0 | 150.0  | 833.0   | 150.0  | 578.             | 270. AG           | 2000. | 45.4         | .0        | 44.0      |
|                    | 10. thornwbdep/app que | 858.0  | 150.0  | 1080.1  | 150.0  | 222.             | 90. AG            | 315.  | 100.0        | .0        | 24.0      |
| .91                | 11. thornwbleftturn    | 858.0  | 126.0  | 1749.3  | 126.0  | 891.             | 90. AG            | 677.  | 100.0        | .0        | 24.0      |
| 1.56               | 12. thornwbdep         | 833.0  | 156.0  | 122.0   | 156.0  | 711.             | 270. AG           | 2020. | 45.4         | .0        | 56.0      |
|                    | 13. I25sbrampapp       | 824.0  | 1124.0 | 824.0   | 124.0  | 1000.            | 180. AG           | 940.  | 22.8         | .0        | 44.0      |
|                    | 14. I25sbrampleftturn  | 842.0  | 184.0  | 842.0   | 381.1  | 197.             | 360. AG           | 227.  | 100.0        | .0        | 12.0      |
| .88                | 15. I25sbrampdep       | 824.0  | 124.0  | 824.0   | -876.0 | 1000.            | 180. AG           | 630.  | 22.8         | .0        | 44.0      |
|                    | 16. I25nbrampapp       | 1420.0 | -876.0 | 1420.0  | 124.0  | 1000.            | 360. AG           | 785.  | 23.1         | .0        | 44.0      |
|                    | 17. I25nbrampleftturn  | 1402.0 | 62.0   | 1402.0  | -2.5   | 65.              | 180. AG           | 227.  | 100.0        | .0        | 12.0      |
| .34                | 18. I25nbrampdep       | 1420.0 | 124.0  | 1420.0  | 1124.0 | 1000.            | 360. AG           | 1025. | 23.1         | .0        | 44.0      |

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ADDITIONAL QUEUE LINK PARAMETERS

| LINK DESCRIPTION       | * CYCLE LENGTH<br>(SEC) | RED TIME<br>(SEC) | CLEARANCE LOST TIME<br>(SEC) | APPROACH VOL<br>(VPH) | SATURATION FLOW RATE<br>(VPH) | IDLE EM FAC<br>(gm/hr) | SIGNAL TYPE | ARRIVAL RATE |
|------------------------|-------------------------|-------------------|------------------------------|-----------------------|-------------------------------|------------------------|-------------|--------------|
| 2. thornebapp que      | 100                     | 53                | 2.0                          | 1750                  | 1600                          | 143.34                 | 1           | 3            |
| 4. thornebdep/app que  | 100                     | 41                | 2.0                          | 1795                  | 1600                          | 143.34                 | 1           | 3            |
| 5. thornebleftturn     | 100                     | 81                | 2.0                          | 475                   | 1600                          | 143.34                 | 1           | 3            |
| 8. thornwbapp que      | 100                     | 60                | 2.0                          | 1800                  | 1600                          | 143.34                 | 1           | 3            |
| 10. thornwbdep/app que | 100                     | 41                | 2.0                          | 1600                  | 1600                          | 143.34                 | 1           | 3            |
| 11. thornwbleftturn    | 100                     | 88                | 2.0                          | 400                   | 1600                          | 143.34                 | 1           | 3            |
| 14. I25sbrampleftturn  | 100                     | 59                | 2.0                          | 520                   | 1600                          | 143.34                 | 1           | 3            |
| 17. I25nbrampleftturn  | 100                     | 59                | 2.0                          | 200                   | 1600                          | 143.34                 | 1           | 3            |

RECEPTOR LOCATIONS

| RECEPTOR      | * X   | Y    | Z   | * |
|---------------|-------|------|-----|---|
| 1. Receptor 1 | 672.0 | 52.0 | 5.0 | * |
| 2. Receptor 2 | 712.0 | 52.0 | 5.0 | * |
| 3. Receptor 3 | 752.0 | 52.0 | 5.0 | * |
| 4. Receptor 4 | 792.0 | 52.0 | 5.0 | * |
| 5. Receptor 5 | 792.0 | 2.0  | 5.0 | * |

|     |          |    |   |        |       |     |   |
|-----|----------|----|---|--------|-------|-----|---|
| 6.  | Receptor | 6  | * | 792.0  | -38.0 | 5.0 | * |
| 7.  | Receptor | 7  | * | 792.0  | -78.0 | 5.0 | * |
| 8.  | Receptor | 8  | * | 856.0  | -56.0 | 5.0 | * |
| 9.  | Receptor | 9  | * | 856.0  | -16.0 | 5.0 | * |
| 10. | Receptor | 10 | * | 856.0  | 24.0  | 5.0 | * |
| 11. | Receptor | 11 | * | 856.0  | 64.0  | 5.0 | * |
| 12. | Receptor | 12 | * | 896.0  | 64.0  | 5.0 | * |
| 13. | Receptor | 13 | * | 936.0  | 64.0  | 5.0 | * |
| 14. | Receptor | 14 | * | 976.0  | 64.0  | 5.0 | * |
| 15. | Receptor | 15 | * | 1256.0 | 64.0  | 5.0 | * |
| 16. | Receptor | 16 | * | 1296.0 | 64.0  | 5.0 | * |
| 17. | Receptor | 17 | * | 1336.0 | 64.0  | 5.0 | * |
| 18. | Receptor | 18 | * | 1376.0 | 64.0  | 5.0 | * |
| 19. | Receptor | 19 | * | 1376.0 | 24.0  | 5.0 | * |
| 20. | Receptor | 20 | * | 1376.0 | -16.0 | 5.0 | * |
| 21. | Receptor | 21 | * | 1376.0 | -56.0 | 5.0 | * |
| 22. | Receptor | 22 | * | 1452.0 | -68.0 | 5.0 | * |
| 23. | Receptor | 23 | * | 1452.0 | -28.0 | 5.0 | * |
| 24. | Receptor | 24 | * | 1452.0 | 12.0  | 5.0 | * |
| 25. | Receptor | 25 | * | 1452.0 | 52.0  | 5.0 | * |
| 26. | Receptor | 26 | * | 1492.0 | 52.0  | 5.0 | * |
| 27. | Receptor | 27 | * | 1532.0 | 52.0  | 5.0 | * |
| 28. | Receptor | 28 | * | 1572.0 | 52.0  | 5.0 | * |
| 29. | Receptor | 29 | * | 1572.0 | 194.0 | 5.0 | * |
| 30. | Receptor | 30 | * | 1532.0 | 194.0 | 5.0 | * |
| 31. | Receptor | 31 | * | 1492.0 | 194.0 | 5.0 | * |
| 32. | Receptor | 32 | * | 1452.0 | 194.0 | 5.0 | * |
| 33. | Receptor | 33 | * | 1452.0 | 234.0 | 5.0 | * |
| 34. | Receptor | 34 | * | 1452.0 | 274.0 | 5.0 | * |
| 35. | Receptor | 35 | * | 1452.0 | 314.0 | 5.0 | * |
| 36. | Receptor | 36 | * | 1388.0 | 302.0 | 5.0 | * |
| 37. | Receptor | 37 | * | 1388.0 | 262.0 | 5.0 | * |

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RECEPTOR LOCATIONS

| RECEPTOR | *        | COORDINATES (FT) |   |        | *     |     |   |
|----------|----------|------------------|---|--------|-------|-----|---|
|          |          | X                | Y | Z      |       |     |   |
| 38.      | Receptor | 38               | * | 1388.0 | 222.0 | 5.0 | * |
| 39.      | Receptor | 39               | * | 1388.0 | 182.0 | 5.0 | * |
| 40.      | Receptor | 40               | * | 1348.0 | 182.0 | 5.0 | * |
| 41.      | Receptor | 41               | * | 1308.0 | 182.0 | 5.0 | * |
| 42.      | Receptor | 42               | * | 1264.0 | 182.0 | 5.0 | * |
| 43.      | Receptor | 43               | * | 988.0  | 182.0 | 5.0 | * |
| 44.      | Receptor | 44               | * | 948.0  | 182.0 | 5.0 | * |
| 45.      | Receptor | 45               | * | 908.0  | 182.0 | 5.0 | * |
| 46.      | Receptor | 46               | * | 868.0  | 182.0 | 5.0 | * |
| 47.      | Receptor | 47               | * | 868.0  | 222.0 | 5.0 | * |
| 48.      | Receptor | 48               | * | 868.0  | 262.0 | 5.0 | * |
| 49.      | Receptor | 49               | * | 868.0  | 302.0 | 5.0 | * |
| 50.      | Receptor | 50               | * | 792.0  | 314.0 | 5.0 | * |
| 51.      | Receptor | 51               | * | 792.0  | 274.0 | 5.0 | * |
| 52.      | Receptor | 52               | * | 792.0  | 234.0 | 5.0 | * |
| 53.      | Receptor | 53               | * | 792.0  | 194.0 | 5.0 | * |
| 54.      | Receptor | 54               | * | 752.0  | 194.0 | 5.0 | * |
| 55.      | Receptor | 55               | * | 712.0  | 194.0 | 5.0 | * |
| 56.      | Receptor | 56               | * | 672.0  | 194.0 | 5.0 | * |

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
ANGLE \* (PPM)  
(DEGR)\* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18

REC19 REC20

| *-----* |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0.      | *   | 4.7 | 4.8 | 4.9 | 5.1 | 3.3 | 2.7 | 2.5 | 2.7 | 2.9 | 3.7 | 5.1 | 5.8 | 5.7 | 5.6 | 5.2 | 5.2 | 5.4 | 5.4 |
| 3.8     | 3.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 10.     | *   | 4.7 | 4.8 | 4.9 | 4.9 | 3.4 | 2.9 | 2.6 | 2.7 | 3.0 | 3.7 | 4.9 | 5.7 | 5.6 | 5.6 | 5.3 | 5.4 | 5.4 | 5.3 |
| 3.8     | 3.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 20.     | *   | 4.9 | 4.9 | 5.1 | 4.7 | 3.4 | 3.0 | 2.8 | 2.3 | 2.8 | 3.6 | 4.9 | 5.5 | 5.5 | 5.6 | 5.3 | 5.4 | 5.5 | 4.9 |
| 3.7     | 3.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30.     | *   | 5.0 | 5.1 | 5.1 | 4.6 | 3.8 | 3.2 | 2.9 | 2.7 | 3.1 | 3.9 | 5.4 | 5.7 | 5.7 | 5.7 | 5.5 | 5.6 | 5.7 | 5.1 |
| 3.9     | 3.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 40.     | *   | 5.2 | 5.5 | 5.5 | 4.7 | 3.9 | 3.3 | 3.0 | 2.8 | 3.3 | 4.1 | 5.8 | 6.0 | 6.0 | 5.9 | 5.8 | 5.7 | 5.7 | 5.0 |
| 4.0     | 3.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 50.     | *   | 5.8 | 5.7 | 5.7 | 5.3 | 4.2 | 3.6 | 3.1 | 2.7 | 3.5 | 4.4 | 6.4 | 6.5 | 6.4 | 6.3 | 6.1 | 6.2 | 6.0 | 5.4 |
| 4.4     | 3.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 60.     | *   | 6.2 | 6.2 | 6.3 | 6.1 | 4.4 | 3.7 | 3.2 | 2.9 | 3.7 | 4.7 | 6.9 | 6.8 | 6.8 | 6.7 | 6.7 | 6.5 | 6.1 | 5.8 |
| 4.7     | 3.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 70.     | *   | 6.9 | 7.1 | 6.7 | 6.9 | 4.4 | 3.6 | 2.8 | 2.7 | 3.4 | 4.8 | 7.5 | 7.6 | 7.3 | 7.1 | 6.7 | 6.5 | 6.1 | 6.0 |
| 4.4     | 2.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 80.     | *   | 6.5 | 6.4 | 6.3 | 6.3 | 3.7 | 2.7 | 2.1 | 2.1 | 2.6 | 4.1 | 7.0 | 7.1 | 6.8 | 6.7 | 5.9 | 5.6 | 5.5 | 5.5 |
| 3.5     | 2.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 90.     | *   | 4.3 | 4.3 | 4.1 | 4.1 | 2.2 | 1.4 | 1.1 | .7  | 1.3 | 2.1 | 4.7 | 4.6 | 4.7 | 4.3 | 3.8 | 3.6 | 3.5 | 3.8 |
| 2.1     | .9  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 100.    | *   | 1.8 | 1.8 | 1.8 | 1.8 | .8  | .6  | .5  | .2  | .2  | .7  | 2.0 | 1.9 | 1.8 | 1.8 | 1.6 | 1.6 | 1.7 | 2.1 |
| 1.1     | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 110.    | *   | .4  | .5  | .5  | .6  | .5  | .5  | .5  | .1  | .1  | .1  | .4  | .4  | .5  | .5  | .6  | .6  | .8  | 1.2 |
| .8      | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 120.    | *   | .3  | .3  | .4  | .5  | .5  | .5  | .5  | .1  | .1  | .1  | .1  | .1  | .1  | .1  | .3  | .3  | .6  | 1.0 |
| .9      | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 130.    | *   | .3  | .3  | .4  | .6  | .6  | .6  | .6  | .1  | .1  | .1  | .1  | .1  | .1  | .1  | .2  | .3  | .5  | 1.0 |
| .8      | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 140.    | *   | .2  | .2  | .4  | .6  | .6  | .6  | .5  | .1  | .1  | .1  | .1  | .1  | .1  | .1  | .2  | .3  | .4  | 1.0 |
| .7      | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 150.    | *   | .2  | .2  | .3  | .6  | .6  | .6  | .6  | .0  | .0  | .0  | .0  | .1  | .1  | .1  | .2  | .3  | .5  | 1.0 |
| .7      | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 160.    | *   | .2  | .2  | .3  | .6  | .6  | .6  | .6  | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .2  | .3  | .4  | .9  |
| .6      | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 170.    | *   | .1  | .2  | .3  | .6  | .6  | .6  | .6  | .2  | .2  | .2  | .2  | .1  | .0  | .0  | .1  | .2  | .3  | .8  |
| .6      | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 180.    | *   | .1  | .1  | .2  | .5  | .4  | .4  | .4  | .4  | .4  | .5  | .5  | .2  | .1  | .1  | .1  | .1  | .2  | .5  |
| .4      | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 190.    | *   | .0  | .0  | .1  | .2  | .2  | .2  | .2  | .6  | .6  | .6  | .6  | .3  | .2  | .1  | .0  | .0  | .1  | .2  |
| .2      | .2  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 200.    | *   | .0  | .0  | .0  | .1  | .1  | .1  | .1  | .6  | .6  | .6  | .6  | .3  | .2  | .2  | .0  | .0  | .0  | .0  |
| .0      | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 210.    | *   | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .6  | .6  | .6  | .6  | .3  | .2  | .2  | .1  | .1  | .0  | .0  |
| .0      | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 220.    | *   | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .5  | .5  | .5  | .5  | .3  | .2  | .2  | .1  | .1  | .1  | .1  |
| .1      | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 230.    | *   | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .5  | .5  | .5  | .5  | .3  | .2  | .2  | .1  | .1  | .1  | .1  |
| .1      | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 240.    | *   | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .4  | .4  | .4  | .5  | .4  | .2  | .2  | .1  | .1  | .1  | .1  |
| .1      | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 250.    | *   | .2  | .2  | .2  | .2  | .0  | .0  | .0  | .4  | .4  | .4  | 1.0 | .6  | .6  | .4  | .3  | .4  | .4  | .4  |
| .1      | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 260.    | *   | .8  | .9  | 1.0 | 1.1 | .2  | .0  | .0  | .4  | .6  | .8  | 2.3 | 1.9 | 1.7 | 1.6 | 1.8 | 1.8 | 2.0 | 2.0 |
| .6      | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 270.    | *   | 2.1 | 2.3 | 2.5 | 2.8 | .8  | .5  | .2  | .7  | 1.1 | 1.9 | 4.5 | 4.0 | 3.7 | 3.6 | 4.6 | 4.7 | 4.5 | 4.7 |
| 2.1     | 1.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 280.    | *   | 3.6 | 4.0 | 4.4 | 4.6 | 1.8 | 1.1 | .7  | 1.4 | 2.0 | 3.3 | 6.0 | 5.3 | 5.3 | 5.5 | 6.9 | 7.0 | 7.0 | 7.0 |
| 3.9     | 2.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 290.    | *   | 4.3 | 4.9 | 5.2 | 5.4 | 2.7 | 1.7 | 1.2 | 2.1 | 2.8 | 4.0 | 6.0 | 5.3 | 5.7 | 6.2 | 7.3 | 7.2 | 7.3 | 7.3 |
| 4.6     | 3.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 300.    | *   | 4.7 | 5.2 | 5.5 | 5.6 | 3.1 | 2.2 | 1.6 | 2.6 | 3.2 | 4.2 | 5.5 | 5.1 | 5.9 | 6.5 | 6.9 | 6.8 | 6.8 | 6.8 |
| 4.4     | 3.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 310.    | *   | 4.6 | 5.0 | 5.1 | 5.1 | 3.1 | 2.4 | 1.8 | 2.7 | 3.3 | 3.9 | 4.7 | 4.8 | 5.7 | 6.3 | 6.2 | 6.1 | 6.1 | 6.1 |
| 4.1     | 3.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 320.    | *   | 4.6 | 4.8 | 4.8 | 4.8 | 3.1 | 2.3 | 1.9 | 2.7 | 3.0 | 3.6 | 4.4 | 4.9 | 6.1 | 6.4 | 5.6 | 5.6 | 5.6 | 5.6 |
| 3.8     | 3.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 330.    | *   | 4.6 | 4.7 | 4.7 | 4.7 | 3.1 | 2.4 | 2.0 | 2.6 | 2.9 | 3.4 | 4.0 | 5.2 | 6.0 | 6.0 | 5.3 | 5.3 | 5.3 | 5.3 |
| 3.7     | 2.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 340.    | *   | 4.4 | 4.4 | 4.4 | 4.5 | 2.9 | 2.3 | 1.8 | 2.5 | 2.7 | 3.4 | 4.3 | 5.8 | 5.9 | 5.8 | 5.2 | 5.1 | 5.1 | 5.1 |
| 3.4     | 2.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 350.    | *   | 4.5 | 4.5 | 4.6 | 4.7 | 3.1 | 2.5 | 2.2 | 2.5 | 3.0 | 3.6 | 4.8 | 5.9 | 5.8 | 5.7 | 5.2 | 5.2 | 5.3 | 5.3 |
| 3.7     | 2.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 360.    | *   | 4.7 | 4.8 | 4.9 | 5.1 | 3.3 | 2.7 | 2.5 | 2.7 | 2.9 | 3.7 | 5.1 | 5.8 | 5.7 | 5.6 | 5.2 | 5.2 | 5.4 | 5.4 |
| 3.8     | 3.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 6.9 | 7.1 | 6.7 | 6.9 | 4.4 | 3.7 | 3.2 | 2.9 | 3.7 | 4.8 | 7.5 | 7.6 | 7.3 | 7.1 | 7.3 | 7.2 | 7.3 | 7.3 |
| 4.7   | 3.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | *   | 70  | 70  | 70  | 70  | 60  | 60  | 60  | 60  | 60  | 70  | 70  | 70  | 70  | 70  | 290 | 290 | 290 | 290 |
| 60    | 50  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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PAGE

JOB: I25ThorntonParkwayInterchangePMpackageB

RUN: I25ThorntonParkwayInterchangePMpackageB

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
 ANGLE \* (PPM)  
 (DEGR)\* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32 REC33 REC34 REC35 REC36 REC37 REC38  
 REC39 REC40

| WIND ANGLE (DEGR) | CONCENTRATION (PPM) | REC21 | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 | REC39 | REC40 |
|-------------------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | 3                   | 2.7   | 2.7   | 3.0   | 3.3   | 4.5   | 4.4   | 4.3   | 4.2   | .1    | .2    | .3    | .7    | .7    | .7    | .7    | .7    | .7    | .7    | .7    | .7    |
| .8                | .3                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 10.               | *                   | 3.0   | 2.2   | 2.6   | 3.3   | 4.3   | 4.2   | 4.1   | 4.1   | .0    | .0    | .1    | .4    | .3    | .3    | .3    | 1.0   | 1.0   | 1.0   |       |       |
| 1.0               | .5                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 20.               | *                   | 2.7   | 2.1   | 2.5   | 3.1   | 4.1   | 4.1   | 4.0   | 4.0   | .0    | .0    | .0    | .1    | .1    | .1    | .1    | 1.0   | 1.0   | 1.0   |       |       |
| 1.0               | .5                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 30.               | *                   | 3.0   | 2.1   | 2.4   | 3.0   | 4.2   | 4.2   | 4.2   | 4.2   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .9    | .9    | .9    |       |       |
| .9                | .5                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 40.               | *                   | 2.8   | 2.2   | 2.6   | 3.3   | 4.5   | 4.5   | 4.4   | 4.4   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .8    | .8    | .8    |       |       |
| .8                | .5                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50.               | *                   | 2.8   | 2.2   | 2.7   | 3.4   | 4.8   | 4.8   | 4.7   | 4.7   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .8    | .8    | .8    |       |       |
| .8                | .4                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 60.               | *                   | 2.7   | 1.9   | 2.4   | 3.4   | 5.0   | 4.9   | 4.8   | 4.7   | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .7    | .7    | .7    |       |       |
| .8                | .5                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 70.               | *                   | 2.1   | 1.3   | 1.9   | 3.0   | 5.0   | 4.8   | 4.7   | 4.4   | .3    | .3    | .3    | .3    | .0    | .0    | .0    | .7    | .7    | .7    |       |       |
| 1.5               | 1.0                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80.               | *                   | 1.3   | .5    | 1.1   | 2.0   | 4.1   | 3.9   | 3.7   | 3.4   | 1.2   | 1.2   | 1.3   | 1.5   | .3    | .1    | .0    | .7    | .9    | 1.1   |       |       |
| 3.0               | 2.6                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 90.               | *                   | .7    | .1    | .3    | .7    | 2.3   | 2.2   | 2.1   | 1.9   | 2.9   | 3.2   | 3.3   | 3.5   | 1.2   | .5    | .2    | 1.1   | 1.4   | 2.4   |       |       |
| 5.5               | 4.8                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100.              | *                   | .4    | .0    | .1    | .2    | .9    | .8    | .7    | .7    | 4.9   | 5.1   | 5.2   | 5.6   | 2.5   | 1.4   | .7    | 1.8   | 2.6   | 4.0   |       |       |
| 7.3               | 6.6                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 110.              | *                   | .4    | .0    | .0    | .0    | .2    | .2    | .2    | .2    | 5.8   | 6.1   | 6.3   | 6.4   | 3.6   | 2.3   | 1.6   | 2.6   | 3.5   | 4.8   |       |       |
| 7.2               | 6.7                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 120.              | *                   | .5    | .0    | .0    | .0    | .1    | .1    | .1    | .1    | 6.0   | 6.1   | 6.2   | 6.2   | 3.8   | 2.8   | 2.2   | 3.1   | 3.8   | 5.0   |       |       |
| 6.5               | 6.4                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 130.              | *                   | .5    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | 5.8   | 5.8   | 5.8   | 5.8   | 3.8   | 2.9   | 2.3   | 3.3   | 3.9   | 4.6   |       |       |
| 5.8               | 5.9                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 140.              | *                   | .5    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | 5.4   | 5.4   | 5.4   | 5.4   | 3.7   | 2.9   | 2.3   | 3.2   | 3.6   | 4.3   |       |       |
| 5.4               | 5.6                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 150.              | *                   | .6    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | 5.1   | 5.1   | 5.1   | 5.1   | 3.5   | 2.6   | 2.3   | 3.3   | 3.4   | 3.9   |       |       |
| 5.3               | 5.4                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160.              | *                   | .6    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | 4.9   | 4.9   | 4.9   | 5.1   | 3.4   | 2.5   | 2.2   | 2.9   | 3.2   | 3.8   |       |       |
| 5.4               | 5.5                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 170.              | *                   | .6    | .3    | .3    | .3    | .3    | .1    | .0    | .0    | 5.0   | 5.0   | 5.1   | 5.2   | 3.5   | 2.8   | 2.5   | 2.9   | 3.3   | 4.1   |       |       |
| 5.8               | 5.6                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 180.              | *                   | .4    | .6    | .6    | .6    | .6    | .2    | .1    | .1    | 5.1   | 5.1   | 5.2   | 5.3   | 3.8   | 3.0   | 2.7   | 2.8   | 3.3   | 3.9   |       |       |
| 5.6               | 5.5                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 190.              | *                   | .2    | .8    | .8    | .8    | .8    | .4    | .2    | .2    | 5.1   | 5.1   | 5.3   | 5.4   | 3.8   | 3.3   | 2.9   | 2.5   | 3.0   | 3.7   |       |       |
| 5.3               | 5.4                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200.              | *                   | .0    | .8    | .8    | .8    | .8    | .4    | .3    | .2    | 5.1   | 5.2   | 5.4   | 5.1   | 3.9   | 3.2   | 3.0   | 2.3   | 2.6   | 3.6   |       |       |
| 5.3               | 5.3                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 210.              | *                   | .0    | .7    | .7    | .7    | .8    | .4    | .3    | .2    | 5.3   | 5.6   | 5.6   | 5.0   | 4.0   | 3.5   | 3.1   | 2.5   | 2.9   | 3.6   |       |       |
| 5.5               | 5.6                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 220.              | *                   | .1    | .6    | .6    | .6    | .8    | .4    | .3    | .2    | 5.6   | 5.8   | 5.9   | 5.5   | 4.3   | 3.7   | 3.1   | 2.6   | 3.1   | 4.0   |       |       |
| 5.8               | 5.8                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 230.              | *                   | .1    | .7    | .7    | .7    | .9    | .5    | .4    | .2    | 6.2   | 6.2   | 6.3   | 6.0   | 4.6   | 3.8   | 3.4   | 2.7   | 3.3   | 4.2   |       |       |
| 6.4               | 6.4                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 240.              | *                   | .1    | .6    | .6    | .7    | .9    | .5    | .4    | .3    | 6.8   | 6.8   | 6.9   | 6.5   | 4.7   | 4.2   | 3.6   | 3.0   | 3.6   | 4.4   |       |       |
| 6.9               | 6.9                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250.              | *                   | .1    | .6    | .6    | .7    | 1.0   | .8    | .5    | .5    | 7.5   | 7.4   | 7.1   | 7.1   | 5.0   | 4.1   | 3.3   | 2.8   | 3.4   | 4.7   |       |       |
| 7.7               | 7.6                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 260.              | *                   | .1    | .6    | .9    | 1.2   | 2.2   | 2.1   | 1.7   | 1.8   | 7.1   | 7.0   | 6.8   | 6.8   | 4.4   | 3.4   | 2.8   | 2.1   | 2.7   | 4.1   |       |       |
| 7.2               | 7.4                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 270.              | *                   | .9    | 1.3   | 1.9   | 2.7   | 4.4   | 4.3   | 4.4   | 4.4   | 4.8   | 4.8   | 4.6   | 4.8   | 2.9   | 2.1   | 1.4   | .7    | 1.5   | 2.6   |       |       |

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|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|
| 5.1  | 5.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |
| 280. | *   | 1.9 | 2.3 | 2.9 | 4.3 | 6.6 | 6.5 | 6.3 | 6.0 | 2.0 | 2.0 | 2.0 | 2.3 | 1.4 | 1.0 | .9  | .2 | .4 | .8 |
| 2.2  | 2.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |
| 290. | *   | 2.7 | 3.1 | 3.9 | 5.1 | 6.9 | 6.4 | 6.3 | 6.0 | .5  | .6  | .8  | 1.1 | .8  | .8  | .8  | .1 | .1 | .1 |
| .6   | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |
| 300. | *   | 2.9 | 3.4 | 4.0 | 5.1 | 6.1 | 5.8 | 5.3 | 5.3 | .4  | .4  | .5  | .8  | .8  | .8  | .8  | .1 | .1 | .1 |
| .2   | .2  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |
| 310. | *   | 2.7 | 3.3 | 3.9 | 4.5 | 5.5 | 5.0 | 4.8 | 4.9 | .4  | .4  | .5  | .9  | .9  | .9  | .9  | .1 | .1 | .1 |
| .1   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |
| 320. | *   | 2.6 | 3.1 | 3.7 | 4.1 | 4.9 | 4.5 | 4.4 | 4.6 | .3  | .5  | .6  | .9  | .9  | .9  | .9  | .1 | .1 | .1 |
| .1   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |
| 330. | *   | 2.5 | 3.3 | 3.6 | 3.9 | 4.7 | 4.4 | 4.4 | 4.5 | .3  | .4  | .5  | .9  | .9  | .9  | .9  | .0 | .0 | .0 |
| .1   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |
| 340. | *   | 2.2 | 3.0 | 3.4 | 3.6 | 4.3 | 4.2 | 4.3 | 4.3 | .3  | .4  | .5  | 1.0 | 1.0 | 1.0 | 1.0 | .1 | .1 | .1 |
| .1   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |
| 350. | *   | 2.3 | 2.8 | 3.0 | 3.5 | 4.6 | 4.5 | 4.4 | 4.3 | .2  | .3  | .5  | 1.0 | 1.0 | 1.0 | 1.0 | .3 | .3 | .3 |
| .4   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |
| 360. | *   | 2.7 | 2.7 | 3.0 | 3.3 | 4.5 | 4.4 | 4.3 | 4.2 | .1  | .2  | .3  | .7  | .7  | .7  | .7  | .7 | .7 | .7 |
| .8   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |

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|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 3.0 | 3.4 | 4.0 | 5.1 | 6.9 | 6.5 | 6.3 | 6.0 | 7.5 | 7.4 | 7.1 | 7.1 | 5.0 | 4.2 | 3.6 | 3.3 | 3.9 | 5.0 |
| 7.7   | 7.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | *   | 10  | 300 | 300 | 290 | 290 | 280 | 280 | 280 | 250 | 250 | 250 | 250 | 250 | 240 | 240 | 150 | 130 | 120 |
| 250   | 250 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

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JOB: I25ThorntonParkwayInterchangePMpackageB RUN: I25ThorntonParkwayInterchangePMpackageB

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

| WIND ANGLE (DEGR) | * CONCENTRATION (PPM) | REC41 | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
|-------------------|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | *                     | .2    | .1    | .1    | .1    | .2    | .8    | .7    | .7    | .5    | .7    | .7    | .7    | .8    | .3    | .1    | .1    |
| 10.               | *                     | .3    | .2    | .0    | .0    | .1    | .3    | .3    | .3    | .2    | .9    | 1.0   | 1.0   | 1.1   | .4    | .3    | .2    |
| 20.               | *                     | .4    | .3    | .1    | .0    | .0    | .0    | .0    | .0    | 1.0   | 1.1   | 1.1   | 1.1   | 1.2   | .6    | .3    | .3    |
| 30.               | *                     | .4    | .3    | .1    | .1    | .1    | .1    | .1    | .0    | .9    | 1.0   | 1.1   | 1.1   | 1.1   | .7    | .4    | .3    |
| 40.               | *                     | .4    | .3    | .1    | .1    | .1    | .1    | .1    | .1    | 1.1   | 1.2   | 1.2   | 1.3   | .7    | .5    | .5    |       |
| 50.               | *                     | .3    | .3    | .1    | .1    | .1    | .1    | .1    | .1    | 1.1   | 1.1   | 1.1   | 1.1   | 1.1   | .8    | .7    | .5    |
| 60.               | *                     | .3    | .4    | .2    | .2    | .2    | .2    | .1    | .1    | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | .8    | .7    | .5    |
| 70.               | *                     | .8    | .8    | .7    | .7    | .5    | .6    | .1    | .1    | 1.0   | 1.0   | 1.0   | 1.0   | 1.2   | 1.0   | .8    | .7    |
| 80.               | *                     | 2.2   | 2.1   | 2.0   | 2.2   | 2.2   | 2.3   | .7    | .5    | .3    | 1.0   | 1.3   | 1.6   | 2.4   | 2.4   | 2.4   | 2.4   |
| 90.               | *                     | 4.6   | 4.5   | 4.8   | 5.3   | 5.3   | 5.5   | 2.5   | 1.3   | .8    | 1.7   | 2.2   | 3.1   | 5.2   | 5.2   | 5.1   | 5.1   |
| 100.              | *                     | 6.5   | 6.6   | 7.5   | 7.8   | 7.9   | 8.0   | 4.3   | 2.8   | 2.0   | 3.0   | 3.7   | 4.7   | 7.6   | 7.3   | 7.2   | 7.0   |
| 110.              | *                     | 6.8   | 6.9   | 8.0   | 8.2   | 8.3   | 8.6   | 4.9   | 3.6   | 2.6   | 3.5   | 4.2   | 5.5   | 8.0   | 7.7   | 7.2   | 7.1   |
| 120.              | *                     | 6.5   | 6.6   | 7.6   | 7.7   | 7.7   | 7.7   | 4.9   | 3.7   | 2.9   | 3.9   | 4.4   | 5.4   | 7.3   | 6.5   | 6.1   | 6.0   |
| 130.              | *                     | 6.1   | 6.3   | 7.2   | 7.2   | 7.3   | 7.3   | 4.7   | 3.6   | 2.9   | 3.8   | 4.3   | 5.1   | 6.3   | 5.7   | 5.1   | 5.1   |
| 140.              | *                     | 6.0   | 6.1   | 6.6   | 6.6   | 6.6   | 6.6   | 4.5   | 3.4   | 2.9   | 3.5   | 4.1   | 4.5   | 5.6   | 4.8   | 4.9   | 4.9   |
| 150.              | *                     | 5.8   | 5.7   | 6.4   | 6.4   | 6.4   | 6.4   | 4.2   | 3.3   | 2.8   | 3.5   | 3.7   | 4.0   | 4.8   | 4.4   | 4.4   | 4.5   |
| 160.              | *                     | 5.5   | 5.5   | 6.2   | 6.1   | 6.1   | 6.0   | 4.0   | 2.9   | 2.5   | 3.2   | 3.3   | 3.7   | 4.6   | 4.2   | 4.3   | 4.5   |
| 170.              | *                     | 5.5   | 5.5   | 6.1   | 6.1   | 6.1   | 5.9   | 3.9   | 3.0   | 2.7   | 2.8   | 3.1   | 3.6   | 4.5   | 4.4   | 4.5   | 4.4   |
| 180.              | *                     | 5.5   | 5.5   | 6.2   | 6.2   | 6.3   | 5.8   | 3.8   | 2.9   | 2.8   | 2.5   | 2.8   | 3.5   | 4.5   | 4.6   | 4.5   | 4.5   |
| 190.              | *                     | 5.3   | 5.3   | 6.2   | 6.3   | 6.2   | 5.5   | 3.9   | 3.2   | 2.8   | 2.3   | 2.4   | 3.3   | 4.4   | 4.4   | 4.3   | 4.2   |
| 200.              | *                     | 5.3   | 5.3   | 6.3   | 6.2   | 6.2   | 4.9   | 3.6   | 3.3   | 3.1   | 2.0   | 2.3   | 3.1   | 4.3   | 4.3   | 4.2   | 4.1   |
| 210.              | *                     | 5.6   | 5.6   | 6.5   | 6.4   | 6.1   | 5.2   | 3.8   | 3.3   | 3.2   | 2.0   | 2.5   | 3.1   | 4.5   | 4.4   | 4.3   | 4.0   |
| 220.              | *                     | 5.8   | 5.8   | 6.8   | 6.6   | 6.2   | 5.4   | 4.1   | 3.7   | 3.2   | 1.9   | 2.4   | 3.2   | 4.8   | 4.6   | 4.4   | 4.1   |
| 230.              | *                     | 6.4   | 6.4   | 6.9   | 6.8   | 6.3   | 5.6   | 4.4   | 3.7   | 3.2   | 1.8   | 2.3   | 3.2   | 4.9   | 4.7   | 4.5   | 4.3   |
| 240.              | *                     | 6.9   | 7.1   | 7.3   | 7.0   | 6.5   | 6.2   | 4.5   | 3.7   | 2.9   | 1.7   | 2.4   | 3.1   | 5.1   | 4.9   | 4.7   | 4.6   |
| 250.              | *                     | 7.7   | 7.6   | 7.5   | 7.1   | 6.6   | 6.6   | 4.6   | 3.4   | 2.7   | 1.6   | 2.1   | 3.0   | 5.4   | 5.2   | 5.1   | 5.1   |
| 260.              | *                     | 7.2   | 7.4   | 6.7   | 6.2   | 6.1   | 6.3   | 4.0   | 2.8   | 2.1   | .9    | 1.5   | 2.2   | 4.9   | 4.7   | 4.7   | 4.6   |
| 270.              | *                     | 5.0   | 5.0   | 4.6   | 4.4   | 4.4   | 5.0   | 2.6   | 1.9   | 1.4   | .3    | .7    | 1.2   | 3.2   | 3.0   | 3.0   | 2.9   |
| 280.              | *                     | 2.3   | 2.3   | 2.0   | 2.1   | 2.3   | 2.9   | 1.5   | 1.1   | 1.1   | .0    | .1    | .4    | 1.4   | 1.3   | 1.3   | 1.2   |
| 290.              | *                     | .5    | .6    | .8    | .9    | 1.1   | 1.6   | 1.1   | 1.0   | .9    | .0    | .0    | .0    | .4    | .4    | .3    | .3    |
| 300.              | *                     | .2    | .2    | .5    | .6    | .7    | 1.1   | 1.0   | 1.0   | 1.0   | .0    | .0    | .0    | .1    | .1    | .1    | .1    |
| 310.              | *                     | .1    | .1    | .4    | .5    | .7    | 1.1   | 1.1   | 1.1   | 1.1   | .0    | .0    | .0    | .1    | .1    | .1    | .1    |
| 320.              | *                     | .1    | .1    | .3    | .5    | .7    | 1.1   | 1.1   | 1.1   | 1.1   | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 330.              | *                     | .1    | .1    | .4    | .4    | .7    | 1.3   | 1.3   | 1.2   | 1.2   | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 340.              | *                     | .0    | .0    | .2    | .4    | .6    | 1.3   | 1.2   | 1.2   | 1.1   | .1    | .1    | .1    | .1    | .0    | .0    | .0    |
| 350.              | *                     | .0    | .0    | .2    | .2    | .5    | 1.2   | 1.1   | 1.0   | .9    | .3    | .3    | .3    | .3    | .1    | .0    | .0    |

|       |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 360.  | * | .2  | .1  | .1  | .1  | .2  | .8  | .7  | .7  | .5  | .7  | .7  | .7  | .8  | .3  | .1  | .1  |
| MAX   | * | 7.7 | 7.6 | 8.0 | 8.2 | 8.3 | 8.6 | 4.9 | 3.7 | 3.2 | 3.9 | 4.4 | 5.5 | 8.0 | 7.7 | 7.2 | 7.1 |
| DEGR. | * | 250 | 250 | 110 | 110 | 110 | 110 | 110 | 230 | 230 | 120 | 120 | 110 | 110 | 110 | 100 | 110 |

THE HIGHEST CONCENTRATION OF 8.60 PPM OCCURRED AT RECEPTOR REC46.

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JOB: I25ThorntonParkwayInterchangePMpackageB

RUN: I25ThorntonParkwayInterchangePMpackageB

DATE : 11/22/10  
TIME : 13: 4:16

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |       | * CO/LINK (PPM)<br>* ANGLE (DEGREES) |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|--------|-------|--------------------------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |       | REC1                                 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 |
| REC19  | REC20 | 70                                   | 70   | 70   | 70   | 60   | 60   | 60   | 60   | 60   | 70    | 70    | 70    | 70    | 70    | 290   | 290   | 290   | 290   |
| LINK # | *     |                                      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 60     | 50    |                                      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| -----* |       |                                      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
| .0     | 1     | 1.4                                  | 1.2  | .9   | .5   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .1    | .1    |
| .0     | 2     | 1.3                                  | 1.0  | .4   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .1    | .0    | .0    | .0    |
| .0     | 3     | .5                                   | .7   | 1.0  | 1.5  | .9   | .7   | .5   | .6   | .8   | 1.1   | 2.2   | 2.2   | 2.1   | 2.1   | 2.1   | 2.1   | 2.2   | 2.2   |
| .0     | 4     | .2                                   | .3   | .4   | .6   | .4   | .3   | .3   | .3   | .4   | .5    | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   |
| .0     | 5     | .5                                   | .5   | .5   | .5   | .3   | .3   | .2   | .2   | .3   | .4    | .6    | .6    | .6    | .5    | .6    | .6    | .6    | .6    |
| .0     | 6     | .1                                   | .1   | .1   | .1   | .0   | .0   | .1   | .1   | .0   | .1    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .0    |
| 1.2    | 7     | .1                                   | .1   | .1   | .1   | .1   | .1   | .1   | .1   | .1   | .2    | .1    | .2    | .2    | .2    | .0    | .0    | .0    | .0    |
| .8     | 8     | .1                                   | .1   | .1   | .1   | .1   | .1   | .1   | .1   | .1   | .2    | .1    | .2    | .2    | .2    | .0    | .0    | .0    | .0    |
| .9     | 9     | 1.2                                  | 1.4  | 1.5  | 1.5  | 1.1  | .9   | .7   | .8   | 1.0  | 1.1   | 1.6   | 1.6   | 1.5   | 1.5   | 1.5   | 1.5   | 1.6   | 1.6   |
| .0     | 10    | .2                                   | .3   | .3   | .3   | .2   | .1   | .1   | .0   | .1   | .1    | .3    | .2    | .1    | .0    | .2    | .2    | .1    | .1    |
| .0     | 11    | .7                                   | .9   | 1.1  | 1.2  | .8   | .7   | .6   | .6   | .8   | 1.0   | 1.4   | 1.4   | 1.4   | 1.4   | 1.2   | 1.3   | 1.3   | 1.3   |
| .9     | 12    | .3                                   | .1   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .4    | .3    | .3    | .3    |
| .0     | 13    | .1                                   | .1   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .1    | .1    |
| .0     | 14    | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 15    | .1                                   | .2   | .2   | .4   | .4   | .4   | .4   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .0     | 16    | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .5     | 17    | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| .4     | 18    | .1                                   | .1   | .1   | .1   | .1   | .1   | .1   | .1   | .1   | .1    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .0    |
| .0     | 18    | .1                                   | .1   | .1   | .1   | .1   | .1   | .1   | .1   | .1   | .1    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .0    |

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JOB: I25ThorntonParkwayInterchangePMpackageB

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DATE : 11/22/10  
TIME : 13: 4:16

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |       | * CO/LINK (PPM)<br>* ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|-------|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |       | REC21                                | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 |
| REC39  | REC40 | 10                                   | 300   | 300   | 290   | 290   | 280   | 280   | 280   | 250   | 250   | 250   | 250   | 250   | 240   | 240   | 150   | 130   | 120   |
| LINK # | *     |                                      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250    | 250   |                                      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |



|     |      |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
|-----|------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|
| .1  | 1 *  | .0 | .0 | .0 | .1  | .1  | .2  | .2  | .1  | .1  | .1  | .1  | .1  | .1  | .1  | .0  | .0 | .0 |
| .1  | .1   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| .1  | 2 *  | .0 | .0 | .0 | .0  | .0  | .1  | .1  | .1  | .0  | .0  | .1  | .1  | .1  | .0  | .1  | .0 | .0 |
| .1  | .1   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| .9  | 3 *  | .3 | .6 | .7 | 1.0 | 1.5 | 1.2 | 1.0 | .8  | .7  | .8  | .8  | .8  | .6  | .5  | .4  | .0 | .0 |
| .9  | .9   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| .5  | 4 *  | .1 | .3 | .4 | .5  | .6  | .6  | .4  | .4  | .3  | .4  | .4  | .4  | .3  | .3  | .2  | .0 | .0 |
| .5  | .4   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| .5  | 5 *  | .1 | .3 | .3 | .4  | .5  | .5  | .5  | .4  | .3  | .4  | .4  | .5  | .4  | .3  | .2  | .0 | .0 |
| .5  | .5   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| .0  | 6 *  | .3 | .0 | .0 | .0  | .5  | .8  | 1.1 | 1.3 | .2  | .1  | .0  | .0  | .0  | .0  | .5  | .6 | .8 |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| .0  | 7 *  | .2 | .0 | .0 | .0  | .0  | .0  | .0  | .1  | 1.7 | 1.5 | 1.1 | .5  | .0  | .0  | .0  | .6 | .9 |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| .0  | 8 *  | .2 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | 1.5 | 1.1 | .5  | .0  | .0  | .0  | .0  | .5 | .9 |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| 3.9 | 9 *  | .4 | .8 | .9 | 1.0 | 1.5 | 1.1 | 1.1 | 1.1 | 1.0 | 1.3 | 1.9 | 2.6 | 1.7 | 1.3 | 1.0 | .1 | .0 |
| 3.9 | 3.8  |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| .1  | 10 * | .0 | .1 | .1 | .1  | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .1  | .1  | .1  | .1  | .0 | .0 |
| .1  | .1   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| 1.4 | 11 * | .5 | .5 | .7 | .8  | 1.2 | 1.0 | 1.0 | 1.0 | 1.3 | 1.3 | 1.3 | 1.2 | .8  | .7  | .6  | .6 | .7 |
| 1.4 | 1.4  |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| .1  | 12 * | .0 | .2 | .1 | .3  | .2  | .4  | .4  | .4  | .1  | .1  | .1  | .1  | .2  | .1  | .1  | .0 | .0 |
| .1  | .2   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| .0  | 13 * | .0 | .1 | .1 | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0 | .0 |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| .0  | 14 * | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0 | .0 |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| .1  | 15 * | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .1  | .1  | .0 | .0 |
| .1  | .1   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| .0  | 16 * | .3 | .5 | .5 | .5  | .5  | .3  | .2  | .2  | .1  | .0  | .0  | .0  | .0  | .0  | .0  | .1 | .0 |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| .0  | 17 * | .2 | .0 | .2 | .3  | .1  | .1  | .1  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0 | .0 |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| .0  | 18 * | .4 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .2  | .3  | .4  | .7  | .7  | .7  | .7  | .9 | .8 |
| .0  | .0   |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |

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JOB: I25ThorntonParkwayInterchangePMpackageB

RUN: I25ThorntonParkwayInterchangePMpackageB

DATE : 11/22/10  
TIME : 13: 4:16

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

| LINK # | *<br>*<br>*<br>* | CO/LINK (PPM)<br>ANGLE (DEGREES) |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |
|--------|------------------|----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|        |                  | REC41<br>250                     | REC42<br>250 | REC43<br>110 | REC44<br>110 | REC45<br>110 | REC46<br>110 | REC47<br>110 | REC48<br>230 | REC49<br>230 | REC50<br>120 | REC51<br>120 | REC52<br>110 | REC53<br>110 | REC54<br>110 | REC55<br>100 | REC56<br>110 |
| 1      | *                | .2                               | .2           | .0           | .0           | .0           | .0           | .0           | .5           | .4           | .0           | .0           | .0           | .0           | .0           | .2           |              |
| 2      | *                | .1                               | .1           | .0           | .0           | .0           | .0           | .0           | .4           | .3           | .0           | .0           | .0           | .0           | .0           | .1           |              |
| 3      | *                | .9                               | .8           | .8           | .9           | .9           | .9           | .6           | .0           | .0           | .4           | .5           | .6           | .8           | .8           | .7           |              |
| 4      | *                | .4                               | .4           | .4           | .4           | .4           | .5           | .3           | .0           | .0           | .2           | .3           | .3           | .4           | .3           | .3           |              |
| 5      | *                | .5                               | .5           | .4           | .4           | .4           | .4           | .3           | .3           | .2           | .2           | .2           | .3           | .4           | .4           | .4           |              |
| 6      | *                | .0                               | .0           | .2           | .2           | .2           | .2           | .2           | .0           | .0           | .1           | .1           | .2           | .1           | .2           | .1           |              |
| 7      | *                | .0                               | .0           | .1           | .1           | .1           | .1           | .1           | .0           | .0           | .1           | .0           | .1           | .1           | .2           | .1           |              |
| 8      | *                | .0                               | .0           | .1           | .1           | .1           | .1           | .1           | .0           | .0           | .1           | .0           | .1           | .1           | .2           | .1           |              |
| 9      | *                | 3.8                              | 3.8          | 3.8          | 3.8          | 3.8          | 3.9          | 1.9          | .0           | .0           | 1.0          | 1.3          | 1.7          | 2.6          | 1.9          | 1.8          | 1.0          |
| 10     | *                | .1                               | .2           | .6           | .7           | .8           | .9           | .3           | .0           | .0           | .2           | .3           | .5           | .4           | .3           | .2           |              |
| 11     | *                | 1.4                              | 1.3          | 1.5          | 1.5          | 1.5          | 1.5          | 1.0          | .0           | .0           | .6           | .7           | .9           | 1.3          | 1.1          | 1.0          | .7           |
| 12     | *                | .2                               | .2           | .0           | .0           | .0           | .0           | .0           | 1.5          | 1.2          | .0           | .0           | .0           | .9           | 1.9          | 1.9          | 2.9          |
| 13     | *                | .0                               | .0           | .0           | .0           | .0           | .0           | .0           | .5           | .6           | .6           | .6           | .6           | .6           | .4           | .3           | .1           |
| 14     | *                | .0                               | .0           | .0           | .0           | .0           | .0           | .0           | .5           | .5           | .3           | .3           | .3           | .1           | .0           | .1           | .0           |
| 15     | *                | .1                               | .1           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .1           |
| 16     | *                | .0                               | .0           | .1           | .1           | .1           | .1           | .1           | .0           | .0           | .1           | .1           | .1           | .1           | .0           | .1           | .1           |
| 17     | *                | .0                               | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           |
| 18     | *                | .0                               | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           | .0           |

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'Receptor 52', 792 , 234 , 5  
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'Receptor 54', 752 , 194 , 5  
'Receptor 55', 712 , 194 , 5  
'Receptor 56', 672 , 194 , 5  
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100 , 53 , 2 , 1690 , 143.34 , 1600 , 1 , 3  
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2  
'thornebdep/app que', 'AG', 1386 , 96 , 858 , 96 , 0 , 24 , 2  
100 , 41 , 2 , 1580 , 143.34 , 1600 , 1 , 3  
2  
'thornebleftturn', 'AG', 1386 , 114 , 1186 , 114 , 0 , 12 , 1  
100 , 78 , 2 , 520 , 143.34 , 1600 , 1 , 3  
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2  
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100 , 65 , 2 , 1415 , 143.34 , 1600 , 1 , 3  
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2

'thornwbdep/app que','AG', 858 , 150 , 1386 , 150 , 0 , 24 , 2  
100 , 41 , 2 , 1340 , 143.34 , 1600 , 1 , 3  
2  
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100 , 90 , 2 , 355 , 143.34 , 1600 , 1 , 3  
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'thornwbdep','AG', 833 , 156 , 122 , 156 , 1840 , 45.4 , 0 , 56  
1  
'I25sbrampapp','AG', 824 , 1124 , 824 , 124 , 910 , 22.8 , 0 , 44  
2  
'I25sbrampleftturn','AG', 842 , 184 , 842 , 384 , 0 , 12 , 1  
100 , 59 , 2 , 410 , 143.34 , 1600 , 1 , 3  
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'I25sbrampdep','AG', 824 , 124 , 824 , -876 , 650 , 22.8 , 0 , 44  
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'I25nbrampapp','AG', 1420 , -876 , 1420 , 124 , 830 , 23.1 , 0 , 44  
2  
'I25nbrampleftturn','AG', 1402 , 62 , 1402 , -138 , 0 , 12 , 1  
100 , 59 , 2 , 280 , 143.34 , 1600 , 1 , 3  
1  
'I25nbrampdep','AG', 1420 , 124 , 1420 , 1124 , 975 , 23.1 , 0 , 44  
1 , 0 , 4 , 1000 , 0 , 'Y', 10 , 0 , 36

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The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM  
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

| V/C QUEUE<br>(VEH) | LINK DESCRIPTION       | * X1   | Y1     | X2      | Y2     | * LENGTH<br>(FT) | BRG TYPE<br>(DEG) | VPH   | EF<br>(G/MI) | H<br>(FT) | W<br>(FT) |
|--------------------|------------------------|--------|--------|---------|--------|------------------|-------------------|-------|--------------|-----------|-----------|
| 1.82               | 1. thornebapp          | 122.0  | 90.0   | 833.0   | 90.0   | 711.             | 90. AG            | 1985. | 22.5         | .0        | 56.0      |
| 8.8                | 2. thornebapp que      | 802.0  | 90.0   | 629.5   | 90.0   | 173.             | 270. AG           | 611.  | 100.0        | .0        | 36.0      |
| 1.90               | 3. thornebdep/app      | 833.0  | 96.0   | 1411.0  | 96.0   | 578.             | 90. AG            | 2100. | 22.5         | .0        | 44.0      |
| 10.8               | 4. thornebdep/app que  | 1386.0 | 96.0   | 1173.1  | 96.0   | 213.             | 270. AG           | 315.  | 100.0        | .0        | 24.0      |
| 1.81               | 5. thornebleftturn     | 1386.0 | 114.0  | -1268.6 | 114.0  | 2655.            | 270. AG           | 300.  | 100.0        | .0        | 12.0      |
| 134.9              | 6. thornebdep          | 1411.0 | 90.0   | 2122.0  | 90.0   | 711.             | 90. AG            | 2130. | 22.5         | .0        | 56.0      |
|                    | 7. thornwbapp          | 2122.0 | 156.0  | 1411.0  | 156.0  | 711.             | 270. AG           | 1870. | 22.5         | .0        | 56.0      |
| 1.95               | 8. thornwbapp que      | 1442.0 | 156.0  | 1675.0  | 156.0  | 233.             | 90. AG            | 750.  | 100.0        | .0        | 36.0      |
| 11.8               | 9. thornwbdep/app      | 1411.0 | 150.0  | 833.0   | 150.0  | 578.             | 270. AG           | 1695. | 45.4         | .0        | 44.0      |
| 1.76               | 10. thornwbdep/app que | 858.0  | 150.0  | 1008.2  | 150.0  | 150.             | 90. AG            | 315.  | 100.0        | .0        | 24.0      |
| 7.6                | 11. thornwbleftturn    | 858.0  | 126.0  | 1830.7  | 126.0  | 973.             | 90. AG            | 692.  | 100.0        | .0        | 24.0      |
| 1.84               | 12. thornwbdep         | 833.0  | 156.0  | 122.0   | 156.0  | 711.             | 270. AG           | 1840. | 45.4         | .0        | 56.0      |
| 49.4               | 13. I25sbrampapp       | 824.0  | 1124.0 | 824.0   | 124.0  | 1000.            | 180. AG           | 910.  | 22.8         | .0        | 44.0      |
| 1.69               | 14. I25sbrampleftturn  | 842.0  | 184.0  | 842.0   | 316.3  | 132.             | 360. AG           | 227.  | 100.0        | .0        | 12.0      |
| 6.7                | 15. I25sbrampdep       | 824.0  | 124.0  | 824.0   | -876.0 | 1000.            | 180. AG           | 650.  | 22.8         | .0        | 44.0      |
| 1.47               | 16. I25nbrampapp       | 1420.0 | -876.0 | 1420.0  | 124.0  | 1000.            | 360. AG           | 830.  | 23.1         | .0        | 44.0      |
| 4.6                | 17. I25nbrampleftturn  | 1402.0 | 62.0   | 1402.0  | -28.3  | 90.              | 180. AG           | 227.  | 100.0        | .0        | 12.0      |
|                    | 18. I25nbrampdep       | 1420.0 | 124.0  | 1420.0  | 1124.0 | 1000.            | 360. AG           | 975.  | 23.1         | .0        | 44.0      |

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ADDITIONAL QUEUE LINK PARAMETERS

| LINK DESCRIPTION       | * CYCLE LENGTH<br>(SEC) | RED TIME<br>(SEC) | CLEARANCE LOST TIME<br>(SEC) | APPROACH VOL<br>(VPH) | SATURATION FLOW RATE<br>(VPH) | IDLE EM FAC<br>(gm/hr) | SIGNAL TYPE | ARRIVAL RATE |
|------------------------|-------------------------|-------------------|------------------------------|-----------------------|-------------------------------|------------------------|-------------|--------------|
| 2. thornebapp que      | 100                     | 53                | 2.0                          | 1690                  | 1600                          | 143.34                 | 1           | 3            |
| 4. thornebdep/app que  | 100                     | 41                | 2.0                          | 1580                  | 1600                          | 143.34                 | 1           | 3            |
| 5. thornebleftturn     | 100                     | 78                | 2.0                          | 520                   | 1600                          | 143.34                 | 1           | 3            |
| 8. thornwbapp que      | 100                     | 65                | 2.0                          | 1415                  | 1600                          | 143.34                 | 1           | 3            |
| 10. thornwbdep/app que | 100                     | 41                | 2.0                          | 1340                  | 1600                          | 143.34                 | 1           | 3            |
| 11. thornwbleftturn    | 100                     | 90                | 2.0                          | 355                   | 1600                          | 143.34                 | 1           | 3            |
| 14. I25sbrampleftturn  | 100                     | 59                | 2.0                          | 410                   | 1600                          | 143.34                 | 1           | 3            |
| 17. I25nbrampleftturn  | 100                     | 59                | 2.0                          | 280                   | 1600                          | 143.34                 | 1           | 3            |

RECEPTOR LOCATIONS

| RECEPTOR      | * X   | Y    | Z   | * * * |
|---------------|-------|------|-----|-------|
| 1. Receptor 1 | 672.0 | 52.0 | 5.0 | *     |
| 2. Receptor 2 | 712.0 | 52.0 | 5.0 | *     |
| 3. Receptor 3 | 752.0 | 52.0 | 5.0 | *     |
| 4. Receptor 4 | 792.0 | 52.0 | 5.0 | *     |
| 5. Receptor 5 | 792.0 | 2.0  | 5.0 | *     |

|     |          |    |   |        |       |     |   |
|-----|----------|----|---|--------|-------|-----|---|
| 6.  | Receptor | 6  | * | 792.0  | -38.0 | 5.0 | * |
| 7.  | Receptor | 7  | * | 792.0  | -78.0 | 5.0 | * |
| 8.  | Receptor | 8  | * | 856.0  | -56.0 | 5.0 | * |
| 9.  | Receptor | 9  | * | 856.0  | -16.0 | 5.0 | * |
| 10. | Receptor | 10 | * | 856.0  | 24.0  | 5.0 | * |
| 11. | Receptor | 11 | * | 856.0  | 64.0  | 5.0 | * |
| 12. | Receptor | 12 | * | 896.0  | 64.0  | 5.0 | * |
| 13. | Receptor | 13 | * | 936.0  | 64.0  | 5.0 | * |
| 14. | Receptor | 14 | * | 976.0  | 64.0  | 5.0 | * |
| 15. | Receptor | 15 | * | 1256.0 | 64.0  | 5.0 | * |
| 16. | Receptor | 16 | * | 1296.0 | 64.0  | 5.0 | * |
| 17. | Receptor | 17 | * | 1336.0 | 64.0  | 5.0 | * |
| 18. | Receptor | 18 | * | 1376.0 | 64.0  | 5.0 | * |
| 19. | Receptor | 19 | * | 1376.0 | 24.0  | 5.0 | * |
| 20. | Receptor | 20 | * | 1376.0 | -16.0 | 5.0 | * |
| 21. | Receptor | 21 | * | 1376.0 | -56.0 | 5.0 | * |
| 22. | Receptor | 22 | * | 1452.0 | -68.0 | 5.0 | * |
| 23. | Receptor | 23 | * | 1452.0 | -28.0 | 5.0 | * |
| 24. | Receptor | 24 | * | 1452.0 | 12.0  | 5.0 | * |
| 25. | Receptor | 25 | * | 1452.0 | 52.0  | 5.0 | * |
| 26. | Receptor | 26 | * | 1492.0 | 52.0  | 5.0 | * |
| 27. | Receptor | 27 | * | 1532.0 | 52.0  | 5.0 | * |
| 28. | Receptor | 28 | * | 1572.0 | 52.0  | 5.0 | * |
| 29. | Receptor | 29 | * | 1572.0 | 194.0 | 5.0 | * |
| 30. | Receptor | 30 | * | 1532.0 | 194.0 | 5.0 | * |
| 31. | Receptor | 31 | * | 1492.0 | 194.0 | 5.0 | * |
| 32. | Receptor | 32 | * | 1452.0 | 194.0 | 5.0 | * |
| 33. | Receptor | 33 | * | 1452.0 | 234.0 | 5.0 | * |
| 34. | Receptor | 34 | * | 1452.0 | 274.0 | 5.0 | * |
| 35. | Receptor | 35 | * | 1452.0 | 314.0 | 5.0 | * |
| 36. | Receptor | 36 | * | 1388.0 | 302.0 | 5.0 | * |
| 37. | Receptor | 37 | * | 1388.0 | 262.0 | 5.0 | * |

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RECEPTOR LOCATIONS

| RECEPTOR        | X      | Y     | Z   |
|-----------------|--------|-------|-----|
| 38. Receptor 38 | 1388.0 | 222.0 | 5.0 |
| 39. Receptor 39 | 1388.0 | 182.0 | 5.0 |
| 40. Receptor 40 | 1348.0 | 182.0 | 5.0 |
| 41. Receptor 41 | 1308.0 | 182.0 | 5.0 |
| 42. Receptor 42 | 1264.0 | 182.0 | 5.0 |
| 43. Receptor 43 | 988.0  | 182.0 | 5.0 |
| 44. Receptor 44 | 948.0  | 182.0 | 5.0 |
| 45. Receptor 45 | 908.0  | 182.0 | 5.0 |
| 46. Receptor 46 | 868.0  | 182.0 | 5.0 |
| 47. Receptor 47 | 868.0  | 222.0 | 5.0 |
| 48. Receptor 48 | 868.0  | 262.0 | 5.0 |
| 49. Receptor 49 | 868.0  | 302.0 | 5.0 |
| 50. Receptor 50 | 792.0  | 314.0 | 5.0 |
| 51. Receptor 51 | 792.0  | 274.0 | 5.0 |
| 52. Receptor 52 | 792.0  | 234.0 | 5.0 |
| 53. Receptor 53 | 792.0  | 194.0 | 5.0 |
| 54. Receptor 54 | 752.0  | 194.0 | 5.0 |
| 55. Receptor 55 | 712.0  | 194.0 | 5.0 |
| 56. Receptor 56 | 672.0  | 194.0 | 5.0 |

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MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
ANGLE \* (PPM)  
(DEGR)\* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18

REC19 REC20

| *-----* |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0.      | *   | 4.5 | 4.5 | 4.7 | 4.9 | 3.2 | 2.6 | 2.3 | 2.4 | 2.7 | 3.3 | 4.6 | 4.9 | 4.6 | 4.6 | 4.9 | 4.9 | 5.0 | 5.1 |
| 3.5     | 2.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 10.     | *   | 4.5 | 4.6 | 4.8 | 4.6 | 3.3 | 2.8 | 2.6 | 2.4 | 2.7 | 3.3 | 4.4 | 4.5 | 4.4 | 4.3 | 5.0 | 5.1 | 5.1 | 5.1 |
| 3.5     | 2.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 20.     | *   | 4.6 | 4.7 | 4.8 | 4.5 | 3.3 | 2.8 | 2.6 | 2.0 | 2.4 | 3.1 | 4.4 | 4.3 | 4.3 | 4.2 | 5.0 | 5.0 | 5.1 | 4.7 |
| 3.6     | 3.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30.     | *   | 4.9 | 5.0 | 4.9 | 4.4 | 3.2 | 2.9 | 2.5 | 2.3 | 2.5 | 3.3 | 4.6 | 4.6 | 4.5 | 4.3 | 5.2 | 5.3 | 5.4 | 4.9 |
| 3.6     | 3.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 40.     | *   | 5.1 | 5.3 | 5.3 | 4.8 | 3.3 | 2.8 | 2.5 | 2.2 | 2.7 | 3.4 | 5.0 | 5.0 | 4.8 | 4.6 | 5.5 | 5.6 | 5.6 | 5.0 |
| 3.8     | 3.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 50.     | *   | 5.6 | 5.5 | 5.3 | 5.0 | 3.7 | 3.0 | 2.7 | 2.2 | 2.7 | 3.4 | 5.3 | 5.3 | 5.1 | 5.0 | 5.8 | 5.8 | 5.7 | 5.1 |
| 4.2     | 3.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 60.     | *   | 5.9 | 5.8 | 5.9 | 5.4 | 3.4 | 3.1 | 2.8 | 2.4 | 3.0 | 3.7 | 5.5 | 5.4 | 5.2 | 5.3 | 6.2 | 6.2 | 5.6 | 5.5 |
| 4.2     | 3.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 70.     | *   | 6.4 | 6.4 | 6.0 | 5.9 | 3.7 | 3.1 | 2.5 | 2.4 | 2.8 | 3.7 | 5.9 | 5.8 | 5.7 | 5.9 | 6.3 | 6.0 | 5.6 | 5.4 |
| 4.0     | 2.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 80.     | *   | 5.8 | 5.7 | 5.5 | 5.4 | 3.1 | 2.2 | 2.0 | 1.7 | 2.3 | 3.1 | 5.5 | 5.6 | 5.6 | 5.5 | 5.2 | 5.0 | 4.9 | 4.9 |
| 3.2     | 2.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 90.     | *   | 3.9 | 3.6 | 3.5 | 3.4 | 1.9 | 1.3 | .9  | .8  | 1.2 | 1.9 | 3.7 | 3.8 | 3.8 | 3.7 | 3.3 | 3.1 | 3.1 | 3.4 |
| 2.0     | 1.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 100.    | *   | 1.5 | 1.5 | 1.4 | 1.5 | .8  | .6  | .5  | .1  | .3  | .5  | 1.7 | 1.7 | 1.7 | 1.6 | 1.6 | 1.4 | 1.6 | 2.1 |
| 1.2     | 1.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 110.    | *   | .5  | .5  | .5  | .6  | .5  | .5  | .5  | .1  | .1  | .1  | .4  | .3  | .3  | .4  | .5  | .7  | .7  | 1.3 |
| 1.0     | .8  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 120.    | *   | .3  | .3  | .4  | .5  | .5  | .5  | .5  | .1  | .1  | .1  | .1  | .1  | .1  | .1  | .3  | .4  | .6  | 1.0 |
| 1.0     | .7  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 130.    | *   | .3  | .3  | .4  | .6  | .6  | .6  | .6  | .1  | .1  | .1  | .1  | .1  | .1  | .1  | .3  | .3  | .5  | 1.0 |
| 1.0     | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 140.    | *   | .2  | .2  | .4  | .6  | .6  | .6  | .5  | .1  | .1  | .1  | .1  | .1  | .1  | .1  | .2  | .4  | .5  | 1.0 |
| .9      | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 150.    | *   | .2  | .2  | .3  | .6  | .6  | .6  | .6  | .0  | .0  | .0  | .0  | .1  | .1  | .1  | .2  | .3  | .5  | 1.1 |
| .9      | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 160.    | *   | .2  | .2  | .3  | .6  | .6  | .6  | .6  | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .2  | .3  | .4  | 1.0 |
| .8      | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 170.    | *   | .1  | .2  | .3  | .7  | .6  | .6  | .6  | .2  | .2  | .2  | .2  | .1  | .0  | .0  | .1  | .2  | .3  | .9  |
| .7      | .6  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 180.    | *   | .1  | .1  | .2  | .5  | .5  | .5  | .5  | .5  | .5  | .5  | .5  | .2  | .1  | .1  | .1  | .1  | .2  | .5  |
| .4      | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 190.    | *   | .0  | .0  | .1  | .2  | .2  | .2  | .2  | .6  | .6  | .7  | .7  | .3  | .2  | .1  | .0  | .0  | .1  | .2  |
| .2      | .2  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 200.    | *   | .0  | .0  | .0  | .1  | .1  | .1  | .1  | .6  | .6  | .6  | .6  | .3  | .2  | .2  | .0  | .0  | .0  | .0  |
| .0      | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 210.    | *   | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .6  | .6  | .6  | .6  | .3  | .2  | .2  | .1  | .1  | .0  | .0  |
| .0      | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 220.    | *   | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .5  | .5  | .5  | .5  | .3  | .2  | .2  | .1  | .1  | .1  | .1  |
| .1      | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 230.    | *   | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .5  | .5  | .5  | .5  | .3  | .2  | .2  | .1  | .1  | .1  | .1  |
| .1      | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 240.    | *   | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .4  | .4  | .4  | .5  | .4  | .2  | .2  | .1  | .1  | .1  | .1  |
| .1      | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 250.    | *   | .2  | .2  | .2  | .2  | .0  | .0  | .0  | .4  | .4  | .4  | .9  | .6  | .6  | .5  | .3  | .3  | .3  | .3  |
| .1      | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 260.    | *   | .7  | .7  | .9  | 1.0 | .2  | .0  | .0  | .4  | .6  | .8  | 2.3 | 1.9 | 1.7 | 1.7 | 1.5 | 1.8 | 1.8 | 1.8 |
| .5      | .4  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 270.    | *   | 2.0 | 2.2 | 2.5 | 2.7 | .8  | .5  | .2  | .7  | 1.1 | 1.8 | 4.4 | 3.9 | 3.5 | 3.3 | 3.9 | 3.9 | 4.0 | 4.2 |
| 1.8     | 1.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 280.    | *   | 3.3 | 3.8 | 4.1 | 4.3 | 1.8 | 1.0 | .7  | 1.4 | 1.9 | 3.1 | 5.8 | 5.1 | 4.9 | 4.8 | 5.6 | 6.1 | 6.1 | 6.3 |
| 3.5     | 2.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 290.    | *   | 3.9 | 4.6 | 5.0 | 5.3 | 2.5 | 1.7 | 1.2 | 1.9 | 2.7 | 3.9 | 5.8 | 5.1 | 5.0 | 5.4 | 6.5 | 6.5 | 6.6 | 6.7 |
| 4.1     | 3.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 300.    | *   | 4.2 | 4.9 | 5.3 | 5.4 | 2.9 | 2.1 | 1.5 | 2.4 | 3.1 | 4.1 | 5.2 | 4.6 | 4.9 | 5.3 | 6.0 | 6.0 | 6.1 | 6.1 |
| 4.0     | 3.0 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 310.    | *   | 4.2 | 4.8 | 5.0 | 5.0 | 2.9 | 2.1 | 1.7 | 2.6 | 3.2 | 3.7 | 4.6 | 4.2 | 4.6 | 5.1 | 5.8 | 5.8 | 5.9 | 5.9 |
| 3.7     | 2.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 320.    | *   | 4.3 | 4.7 | 4.7 | 4.7 | 3.0 | 2.2 | 1.8 | 2.5 | 2.9 | 3.5 | 4.2 | 4.2 | 5.0 | 5.1 | 5.4 | 5.4 | 5.4 | 5.4 |
| 3.6     | 2.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 330.    | *   | 4.3 | 4.5 | 4.5 | 4.5 | 3.0 | 2.3 | 1.9 | 2.5 | 2.8 | 3.3 | 3.8 | 4.3 | 4.8 | 4.9 | 5.0 | 5.0 | 5.0 | 5.0 |
| 3.5     | 2.7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 340.    | *   | 4.2 | 4.3 | 4.3 | 4.4 | 2.8 | 2.3 | 1.8 | 2.4 | 2.5 | 3.1 | 4.2 | 4.7 | 4.8 | 4.7 | 4.8 | 4.7 | 4.7 | 4.8 |
| 3.2     | 2.4 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 350.    | *   | 4.3 | 4.3 | 4.4 | 4.5 | 3.0 | 2.5 | 2.1 | 2.4 | 2.8 | 3.4 | 4.6 | 4.8 | 4.8 | 4.6 | 4.8 | 4.8 | 4.9 | 4.9 |
| 3.4     | 2.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 360.    | *   | 4.5 | 4.5 | 4.7 | 4.9 | 3.2 | 2.6 | 2.3 | 2.4 | 2.7 | 3.3 | 4.6 | 4.9 | 4.6 | 4.6 | 4.9 | 4.9 | 5.0 | 5.1 |
| 3.5     | 2.8 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MAX   | *   | 6.4 | 6.4 | 6.0 | 5.9 | 3.7 | 3.1 | 2.8 | 2.6 | 3.2 | 4.1 | 5.9 | 5.8 | 5.7 | 5.9 | 6.5 | 6.5 | 6.6 | 6.7 |
| 4.2   | 3.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DEGR. | *   | 70  | 70  | 70  | 70  | 70  | 70  | 60  | 310 | 310 | 300 | 70  | 70  | 70  | 70  | 290 | 290 | 290 | 290 |
| 50    | 50  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

□  
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PAGE

JOB: I25ThorntonParkwayInterchangePMPA

RUN: I25ThorntonParkwayInterchangePMPA

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND \* CONCENTRATION  
 ANGLE \* (PPM)  
 (DEGR)\* REC21 REC22 REC23 REC24 REC25 REC26 REC27 REC28 REC29 REC30 REC31 REC32 REC33 REC34 REC35 REC36 REC37 REC38  
 REC39 REC40

| WIND ANGLE (DEGR) | CONCENTRATION (PPM) | REC21 | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 | REC39 | REC40 |
|-------------------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | *                   | 2.6   | 2.5   | 2.8   | 3.2   | 4.4   | 4.2   | 4.2   | 4.1   | .1    | .1    | .3    | .7    | .7    | .7    | .7    | .7    | .7    | .7    | .7    |       |
| .7                | .3                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 10.               | *                   | 2.9   | 2.1   | 2.4   | 3.1   | 4.0   | 4.0   | 3.9   | 3.9   | .0    | .0    | .1    | .3    | .3    | .3    | .3    | 1.0   | 1.0   | 1.0   |       |       |
| 1.0               | .5                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 20.               | *                   | 2.8   | 1.8   | 2.3   | 3.0   | 3.8   | 3.8   | 3.8   | 3.7   | .0    | .0    | .0    | .1    | .1    | .1    | .1    | 1.0   | 1.0   | 1.0   |       |       |
| 1.0               | .5                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 30.               | *                   | 3.1   | 1.9   | 2.3   | 3.0   | 4.0   | 4.0   | 4.0   | 3.8   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .9    | .9    | .9    |       |       |
| .9                | .5                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 40.               | *                   | 2.9   | 1.9   | 2.3   | 3.0   | 4.1   | 4.1   | 4.0   | 3.8   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .8    | .8    | .8    |       |       |
| .8                | .5                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50.               | *                   | 2.7   | 1.7   | 2.2   | 3.0   | 4.4   | 4.3   | 4.1   | 3.8   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .7    | .7    | .7    |       |       |
| .7                | .4                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 60.               | *                   | 2.3   | 1.5   | 2.1   | 2.8   | 4.4   | 4.2   | 4.0   | 3.7   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .7    | .7    | .7    |       |       |
| .8                | .5                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 70.               | *                   | 1.8   | 1.0   | 1.5   | 2.3   | 4.1   | 4.0   | 3.8   | 3.5   | .2    | .2    | .2    | .3    | .0    | .0    | .0    | .6    | .6    | .6    |       |       |
| 1.2               | .8                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80.               | *                   | 1.2   | .5    | .8    | 1.5   | 3.4   | 3.1   | 3.0   | 2.9   | .6    | .9    | .9    | 1.0   | .1    | .0    | .0    | .6    | .7    | .9    |       |       |
| 2.6               | 2.1                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 90.               | *                   | .7    | .1    | .3    | .7    | 1.8   | 1.8   | 1.7   | 1.7   | 1.8   | 2.1   | 2.5   | 2.8   | .7    | .3    | .1    | .8    | 1.3   | 2.1   |       |       |
| 4.8               | 4.2                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100.              | *                   | .5    | .0    | .0    | .1    | .8    | .8    | .6    | .6    | 3.6   | 4.0   | 4.4   | 4.7   | 2.0   | .9    | .5    | 1.3   | 2.0   | 3.3   |       |       |
| 6.4               | 6.1                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 110.              | *                   | .5    | .0    | .0    | .0    | .2    | .2    | .2    | .2    | 4.8   | 5.2   | 5.6   | 5.7   | 3.0   | 1.7   | 1.1   | 2.1   | 2.9   | 4.4   |       |       |
| 6.5               | 6.1                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 120.              | *                   | .5    | .0    | .0    | .0    | .1    | .1    | .1    | .1    | 5.3   | 5.7   | 5.8   | 5.8   | 3.5   | 2.4   | 1.6   | 2.9   | 3.6   | 4.7   |       |       |
| 5.9               | 5.8                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 130.              | *                   | .5    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | 5.4   | 5.5   | 5.5   | 5.6   | 3.7   | 2.6   | 2.0   | 3.1   | 3.6   | 4.3   |       |       |
| 5.4               | 5.3                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 140.              | *                   | .5    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | 5.1   | 5.1   | 5.1   | 5.1   | 3.4   | 2.7   | 2.1   | 3.0   | 3.4   | 3.8   |       |       |
| 4.7               | 5.0                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 150.              | *                   | .6    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | 4.9   | 4.9   | 4.9   | 4.9   | 3.4   | 2.6   | 2.1   | 3.0   | 3.3   | 3.5   |       |       |
| 4.8               | 5.0                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160.              | *                   | .6    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | 4.7   | 4.7   | 4.7   | 4.9   | 3.2   | 2.4   | 2.1   | 3.0   | 3.1   | 3.5   |       |       |
| 4.9               | 4.9                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 170.              | *                   | .6    | .3    | .3    | .3    | .3    | .1    | .0    | .0    | 4.7   | 4.7   | 4.9   | 4.8   | 3.4   | 2.7   | 2.3   | 2.9   | 3.2   | 3.8   |       |       |
| 5.4               | 5.2                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 180.              | *                   | .4    | .6    | .6    | .6    | .6    | .2    | .1    | .1    | 4.9   | 4.9   | 5.0   | 5.1   | 3.6   | 3.0   | 2.5   | 2.8   | 3.0   | 3.5   |       |       |
| 5.2               | 5.2                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 190.              | *                   | .2    | .8    | .8    | .8    | .8    | .4    | .2    | .2    | 4.9   | 5.0   | 5.1   | 5.1   | 3.8   | 3.3   | 2.9   | 2.4   | 2.6   | 3.4   |       |       |
| 5.0               | 4.9                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200.              | *                   | .0    | .8    | .8    | .8    | .9    | .4    | .3    | .2    | 4.9   | 4.9   | 5.1   | 4.8   | 3.6   | 3.2   | 2.9   | 2.2   | 2.6   | 3.3   |       |       |
| 4.8               | 4.8                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 210.              | *                   | .0    | .7    | .7    | .7    | .9    | .4    | .3    | .2    | 5.1   | 5.4   | 5.3   | 4.8   | 3.7   | 3.2   | 2.9   | 2.3   | 2.7   | 3.4   |       |       |
| 4.9               | 5.1                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 220.              | *                   | .1    | .7    | .7    | .8    | 1.0   | .5    | .3    | .2    | 5.5   | 5.7   | 5.8   | 5.1   | 3.8   | 3.5   | 3.1   | 2.4   | 2.8   | 3.6   |       |       |
| 5.4               | 5.4                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 230.              | *                   | .1    | .7    | .7    | .9    | 1.0   | .6    | .5    | .2    | 6.1   | 6.1   | 6.0   | 5.4   | 4.3   | 3.4   | 3.0   | 2.3   | 2.9   | 3.7   |       |       |
| 5.7               | 5.7                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 240.              | *                   | .1    | .7    | .7    | .9    | 1.0   | .6    | .5    | .4    | 6.4   | 6.4   | 6.2   | 6.1   | 4.3   | 3.7   | 3.2   | 2.6   | 3.1   | 3.8   |       |       |
| 6.2               | 6.1                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250.              | *                   | .1    | .6    | .6    | .9    | 1.0   | .7    | .6    | .5    | 6.8   | 6.7   | 6.4   | 6.3   | 4.1   | 3.5   | 3.0   | 2.4   | 3.1   | 4.2   |       |       |
| 6.7               | 6.6                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 260.              | *                   | .1    | .6    | 1.0   | 1.3   | 2.1   | 1.8   | 1.7   | 1.7   | 6.4   | 6.2   | 6.1   | 6.0   | 3.8   | 2.9   | 2.4   | 1.9   | 2.5   | 3.5   |       |       |
| 6.4               | 6.4                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 270.              | *                   | .9    | 1.3   | 2.0   | 2.6   | 4.1   | 3.8   | 3.8   | 3.9   | 4.2   | 4.5   | 4.1   | 4.3   | 2.7   | 1.9   | 1.4   | .7    | 1.3   | 2.3   |       |       |

thorpav2.out

|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |  |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|--|
| 4.6  | 4.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |  |
| 280. | *   | 1.7 | 2.1 | 2.8 | 3.9 | 6.2 | 5.9 | 5.8 | 5.1 | 1.8 | 1.9 | 1.9 | 2.0 | 1.3 | .8  | .8  | .2 | .3 | .8 |  |
| 1.9  | 1.9 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |  |
| 290. | *   | 2.3 | 2.7 | 3.8 | 4.7 | 6.3 | 5.9 | 5.6 | 5.4 | .5  | .6  | .6  | .8  | .7  | .7  | .7  | .1 | .1 | .1 |  |
| .5   | .5  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |  |
| 300. | *   | 2.5 | 3.0 | 3.9 | 4.6 | 5.8 | 5.3 | 4.9 | 4.9 | .3  | .4  | .5  | .8  | .8  | .8  | .8  | .1 | .1 | .1 |  |
| .2   | .2  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |  |
| 310. | *   | 2.4 | 3.1 | 3.6 | 4.3 | 5.1 | 4.6 | 4.5 | 4.5 | .4  | .4  | .5  | .8  | .8  | .8  | .8  | .1 | .1 | .1 |  |
| .1   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |  |
| 320. | *   | 2.4 | 3.1 | 3.7 | 3.7 | 4.6 | 4.2 | 4.3 | 4.4 | .3  | .4  | .6  | .9  | .9  | .9  | .9  | .1 | .1 | .1 |  |
| .1   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |  |
| 330. | *   | 2.4 | 3.2 | 3.4 | 3.5 | 4.3 | 4.0 | 4.2 | 4.2 | .3  | .4  | .5  | .9  | .9  | .9  | .9  | .0 | .0 | .0 |  |
| .1   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |  |
| 340. | *   | 2.1 | 2.9 | 3.1 | 3.3 | 4.1 | 4.0 | 4.1 | 4.0 | .3  | .4  | .5  | 1.0 | 1.0 | 1.0 | 1.0 | .1 | .1 | .1 |  |
| .1   | .0  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |  |
| 350. | *   | 2.3 | 2.8 | 2.9 | 3.4 | 4.4 | 4.2 | 4.2 | 4.1 | .2  | .3  | .5  | 1.0 | 1.0 | 1.0 | 1.0 | .3 | .3 | .3 |  |
| .3   | .1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |  |
| 360. | *   | 2.6 | 2.5 | 2.8 | 3.2 | 4.4 | 4.2 | 4.2 | 4.1 | .1  | .1  | .3  | .7  | .7  | .7  | .7  | .7 | .7 | .7 |  |
| .7   | .3  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |  |

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|       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| MAX   | *   | 3.1 | 3.2 | 3.9 | 4.7 | 6.3 | 5.9 | 5.8 | 5.4 | 6.8 | 6.7 | 6.4 | 6.3 | 4.3 | 3.7 | 3.2 | 3.1 | 3.6 | 4.7 |  |
| 6.7   | 6.6 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| DEGR. | *   | 30  | 330 | 300 | 290 | 290 | 280 | 280 | 290 | 250 | 250 | 250 | 250 | 230 | 240 | 240 | 130 | 120 | 120 |  |
| 250   | 250 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |

□ 6 PAGE

JOB: I25ThorntonParkwayInterchangePMPA RUN: I25ThorntonParkwayInterchangePMPA

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

| WIND ANGLE (DEGR) | * CONCENTRATION (PPM) | REC41 | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
|-------------------|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.                | *                     | .1    | .1    | .1    | .1    | .2    | .6    | .5    | .4    | .4    | .6    | .6    | .7    | .7    | .3    | .1    | .1    |
| 10.               | *                     | .3    | .2    | .0    | .0    | .1    | .3    | .2    | .2    | .2    | .9    | .9    | .9    | 1.0   | .4    | .3    | .2    |
| 20.               | *                     | .4    | .3    | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .9    | .9    | 1.0   | 1.1   | .5    | .3    | .3    |
| 30.               | *                     | .4    | .3    | .1    | .1    | .1    | .1    | .1    | .0    | .0    | .8    | .8    | 1.0   | 1.1   | .5    | .3    | .3    |
| 40.               | *                     | .3    | .3    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | .8    | .9    | 1.1   | 1.1   | .7    | .5    | .2    |
| 50.               | *                     | .3    | .2    | .1    | .1    | .1    | .1    | .1    | .1    | .1    | .8    | 1.0   | 1.1   | 1.1   | .8    | .6    | .5    |
| 60.               | *                     | .3    | .2    | .2    | .2    | .2    | .2    | .1    | .1    | .1    | .7    | .9    | 1.0   | 1.0   | .8    | .7    | .5    |
| 70.               | *                     | .7    | .5    | .5    | .5    | .5    | .5    | .1    | .1    | .1    | .7    | 1.0   | 1.0   | 1.1   | .9    | .8    | .7    |
| 80.               | *                     | 1.9   | 1.7   | 1.8   | 1.8   | 1.8   | 2.0   | .7    | .4    | .1    | .8    | 1.2   | 1.5   | 2.4   | 2.3   | 2.2   | 2.3   |
| 90.               | *                     | 4.1   | 3.9   | 4.2   | 4.4   | 4.7   | 4.7   | 2.1   | 1.3   | .8    | 1.5   | 2.1   | 2.7   | 4.8   | 4.6   | 4.7   | 4.6   |
| 100.              | *                     | 5.8   | 5.8   | 6.4   | 6.5   | 6.8   | 6.8   | 3.6   | 2.5   | 1.7   | 2.5   | 3.2   | 4.0   | 6.7   | 6.5   | 6.4   | 6.0   |
| 110.              | *                     | 6.1   | 6.2   | 6.6   | 6.9   | 7.1   | 7.3   | 4.4   | 3.0   | 2.3   | 3.1   | 4.0   | 4.9   | 7.2   | 6.8   | 6.2   | 6.0   |
| 120.              | *                     | 5.8   | 6.1   | 6.2   | 6.5   | 6.8   | 6.7   | 4.1   | 3.1   | 2.7   | 3.4   | 4.0   | 4.8   | 6.3   | 5.8   | 5.5   | 5.3   |
| 130.              | *                     | 5.5   | 5.6   | 5.6   | 6.0   | 6.1   | 6.2   | 3.8   | 2.9   | 2.4   | 3.4   | 3.8   | 4.5   | 5.6   | 5.0   | 4.8   | 4.7   |
| 140.              | *                     | 5.4   | 5.4   | 5.3   | 5.7   | 5.8   | 5.8   | 3.8   | 2.9   | 2.4   | 3.2   | 3.6   | 3.9   | 4.9   | 4.4   | 4.6   | 4.6   |
| 150.              | *                     | 5.3   | 5.3   | 5.1   | 5.5   | 5.5   | 5.5   | 3.7   | 2.8   | 2.3   | 3.2   | 3.4   | 3.7   | 4.4   | 4.0   | 4.2   | 4.3   |
| 160.              | *                     | 5.0   | 4.9   | 5.0   | 5.1   | 5.1   | 5.1   | 3.4   | 2.5   | 2.2   | 2.9   | 3.2   | 3.3   | 4.3   | 4.0   | 4.1   | 4.2   |
| 170.              | *                     | 5.1   | 5.0   | 5.1   | 5.1   | 5.2   | 5.0   | 3.4   | 2.5   | 2.3   | 2.7   | 2.9   | 3.2   | 4.4   | 4.2   | 4.3   | 4.2   |
| 180.              | *                     | 5.0   | 5.0   | 5.3   | 5.3   | 5.4   | 5.1   | 3.5   | 2.8   | 2.6   | 2.4   | 2.7   | 3.2   | 4.3   | 4.4   | 4.3   | 4.2   |
| 190.              | *                     | 4.8   | 4.8   | 5.3   | 5.4   | 5.3   | 4.9   | 3.5   | 3.0   | 2.7   | 2.1   | 2.3   | 3.0   | 4.2   | 4.2   | 4.1   | 3.9   |
| 200.              | *                     | 4.7   | 4.7   | 5.3   | 5.2   | 5.4   | 4.4   | 3.4   | 3.2   | 3.0   | 1.9   | 2.2   | 2.8   | 4.1   | 4.0   | 3.9   | 3.6   |
| 210.              | *                     | 5.1   | 5.1   | 5.6   | 5.6   | 5.6   | 4.6   | 3.6   | 3.2   | 3.2   | 1.8   | 2.3   | 2.9   | 4.2   | 4.1   | 4.0   | 3.6   |
| 220.              | *                     | 5.4   | 5.3   | 5.8   | 5.8   | 5.6   | 5.0   | 3.9   | 3.6   | 3.1   | 1.8   | 2.2   | 3.0   | 4.4   | 4.3   | 4.0   | 3.7   |
| 230.              | *                     | 5.6   | 5.5   | 6.2   | 6.3   | 5.8   | 5.3   | 4.1   | 3.5   | 2.9   | 1.7   | 2.2   | 2.9   | 4.5   | 4.3   | 4.1   | 3.9   |
| 240.              | *                     | 6.0   | 6.0   | 6.5   | 6.3   | 6.0   | 5.6   | 4.2   | 3.5   | 2.8   | 1.6   | 2.1   | 2.9   | 4.7   | 4.5   | 4.4   | 4.3   |
| 250.              | *                     | 6.7   | 6.6   | 6.9   | 6.5   | 6.1   | 6.1   | 4.3   | 3.2   | 2.6   | 1.4   | 2.0   | 2.6   | 5.0   | 4.8   | 4.6   | 4.6   |
| 260.              | *                     | 6.3   | 6.2   | 6.2   | 5.7   | 5.7   | 5.8   | 3.8   | 2.7   | 2.1   | .8    | 1.4   | 2.1   | 4.5   | 4.4   | 4.3   | 4.2   |
| 270.              | *                     | 4.5   | 4.4   | 4.1   | 4.0   | 4.1   | 4.7   | 2.5   | 1.8   | 1.3   | .3    | .6    | 1.1   | 2.9   | 2.8   | 2.8   | 2.7   |
| 280.              | *                     | 1.9   | 2.0   | 2.0   | 1.9   | 2.2   | 2.7   | 1.5   | 1.1   | .9    | .0    | .1    | .3    | 1.3   | 1.2   | 1.2   | 1.1   |
| 290.              | *                     | .5    | .5    | .7    | .8    | 1.0   | 1.5   | 1.1   | 1.0   | .8    | .0    | .0    | .0    | .3    | .3    | .3    | .3    |
| 300.              | *                     | .2    | .2    | .3    | .6    | .7    | 1.0   | 1.0   | 1.0   | .7    | .0    | .0    | .0    | .1    | .1    | .1    | .1    |
| 310.              | *                     | .1    | .1    | .3    | .5    | .6    | 1.0   | 1.0   | 1.0   | .6    | .0    | .0    | .0    | .1    | .1    | .1    | .1    |
| 320.              | *                     | .1    | .1    | .3    | .4    | .7    | 1.1   | 1.1   | 1.0   | .7    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 330.              | *                     | .1    | .1    | .2    | .4    | .6    | 1.1   | 1.1   | 1.0   | .6    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 340.              | *                     | .0    | .0    | .2    | .3    | .5    | 1.2   | 1.1   | .9    | .7    | .1    | .1    | .1    | .1    | .0    | .0    | .0    |
| 350.              | *                     | .0    | .0    | .2    | .2    | .4    | 1.1   | 1.0   | .7    | .6    | .3    | .3    | .3    | .3    | .1    | .0    | .0    |



|       |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 360.  | * | .1  | .1  | .1  | .1  | .2  | .6  | .5  | .4  | .4  | .6  | .6  | .7  | .7  | .3  | .1  | .1  |
| MAX   | * | 6.7 | 6.6 | 6.9 | 6.9 | 7.1 | 7.3 | 4.4 | 3.6 | 3.2 | 3.4 | 4.0 | 4.9 | 7.2 | 6.8 | 6.4 | 6.0 |
| DEGR. | * | 250 | 250 | 250 | 110 | 110 | 110 | 110 | 220 | 210 | 130 | 110 | 110 | 110 | 110 | 100 | 100 |

THE HIGHEST CONCENTRATION OF 7.30 PPM OCCURRED AT RECEPTOR REC46.

PAGE

7

JOB: I25ThorntonParkwayInterchangePMPA

RUN: I25ThorntonParkwayInterchangePMPA

DATE : 11/22/10  
TIME : 13: 4:59

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |       | * CO/LINK (PPM)<br>* ANGLE (DEGREES) |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |  |  |
|--------|-------|--------------------------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|
| REC19  | REC20 | REC1                                 | REC2 | REC3 | REC4 | REC5 | REC6 | REC7 | REC8 | REC9 | REC10 | REC11 | REC12 | REC13 | REC14 | REC15 | REC16 | REC17 | REC18 |  |  |
| LINK # | *     | 70                                   | 70   | 70   | 70   | 70   | 70   | 60   | 310  | 310  | 300   | 70    | 70    | 70    | 70    | 290   | 290   | 290   | 290   |  |  |
| 50     | 50    | -----*                               |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |  |  |
| .0     | 1 *   | 1.4                                  | 1.2  | .9   | .5   | .0   | .0   | .0   | .6   | .7   | 1.1   | .0    | .0    | .0    | .0    | .1    | .1    | .1    | .1    |  |  |
| .0     | 2 *   | 1.3                                  | 1.0  | .4   | .0   | .0   | .0   | .0   | .5   | .7   | 1.0   | .0    | .0    | .0    | .0    | .1    | .0    | .0    | .0    |  |  |
| .0     | 3 *   | .5                                   | .7   | 1.0  | 1.3  | .8   | .6   | .5   | .0   | .0   | .0    | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   |  |  |
| .1     | 4 *   | .0                                   | .0   | .0   | .1   | .1   | .1   | .1   | .0   | .0   | .0    | .1    | .1    | .1    | .1    | .5    | .7    | .8    | .9    |  |  |
| .0     | 5 *   | .5                                   | .5   | .5   | .5   | .3   | .2   | .2   | .2   | .3   | .4    | .5    | .5    | .5    | .5    | .6    | .6    | .6    | .6    |  |  |
| .0     | 6 *   | .0                                   | .1   | .1   | .1   | .1   | .1   | .1   | .0   | .0   | .0    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .0    |  |  |
| .9     | 7 *   | .1                                   | .1   | .1   | .1   | .1   | .2   | .1   | .0   | .0   | .0    | .1    | .1    | .1    | .2    | .0    | .0    | .0    | .0    |  |  |
| .6     | 8 *   | .1                                   | .1   | .1   | .1   | .1   | .1   | .1   | .0   | .0   | .0    | .1    | .1    | .1    | .2    | .0    | .0    | .0    | .0    |  |  |
| .8     | 9 *   | 1.0                                  | 1.1  | 1.2  | 1.2  | .8   | .6   | .6   | .0   | .0   | .0    | 1.4   | 1.3   | 1.3   | 1.3   | 1.3   | 1.3   | 1.3   | 1.4   |  |  |
| .0     | 10 *  | .2                                   | .2   | .2   | .2   | .0   | .0   | .0   | .0   | .0   | .0    | .1    | .1    | .0    | .0    | .1    | .1    | .1    | .1    |  |  |
| .0     | 11 *  | .7                                   | .9   | 1.1  | 1.3  | .9   | .7   | .6   | .0   | .0   | .0    | 1.4   | 1.4   | 1.4   | 1.4   | 1.3   | 1.3   | 1.3   | 1.3   |  |  |
| .9     | 12 *  | .3                                   | .1   | .0   | .0   | .0   | .0   | .0   | .8   | 1.0  | 1.2   | .0    | .0    | .0    | .0    | .4    | .3    | .3    | .2    |  |  |
| .0     | 13 *  | .1                                   | .1   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .1    | .1    | .1    | .1    |  |  |
| .0     | 14 *  | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |  |
| .0     | 15 *  | .1                                   | .2   | .3   | .4   | .4   | .4   | .4   | .5   | .5   | .4    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |  |
| .0     | 16 *  | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |  |
| .5     | 17 *  | .0                                   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0   | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |  |  |
| .4     | 18 *  | .1                                   | .1   | .1   | .1   | .1   | .1   | .1   | .0   | .0   | .0    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .0    |  |  |
| .0     | .0    | -----*                               |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |  |  |

PAGE

8

JOB: I25ThorntonParkwayInterchangePMPA

RUN: I25ThorntonParkwayInterchangePMPA

DATE : 11/22/10  
TIME : 13: 4:59

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

|        |       | * CO/LINK (PPM)<br>* ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|-------|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| REC39  | REC40 | REC21                                | REC22 | REC23 | REC24 | REC25 | REC26 | REC27 | REC28 | REC29 | REC30 | REC31 | REC32 | REC33 | REC34 | REC35 | REC36 | REC37 | REC38 |
| LINK # | *     | 30                                   | 330   | 300   | 290   | 290   | 280   | 280   | 290   | 250   | 250   | 250   | 250   | 230   | 240   | 240   | 130   | 120   | 120   |
| 250    | 250   | -----*                               |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

|     |      |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
|-----|------|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|-----|
| .1  | 1 *  | .0 | .0 | .0 | .1 | .1  | .2  | .2  | .0  | .1  | .1  | .1  | .1  | .0  | .1  | .1 | .0 | .0 | .0  |
| .1  | .1   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| .1  | 2 *  | .0 | .0 | .0 | .0 | .0  | .1  | .1  | .0  | .0  | .0  | .0  | .1  | .0  | .0  | .0 | .0 | .0 | .0  |
| .1  | .1   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| .8  | 3 *  | .1 | .4 | .7 | .9 | 1.3 | 1.1 | .9  | .5  | .6  | .7  | .8  | .8  | .6  | .5  | .4 | .0 | .0 | .0  |
| .8  | .8   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| .2  | 4 *  | .0 | .2 | .3 | .3 | .5  | .4  | .3  | .2  | .2  | .3  | .3  | .3  | .3  | .1  | .1 | .0 | .0 | .0  |
| .2  | .2   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| .5  | 5 *  | .0 | .2 | .3 | .4 | .5  | .5  | .5  | .3  | .3  | .3  | .4  | .4  | .3  | .3  | .2 | .0 | .0 | .0  |
| .5  | .5   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| .0  | 6 *  | .5 | .1 | .0 | .0 | .5  | .7  | 1.0 | 1.5 | .2  | .1  | .0  | .0  | .0  | .0  | .0 | .5 | .6 | .7  |
| .0  | .0   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| .0  | 7 *  | .4 | .0 | .0 | .0 | .0  | .0  | .0  | .2  | 1.3 | 1.2 | .9  | .4  | .1  | .0  | .0 | .6 | .7 | 1.0 |
| .0  | .0   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| .0  | 8 *  | .5 | .0 | .0 | .0 | .0  | .0  | .0  | .1  | 1.6 | 1.2 | .5  | .0  | .0  | .0  | .0 | .7 | .9 | 1.3 |
| .0  | .0   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| 3.3 | 9 *  | .0 | .6 | .8 | .9 | 1.2 | 1.0 | 1.0 | 1.0 | .8  | 1.1 | 1.6 | 2.2 | 1.3 | 1.1 | .9 | .0 | .0 | .0  |
| 3.3 | 3.3  |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| .0  | 10 * | .0 | .0 | .0 | .1 | .1  | .1  | .1  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  |
| .0  | .0   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| 1.5 | 11 * | .6 | .5 | .7 | .8 | 1.2 | 1.0 | 1.0 | 1.2 | 1.3 | 1.3 | 1.3 | 1.3 | .9  | .7  | .6 | .6 | .7 | 1.0 |
| 1.5 | 1.4  |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| .1  | 12 * | .0 | .0 | .1 | .3 | .2  | .4  | .4  | .1  | .1  | .1  | .1  | .1  | .0  | .1  | .1 | .0 | .0 | .0  |
| .1  | .1   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| .0  | 13 * | .0 | .1 | .1 | .1 | .1  | .0  | .0  | .1  | .0  | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  |
| .0  | .0   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| .0  | 14 * | .0 | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  |
| .0  | .0   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| .1  | 15 * | .0 | .0 | .0 | .0 | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .1  | .1  | .1 | .0 | .0 | .0  |
| .1  | .1   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| .0  | 16 * | .5 | .7 | .6 | .5 | .5  | .3  | .2  | .1  | .1  | .1  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  |
| .0  | .0   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| .0  | 17 * | .4 | .3 | .3 | .3 | .1  | .1  | .1  | .0  | .0  | .0  | .0  | .0  | .0  | .0  | .0 | .0 | .0 | .0  |
| .0  | .0   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| .0  | 18 * | .1 | .1 | .0 | .0 | .0  | .0  | .0  | .1  | .2  | .2  | .4  | .6  | .7  | .7  | .7 | .7 | .7 | .7  |
| .0  | .0   |    |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |     |

PAGE

JOB: I25ThorntonParkwayInterchangePMPA

RUN: I25ThorntonParkwayInterchangePMPA

DATE : 11/22/10  
TIME : 13: 4:59

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

| LINK # | * | CO/LINK (PPM)   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|---|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |   | ANGLE (DEGREES) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|        |   | REC41           | REC42 | REC43 | REC44 | REC45 | REC46 | REC47 | REC48 | REC49 | REC50 | REC51 | REC52 | REC53 | REC54 | REC55 | REC56 |
|        | * | 250             | 250   | 250   | 110   | 110   | 110   | 110   | 220   | 210   | 130   | 110   | 110   | 110   | 110   | 100   | 100   |
| 1      | * | .2              | .2    | .7    | .0    | .0    | .0    | .0    | .5    | .4    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 2      | * | .1              | .1    | .4    | .0    | .0    | .0    | .0    | .5    | .4    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 3      | * | .8              | .8    | .3    | .8    | .8    | .8    | .6    | .0    | .0    | .4    | .4    | .5    | .8    | .8    | .6    | .6    |
| 4      | * | .1              | .0    | .0    | .2    | .1    | .1    | .1    | .0    | .0    | .0    | .1    | .1    | .1    | .1    | .1    | .1    |
| 5      | * | .5              | .5    | .5    | .4    | .4    | .4    | .3    | .2    | .2    | .2    | .2    | .3    | .4    | .4    | .3    | .3    |
| 6      | * | .0              | .0    | .0    | .2    | .2    | .1    | .2    | .0    | .0    | .0    | .2    | .1    | .1    | .1    | .2    | .2    |
| 7      | * | .0              | .0    | .0    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .1    | .1    | .1    | .1    | .1    | .1    |
| 8      | * | .0              | .0    | .0    | .1    | .1    | .1    | .1    | .0    | .0    | .0    | .1    | .1    | .0    | .0    | .1    | .1    |
| 9      | * | 3.2             | 3.2   | 2.6   | 3.2   | 3.2   | 3.3   | 1.6   | .1    | .1    | .9    | 1.0   | 1.4   | 2.2   | 1.6   | 1.5   | 1.2   |
| 10     | * | .1              | .1    | .7    | .3    | .6    | .7    | .2    | .0    | .0    | .2    | .1    | .3    | .5    | .3    | .3    | .2    |
| 11     | * | 1.4             | 1.4   | .7    | 1.5   | 1.5   | 1.6   | 1.1   | .0    | .0    | .6    | .8    | 1.0   | 1.3   | 1.1   | 1.1   | .9    |
| 12     | * | .2              | .2    | .8    | .0    | .0    | .0    | .0    | 1.2   | .9    | .0    | .0    | .0    | .9    | 1.8   | 1.7   | 2.1   |
| 13     | * | .0              | .0    | .1    | .0    | .0    | .0    | .0    | .6    | .6    | .7    | .6    | .6    | .6    | .4    | .3    | .2    |
| 14     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .5    | .5    | .3    | .3    | .3    | .1    | .0    | .1    | .0    |
| 15     | * | .1              | .1    | .1    | .0    | .0    | .0    | .0    | .0    | .1    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 16     | * | .0              | .0    | .0    | .1    | .1    | .1    | .1    | .0    | .0    | .1    | .1    | .1    | .1    | .1    | .0    | .0    |
| 17     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |
| 18     | * | .0              | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    | .0    |

## **Emission and Idling Factors from APCD**

| DRCOGid2035 | hr | street                  | FirstOfsid | MaxOfsp | MinOfEF(g/m) |
|-------------|----|-------------------------|------------|---------|--------------|
| 12109       | 7  | CountyLineRoad          | n          | 25      | 45.32781     |
| 12107       | 7  | CountyLineRoad          | s          | 25      | 45.32781     |
| 11367       | 7  | HarmonyRoad&nb125       | w          | 51      | 23.9308      |
| 11367       | 7  | HarmonyRoad&sbl25       | e          | 51      | 23.9308      |
| 11368       | 7  | HarmonyRoad&sbl25       | w          | 51      | 22.88776     |
| 11369       | 7  | I-25northboundHR        | n          | 39      | 22.96574     |
| 11364       | 7  | I-25northboundHR        | s          | 30      | 22.33699     |
| 11232       | 7  | I-25northboundStateHwy7 | n          | 38      | 22.31452     |
| 11227       | 7  | I-25northboundStateHwy7 | s          | 39      | 44.86097     |
| 10581       | 7  | I-25northboundTP        | n          | 39      | 22.96574     |
| 10490       | 7  | I-25northboundTP        | s          | 35      | 22.42439     |
| 11371       | 7  | I-25southboundHR        | n          | 38      | 22.84111     |
| 11366       | 7  | I-25southboundHR        | s          | 37      | 22.70972     |
| 11223       | 7  | I-25southboundStateHwy7 | n          | 38      | 22.31452     |
| 11230       | 7  | I-25southboundStateHwy7 | s          | 37      | 22.19227     |
| 10480       | 7  | I-25southboundTP        | n          | 37      | 22.70972     |
| 10579       | 7  | I-25southboundTP        | s          | 30      | 22.33699     |
| 24886       | 7  | StateHwy119             | e          | 51      | 22.74808     |
| 12108       | 7  | StateHwy119             | w          | 51      | 44.822       |
| 11233       | 7  | StateHwy7&nb125         | e          | 46      | 22.54066     |
| 11231       | 7  | StateHwy7&nb125         | w          | 53      | 22.31452     |
| 11231       | 7  | StateHwy7&sbl25         | e          | 53      | 22.31452     |
| 24864       | 7  | StateHwy7&sbl25         | w          | 50      | 22.38855     |
| 10522       | 7  | ThorntonParkway&nb125   | e          | 34      | 22.40898     |
| 10580       | 7  | ThorntonParkway&nb125   | w          | 36      | 22.39262     |
| 10580       | 7  | ThorntonParkway&sbl25   | e          | 36      | 22.39262     |
| 10513       | 7  | ThorntonParkway&sbl25   | w          | 36      | 22.42439     |
| 12109       | 17 | CountyLineRoad          | n          | 25      | 45.51903     |
| 12107       | 17 | CountyLineRoad          | s          | 25      | 45.51903     |
| 11367       | 17 | HarmonyRoad&nb125       | w          | 51      | 48.80018     |
| 11367       | 17 | HarmonyRoad&sbl25       | e          | 51      | 48.80018     |
| 11368       | 17 | HarmonyRoad&sbl25       | w          | 51      | 23.86051     |
| 11369       | 17 | I-25northboundHR        | n          | 37      | 22.8231      |
| 11364       | 17 | I-25northboundHR        | s          | 36      | 22.6827      |
| 11232       | 17 | I-25northboundStateHwy7 | n          | 38      | 22.45541     |
| 11227       | 17 | I-25northboundStateHwy7 | s          | 38      | 44.91081     |
| 10581       | 17 | I-25northboundTP        | n          | 39      | 23.08221     |
| 10490       | 17 | I-25northboundTP        | s          | 24      | 22.88278     |
| 11371       | 17 | I-25southboundHR        | n          | 38      | 22.95608     |
| 11366       | 17 | I-25southboundHR        | s          | 34      | 22.51772     |
| 11223       | 17 | I-25southboundStateHwy7 | n          | 38      | 22.45541     |
| 11230       | 17 | I-25southboundStateHwy7 | s          | 39      | 22.57327     |
| 10480       | 17 | I-25southboundTP        | n          | 38      | 22.95608     |
| 10579       | 17 | I-25southboundTP        | s          | 37      | 22.8231      |
| 24886       | 17 | StateHwy119             | e          | 50      | 23.71964     |
| 12108       | 17 | StateHwy119             | w          | 50      | 46.90992     |
| 11233       | 17 | StateHwy7&nb125         | e          | 44      | 22.96541     |
| 11231       | 17 | StateHwy7&nb125         | w          | 43      | 22.82873     |
| 11231       | 17 | StateHwy7&sbl25         | e          | 43      | 22.82873     |
| 24864       | 17 | StateHwy7&sbl25         | w          | 44      | 22.06131     |
| 10522       | 17 | ThorntonParkway&nb125   | e          | 35      | 22.53431     |

|       |    |                       |   |    |          |
|-------|----|-----------------------|---|----|----------|
| 10580 | 17 | ThorntonParkway&nbl25 | w | 36 | 22.53431 |
| 10580 | 17 | ThorntonParkway&sbl25 | e | 36 | 22.53431 |
| 10513 | 17 | ThorntonParkway&sbl25 | w | 36 | 45.3654  |

| hr  | Intersection | sp  | EF(g/m)     | EF (grams/hour) |
|-----|--------------|-----|-------------|-----------------|
| ALL | ALL          | 2.5 | 57.33462889 | 143.3366        |

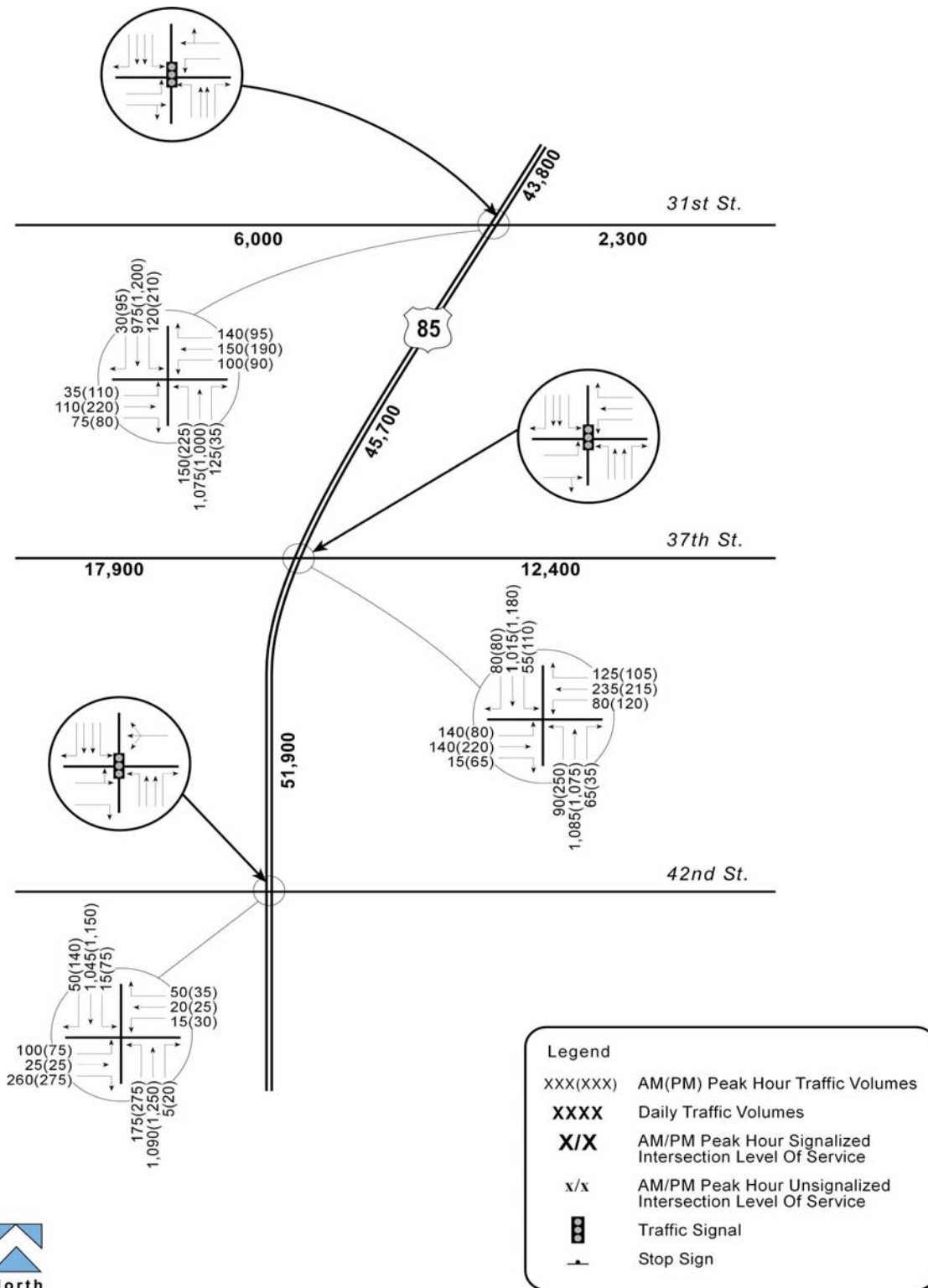
## **Appendix B.** **Traffic**

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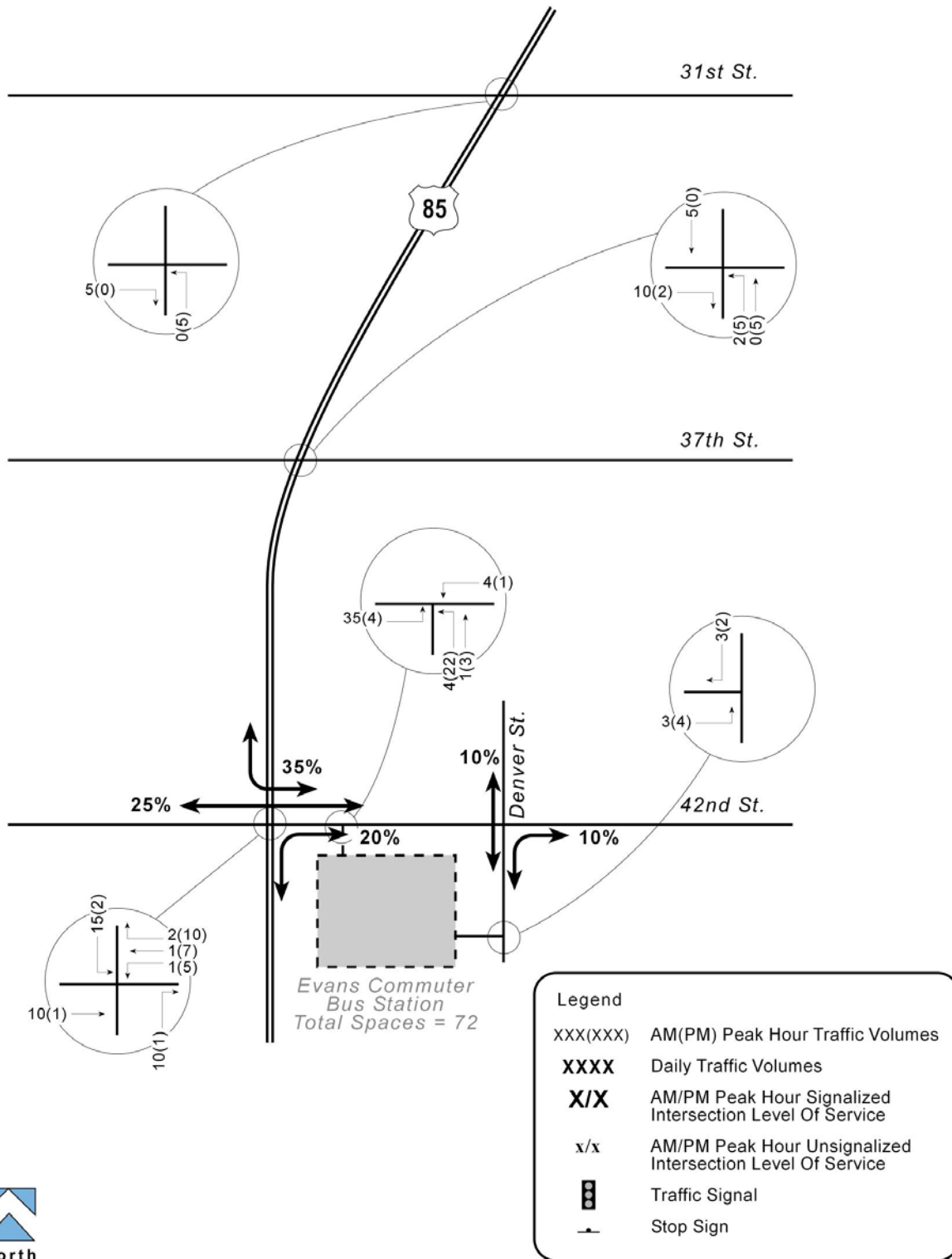
## **Evans Package A (DEIS) PM Traffic**

# US 85 Commuter Bus - Evans DEIS Evaluation



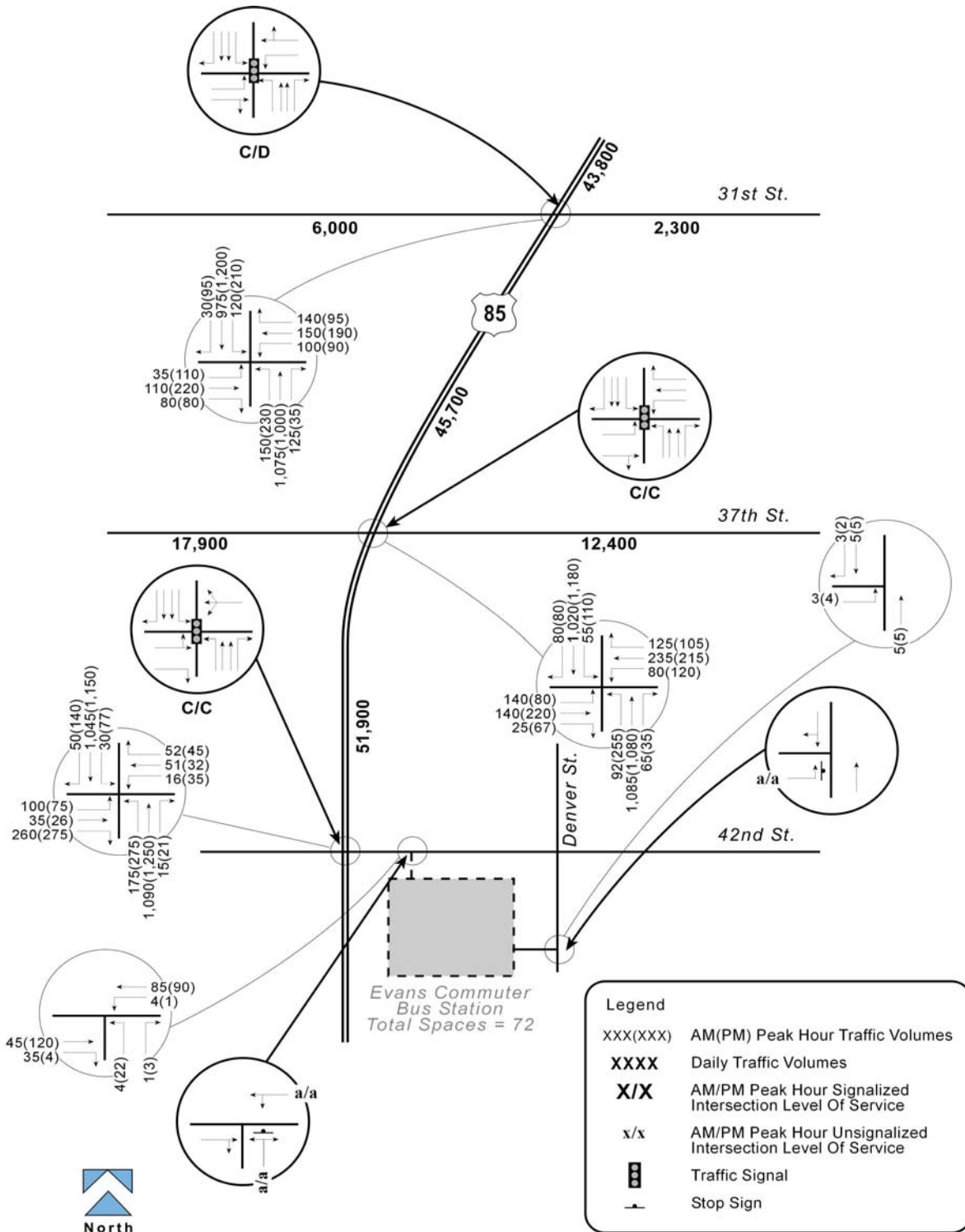
**Figure 6. 2030 Package A Background Traffic Forecasts**

# US 85 Commuter Bus - Evans DEIS Evaluation



**Figure 7. Park and Ride Lot Trip Distribution and Assignment**

# US 85 Commuter Bus - Evans DEIS Evaluation



**Figure 8. 2030 Package A Total Traffic Forecasts and Levels of Service**

## **Evans Preferred Alternative PM Traffic**

HCM Signalized Intersection Capacity Analysis  
 21: 31st St & US 85-2035 Preferred Alternative PM Peak

1/5/2010



| Movement               | EBL   | EBT   | EBR  | WBL   | WBT  | WBR  | NBL   | NBT  | NBR  | SBL  | SBT   | SBR  |
|------------------------|-------|-------|------|-------|------|------|-------|------|------|------|-------|------|
| Lane Configurations    |       |       |      |       |      |      |       |      |      |      |       |      |
| Volume (vph)           | 120   | 240   | 90   | 100   | 210  | 105  | 247   | 1080 | 40   | 230  | 1300  | 105  |
| Ideal Flow (vphpl)     | 1900  | 1900  | 1900 | 1900  | 1900 | 1900 | 1900  | 1900 | 1900 | 1900 | 1900  | 1900 |
| Total Lost time (s)    | 4.0   | 4.0   |      | 4.0   | 4.0  |      | 4.0   | 4.0  | 4.0  | 4.0  | 4.0   | 4.0  |
| Lane Util. Factor      | 1.00  | 1.00  |      | 1.00  | 1.00 |      | 1.00  | 0.95 | 1.00 | 1.00 | 0.95  | 1.00 |
| Frt                    | 1.00  | 0.96  |      | 1.00  | 0.95 |      | 1.00  | 1.00 | 0.85 | 1.00 | 1.00  | 0.85 |
| Flt Protected          | 0.95  | 1.00  |      | 0.95  | 1.00 |      | 0.95  | 1.00 | 1.00 | 0.95 | 1.00  | 1.00 |
| Satd. Flow (prot)      | 1752  | 1769  |      | 1752  | 1752 |      | 1752  | 3505 | 1568 | 1752 | 3505  | 1568 |
| Flt Permitted          | 0.18  | 1.00  |      | 0.21  | 1.00 |      | 0.95  | 1.00 | 1.00 | 0.95 | 1.00  | 1.00 |
| Satd. Flow (perm)      | 334   | 1769  |      | 395   | 1752 |      | 1752  | 3505 | 1568 | 1752 | 3505  | 1568 |
| Peak-hour factor, PHF  | 0.92  | 0.92  | 0.92 | 0.92  | 0.92 | 0.92 | 0.92  | 0.92 | 0.92 | 0.92 | 0.92  | 0.92 |
| Adj. Flow (vph)        | 130   | 261   | 98   | 109   | 228  | 114  | 268   | 1174 | 43   | 250  | 1413  | 114  |
| RTOR Reduction (vph)   | 0     | 12    | 0    | 0     | 15   | 0    | 0     | 0    | 25   | 0    | 0     | 41   |
| Lane Group Flow (vph)  | 130   | 347   | 0    | 109   | 327  | 0    | 268   | 1174 | 18   | 250  | 1413  | 73   |
| Turn Type              | pm+pt |       |      | pm+pt |      |      | Prot  |      | Perm | Prot |       | Perm |
| Protected Phases       | 7     | 4     |      | 3     | 8    |      | 5     | 2    |      | 1    | 6     |      |
| Permitted Phases       | 4     |       |      | 8     |      |      |       |      | 2    |      |       | 6    |
| Actuated Green, G (s)  | 35.3  | 28.3  |      | 31.3  | 26.3 |      | 16.7  | 45.4 | 45.4 | 19.3 | 48.0  | 48.0 |
| Effective Green, g (s) | 37.3  | 29.3  |      | 33.3  | 27.3 |      | 18.7  | 47.4 | 47.4 | 21.3 | 50.0  | 50.0 |
| Actuated g/C Ratio     | 0.31  | 0.24  |      | 0.28  | 0.23 |      | 0.16  | 0.39 | 0.39 | 0.18 | 0.42  | 0.42 |
| Clearance Time (s)     | 5.0   | 5.0   |      | 5.0   | 5.0  |      | 6.0   | 6.0  | 6.0  | 6.0  | 6.0   | 6.0  |
| Vehicle Extension (s)  | 3.0   | 3.0   |      | 3.0   | 3.0  |      | 3.0   | 3.0  | 3.0  | 3.0  | 3.0   | 3.0  |
| Lane Grp Cap (vph)     | 198   | 432   |      | 177   | 399  |      | 273   | 1384 | 619  | 311  | 1460  | 653  |
| v/s Ratio Prot         | c0.04 | c0.20 |      | 0.03  | 0.19 |      | c0.15 | 0.33 |      | 0.14 | c0.40 |      |
| v/s Ratio Perm         | 0.16  |       |      | 0.14  |      |      |       |      | 0.01 |      |       | 0.05 |
| v/c Ratio              | 0.66  | 0.80  |      | 0.62  | 0.82 |      | 0.98  | 0.85 | 0.03 | 0.80 | 0.97  | 0.11 |
| Uniform Delay, d1      | 32.6  | 42.6  |      | 34.7  | 44.0 |      | 50.5  | 33.0 | 22.2 | 47.3 | 34.2  | 21.4 |
| Progression Factor     | 1.00  | 1.00  |      | 1.00  | 1.00 |      | 0.66  | 1.07 | 1.62 | 1.00 | 1.00  | 1.00 |
| Incremental Delay, d2  | 7.6   | 10.3  |      | 6.2   | 12.3 |      | 34.1  | 3.5  | 0.0  | 13.9 | 17.0  | 0.3  |
| Delay (s)              | 40.3  | 53.0  |      | 40.9  | 56.3 |      | 67.4  | 39.0 | 36.0 | 61.3 | 51.2  | 21.8 |
| Level of Service       | D     | D     |      | D     | E    |      | E     | D    | D    | E    | D     | C    |
| Approach Delay (s)     |       | 49.6  |      |       | 52.6 |      |       | 44.0 |      |      | 50.8  |      |
| Approach LOS           |       | D     |      |       | D    |      |       | D    |      |      | D     |      |

Intersection Summary

|                                   |       |                      |      |
|-----------------------------------|-------|----------------------|------|
| HCM Average Control Delay         | 48.4  | HCM Level of Service | D    |
| HCM Volume to Capacity ratio      | 0.92  |                      |      |
| Actuated Cycle Length (s)         | 120.0 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 87.1% | ICU Level of Service | E    |
| Analysis Period (min)             | 15    |                      |      |
| c Critical Lane Group             |       |                      |      |

## **Harmony No Build PM Traffic**

Lanes, Volumes, Timings  
 1: SH 68 (Harmony Road) & West Frontage Road

5/27/2010



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        | ↶     | ↷↷↷   |       | ↶     | ↷↷    | ↷     | ↶     | ↷     |       | ↶     | ↷     |       |
| Volume (vph)               | 35    | 3320  | 70    | 85    | 3780  | 45    | 55    | 20    | 210   | 15    | 5     | 10    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Storage Length (ft)        | 250   |       | 0     | 475   |       | 0     | 125   |       | 0     | 125   |       | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 1     | 1     |       | 0     | 1     |       | 0     |
| Taper Length (ft)          | 25    |       | 25    | 25    |       | 25    | 25    |       | 25    | 25    |       | 25    |
| Lane Util. Factor          | 1.00  | 0.91  | 0.91  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.997 |       |       |       | 0.850 |       | 0.863 |       |       | 0.897 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1770  | 5070  | 0     | 1770  | 3539  | 1583  | 1770  | 1608  | 0     | 1770  | 1671  | 0     |
| Flt Permitted              | 0.059 |       |       | 0.056 |       |       | 0.747 |       |       | 0.258 |       |       |
| Satd. Flow (perm)          | 110   | 5070  | 0     | 104   | 3539  | 1583  | 1391  | 1608  | 0     | 481   | 1671  | 0     |
| Right Turn on Red          |       |       | Yes   |       |       | Yes   |       |       | Yes   |       |       | Yes   |
| Satd. Flow (RTOR)          |       | 6     |       |       |       | 36    |       | 65    |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 30    |       |       |       | 30    |
| Link Distance (ft)         |       | 320   |       |       | 1121  |       |       | 165   |       |       |       | 183   |
| Travel Time (s)            |       | 4.8   |       |       | 17.0  |       |       | 3.8   |       |       |       | 4.2   |
| Peak Hour Factor           | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  |
| Adj. Flow (vph)            | 38    | 3570  | 75    | 91    | 4065  | 48    | 59    | 22    | 226   | 16    | 5     | 11    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 38    | 3645  | 0     | 91    | 4065  | 48    | 59    | 248   | 0     | 16    | 16    | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       |       | 12    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Number of Detectors        | 1     | 1     |       | 1     | 1     | 1     | 1     | 1     |       | 1     | 1     |       |
| Detector Template          |       |       |       |       |       |       |       |       |       |       |       |       |
| Leading Detector (ft)      | 50    | 50    |       | 50    | 50    | 50    | 50    | 50    |       | 50    | 50    |       |
| Trailing Detector (ft)     | 0     | 0     |       | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |       |
| Detector 1 Position(ft)    | 0     | 0     |       | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |       |
| Detector 1 Size(ft)        | 50    | 50    |       | 50    | 50    | 50    | 50    | 50    |       | 50    | 50    |       |
| Detector 1 Type            | Cl+Ex | Cl+Ex |       | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |       | Cl+Ex | Cl+Ex |       |
| Detector 1 Channel         |       |       |       |       |       |       |       |       |       |       |       |       |
| Detector 1 Extend (s)      | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   |       |
| Detector 1 Queue (s)       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   |       |
| Detector 1 Delay (s)       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   |       |
| Turn Type                  | Perm  |       |       | pm+pt |       | Perm  | Perm  |       |       | Perm  |       |       |
| Protected Phases           |       | 2     |       | 1     | 6     |       |       | 4     |       |       |       | 8     |
| Permitted Phases           | 2     |       |       | 6     |       | 6     | 4     |       |       | 8     |       |       |
| Detector Phase             | 2     | 2     |       | 1     | 6     | 6     | 4     | 4     |       | 8     | 8     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 4.0   | 4.0   |       | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   |       | 4.0   | 4.0   |       |
| Minimum Split (s)          | 22.0  | 22.0  |       | 9.0   | 22.0  | 22.0  | 21.0  | 21.0  |       | 21.0  | 21.0  |       |
| Total Split (s)            | 70.0  | 70.0  | 0.0   | 9.0   | 79.0  | 79.0  | 21.0  | 21.0  | 0.0   | 21.0  | 21.0  | 0.0   |
| Total Split (%)            | 70.0% | 70.0% | 0.0%  | 9.0%  | 79.0% | 79.0% | 21.0% | 21.0% | 0.0%  | 21.0% | 21.0% | 0.0%  |



Lanes, Volumes, Timings  
 1: SH 68 (Harmony Road) & West Frontage Road

5/27/2010



| Lane Group              | EBL   | EBT   | EBR | WBL  | WBT   | WBR   | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|-------|-------|-----|------|-------|-------|------|------|-----|------|------|-----|
| Maximum Green (s)       | 64.0  | 64.0  |     | 4.0  | 73.0  | 73.0  | 16.0 | 16.0 |     | 16.0 | 16.0 |     |
| Yellow Time (s)         | 4.0   | 4.0   |     | 3.0  | 4.0   | 4.0   | 3.0  | 3.0  |     | 3.0  | 3.0  |     |
| All-Red Time (s)        | 2.0   | 2.0   |     | 2.0  | 2.0   | 2.0   | 2.0  | 2.0  |     | 2.0  | 2.0  |     |
| Lost Time Adjust (s)    | -2.0  | -2.0  | 0.0 | -1.0 | -2.0  | -2.0  | -1.0 | -1.0 | 0.0 | -1.0 | -1.0 | 0.0 |
| Total Lost Time (s)     | 4.0   | 4.0   | 4.0 | 4.0  | 4.0   | 4.0   | 4.0  | 4.0  | 4.0 | 4.0  | 4.0  | 4.0 |
| Lead/Lag                | Lag   | Lag   |     | Lead |       |       |      |      |     |      |      |     |
| Lead-Lag Optimize?      | Yes   | Yes   |     | Yes  |       |       |      |      |     |      |      |     |
| Vehicle Extension (s)   | 3.0   | 3.0   |     | 3.0  | 3.0   | 3.0   | 3.0  | 3.0  |     | 3.0  | 3.0  |     |
| Recall Mode             | C-Max | C-Max |     | None | C-Max | C-Max | None | None |     | None | None |     |
| Walk Time (s)           | 5.0   | 5.0   |     | 5.0  | 5.0   | 5.0   | 5.0  | 5.0  |     | 5.0  | 5.0  |     |
| Flash Dont Walk (s)     | 11.0  | 11.0  |     | 11.0 | 11.0  | 11.0  | 11.0 | 11.0 |     | 11.0 | 11.0 |     |
| Pedestrian Calls (#/hr) | 0     | 0     |     | 0    | 0     | 0     | 0    | 0    |     | 0    | 0    |     |
| Act Effect Green (s)    | 69.0  | 69.0  |     | 76.5 | 76.5  | 76.5  | 15.5 | 15.5 |     | 15.5 | 15.5 |     |
| Actuated g/C Ratio      | 0.69  | 0.69  |     | 0.76 | 0.76  | 0.76  | 0.16 | 0.16 |     | 0.16 | 0.16 |     |
| v/c Ratio               | 0.50  | 1.04  |     | 0.53 | 1.50  | 0.04  | 0.27 | 0.82 |     | 0.21 | 0.06 |     |
| Control Delay           | 37.1  | 45.4  |     | 17.9 | 241.8 | 1.4   | 40.0 | 51.4 |     | 43.6 | 35.7 |     |
| Queue Delay             | 0.0   | 0.0   |     | 0.0  | 0.0   | 0.0   | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 37.1  | 45.4  |     | 17.9 | 241.8 | 1.4   | 40.0 | 51.4 |     | 43.6 | 35.7 |     |
| LOS                     | D     | D     |     | B    | F     | A     | D    | D    |     | D    | D    |     |
| Approach Delay          |       | 45.3  |     |      | 234.2 |       |      | 49.2 |     |      | 39.6 |     |
| Approach LOS            |       | D     |     |      | F     |       |      | D    |     |      | D    |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 60 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.50  
 Intersection Signal Delay: 142.0  
 Intersection LOS: F  
 Intersection Capacity Utilization 125.2%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 1: SH 68 (Harmony Road) & West Frontage Road



# Lanes, Volumes, Timings

## 2: SH 68 (Harmony Road) & SB Ramps

5/27/2010



| Lane Group                 | EBL  | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT  | NBR   | SBL   | SBT   | SBR   |
|----------------------------|------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|
| Lane Configurations        |      | ↑↑    | ↗     | ↖     | ↑↑    |       |      |      |       | ↘     | ↑     | ↗     |
| Volume (vph)               | 0    | 2155  | 1390  | 320   | 2805  | 0     | 0    | 0    | 0     | 485   | 0     | 1105  |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 | 1900 | 1900  | 1900  | 1900  | 1900  |
| Storage Length (ft)        | 0    |       | 0     | 100   |       | 0     | 0    |      | 0     | 100   |       | 350   |
| Storage Lanes              | 0    |       | 1     | 1     |       | 0     | 0    |      | 0     | 1     |       | 1     |
| Taper Length (ft)          | 25   |       | 25    | 25    |       | 25    | 25   |      | 25    | 25    |       | 25    |
| Lane Util. Factor          | 1.00 | 0.95  | 1.00  | 1.00  | 0.95  | 1.00  | 1.00 | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  |
| Fr <sub>t</sub>            |      |       | 0.850 |       |       |       |      |      |       |       |       | 0.850 |
| Fl <sub>t</sub> Protected  |      |       |       | 0.950 |       |       |      |      |       | 0.950 |       |       |
| Satd. Flow (prot)          | 0    | 3539  | 1583  | 1770  | 3539  | 0     | 0    | 0    | 0     | 1770  | 1863  | 1583  |
| Fl <sub>t</sub> Permitted  |      |       |       | 0.073 |       |       |      |      |       | 0.950 |       |       |
| Satd. Flow (perm)          | 0    | 3539  | 1583  | 136   | 3539  | 0     | 0    | 0    | 0     | 1770  | 1863  | 1583  |
| Right Turn on Red          |      |       | Yes   |       |       | Yes   |      |      | Yes   |       |       | Yes   |
| Satd. Flow (RTOR)          |      |       | 470   |       |       |       |      |      |       |       |       | 287   |
| Link Speed (mph)           |      | 45    |       |       | 45    |       |      | 30   |       |       | 30    |       |
| Link Distance (ft)         |      | 1121  |       |       | 572   |       |      | 570  |       |       | 510   |       |
| Travel Time (s)            |      | 17.0  |       |       | 8.7   |       |      | 13.0 |       |       | 11.6  |       |
| Peak Hour Factor           | 0.93 | 0.93  | 0.96  | 0.96  | 0.93  | 0.93  | 0.93 | 0.93 | 0.93  | 0.96  | 0.96  | 0.96  |
| Adj. Flow (vph)            | 0    | 2317  | 1448  | 333   | 3016  | 0     | 0    | 0    | 0     | 505   | 0     | 1151  |
| Shared Lane Traffic (%)    |      |       |       |       |       |       |      |      |       |       |       |       |
| Lane Group Flow (vph)      | 0    | 2317  | 1448  | 333   | 3016  | 0     | 0    | 0    | 0     | 505   | 0     | 1151  |
| Enter Blocked Intersection | No   | No    | No    | No    | No    | No    | No   | No   | No    | No    | No    | No    |
| Lane Alignment             | Left | Left  | Right | Left  | Left  | Right | Left | Left | Right | Left  | Left  | Right |
| Median Width(ft)           |      | 24    |       |       | 24    |       |      | 12   |       |       | 12    |       |
| Link Offset(ft)            |      | 0     |       |       | 0     |       |      | 0    |       |       | 0     |       |
| Crosswalk Width(ft)        |      | 16    |       |       | 16    |       |      | 16   |       |       | 16    |       |
| Two way Left Turn Lane     |      |       |       |       |       |       |      |      |       |       |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15   |       | 9     | 15    |       | 9     | 15   |      | 9     | 15    |       | 9     |
| Number of Detectors        |      | 1     | 1     | 1     | 1     |       |      |      |       | 1     | 1     | 1     |
| Detector Template          |      |       |       |       |       |       |      |      |       |       |       |       |
| Leading Detector (ft)      |      | 50    | 50    | 50    | 50    |       |      |      |       | 50    | 50    | 50    |
| Trailing Detector (ft)     |      | 0     | 0     | 0     | 0     |       |      |      |       | 0     | 0     | 0     |
| Detector 1 Position(ft)    |      | 0     | 0     | 0     | 0     |       |      |      |       | 0     | 0     | 0     |
| Detector 1 Size(ft)        |      | 50    | 50    | 50    | 50    |       |      |      |       | 50    | 50    | 50    |
| Detector 1 Type            |      | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |       |      |      |       | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel         |      |       |       |       |       |       |      |      |       |       |       |       |
| Detector 1 Extend (s)      |      | 0.0   | 0.0   | 0.0   | 0.0   |       |      |      |       | 0.0   | 0.0   | 0.0   |
| Detector 1 Queue (s)       |      | 0.0   | 0.0   | 0.0   | 0.0   |       |      |      |       | 0.0   | 0.0   | 0.0   |
| Detector 1 Delay (s)       |      | 0.0   | 0.0   | 0.0   | 0.0   |       |      |      |       | 0.0   | 0.0   | 0.0   |
| Turn Type                  |      |       | Free  | pm+pt |       |       |      |      |       | Perm  |       | Free  |
| Protected Phases           |      | 2     |       | 1     | 2 1   |       |      |      |       |       | 4     |       |
| Permitted Phases           |      |       | Free  | 2 1   |       |       |      |      |       | 4     |       | Free  |
| Detector Phase             |      | 2     |       | 1     | 2 1   |       |      |      |       | 4     | 4     |       |
| Switch Phase               |      |       |       |       |       |       |      |      |       |       |       |       |
| Minimum Initial (s)        |      | 4.0   |       | 4.0   |       |       |      |      |       | 4.0   | 4.0   |       |
| Minimum Split (s)          |      | 21.0  |       | 9.0   |       |       |      |      |       | 22.0  | 22.0  |       |
| Total Split (s)            | 0.0  | 59.0  | 0.0   | 13.0  | 72.0  | 0.0   | 0.0  | 0.0  | 0.0   | 28.0  | 28.0  | 0.0   |
| Total Split (%)            | 0.0% | 59.0% | 0.0%  | 13.0% | 72.0% | 0.0%  | 0.0% | 0.0% | 0.0%  | 28.0% | 28.0% | 0.0%  |

Lanes, Volumes, Timings  
 2: SH 68 (Harmony Road) & SB Ramps

5/27/2010



| Lane Group              | EBL | EBT   | EBR   | WBL   | WBT   | WBR | NBL | NBT | NBR | SBL   | SBT  | SBR   |
|-------------------------|-----|-------|-------|-------|-------|-----|-----|-----|-----|-------|------|-------|
| Maximum Green (s)       |     | 54.0  |       | 8.0   |       |     |     |     |     | 22.0  | 22.0 |       |
| Yellow Time (s)         |     | 3.0   |       | 3.0   |       |     |     |     |     | 4.0   | 4.0  |       |
| All-Red Time (s)        |     | 2.0   |       | 2.0   |       |     |     |     |     | 2.0   | 2.0  |       |
| Lost Time Adjust (s)    | 0.0 | -1.0  | 0.0   | -1.0  | -1.0  | 0.0 | 0.0 | 0.0 | 0.0 | -2.0  | -2.0 | 0.0   |
| Total Lost Time (s)     | 4.0 | 4.0   | 4.0   | 4.0   | 4.0   | 4.0 | 4.0 | 4.0 | 4.0 | 4.0   | 4.0  | 4.0   |
| Lead/Lag                |     | Lead  |       | Lag   |       |     |     |     |     |       |      |       |
| Lead-Lag Optimize?      |     | Yes   |       | Yes   |       |     |     |     |     |       |      |       |
| Vehicle Extension (s)   |     | 3.0   |       | 3.0   |       |     |     |     |     | 3.0   | 3.0  |       |
| Recall Mode             |     | C-Max |       | None  |       |     |     |     |     | None  | None |       |
| Walk Time (s)           |     | 5.0   |       |       |       |     |     |     |     | 5.0   | 5.0  |       |
| Flash Dont Walk (s)     |     | 11.0  |       |       |       |     |     |     |     | 11.0  | 11.0 |       |
| Pedestrian Calls (#/hr) |     | 0     |       |       |       |     |     |     |     | 0     | 0    |       |
| Act Effect Green (s)    |     | 55.0  | 100.0 | 64.0  | 68.0  |     |     |     |     | 24.0  |      | 100.0 |
| Actuated g/C Ratio      |     | 0.55  | 1.00  | 0.64  | 0.68  |     |     |     |     | 0.24  |      | 1.00  |
| v/c Ratio               |     | 1.19  | 0.91  | 1.42  | 1.25  |     |     |     |     | 1.19  |      | 0.73  |
| Control Delay           |     | 110.5 | 12.2  | 221.0 | 132.5 |     |     |     |     | 141.4 |      | 3.0   |
| Queue Delay             |     | 3.6   | 0.0   | 0.0   | 27.7  |     |     |     |     | 0.0   |      | 0.0   |
| Total Delay             |     | 114.1 | 12.2  | 221.0 | 160.2 |     |     |     |     | 141.4 |      | 3.0   |
| LOS                     |     | F     | B     | F     | F     |     |     |     |     | F     |      | A     |
| Approach Delay          |     | 74.9  |       |       | 166.2 |     |     |     |     |       |      |       |
| Approach LOS            |     | E     |       |       | F     |     |     |     |     |       |      |       |

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 42 (42%), Referenced to phase 2:EBWB, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.42  
 Intersection Signal Delay: 104.2  
 Intersection Capacity Utilization 172.9%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service H

Splits and Phases: 2: SH 68 (Harmony Road) & SB Ramps



### Lanes, Volumes, Timings 3: SH 68 (Harmony Road) & NB Ramps

5/27/2010



| Lane Group                 | EBL   | EBT   | EBR   | WBL  | WBT   | WBR   | NBL   | NBT   | NBR   | SBL  | SBT  | SBR   |
|----------------------------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|------|-------|
| Lane Configurations        | ↖↗    | ↕     |       |      | ↕     | ↖     | ↖↗    | ↖     |       |      |      |       |
| Volume (vph)               | 985   | 1655  | 0     | 0    | 1665  | 425   | 1460  | 0     | 635   | 0    | 0    | 0     |
| Ideal Flow (vphp)          | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 | 1900 | 1900  |
| Storage Length (ft)        | 275   |       | 0     | 0    |       | 125   | 700   |       | 160   | 0    |      | 0     |
| Storage Lanes              | 2     |       | 0     | 0    |       | 1     | 1     |       | 1     | 0    |      | 0     |
| Taper Length (ft)          | 25    |       | 25    | 25   |       | 25    | 25    |       | 25    | 25   |      | 25    |
| Lane Util. Factor          | 0.97  | 0.95  | 1.00  | 1.00 | 0.95  | 1.00  | 0.97  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Fr't                       |       |       |       |      |       | 0.850 |       | 0.850 |       |      |      |       |
| Flt Protected              | 0.950 |       |       |      |       |       | 0.950 |       |       |      |      |       |
| Satd. Flow (prot)          | 3433  | 3539  | 0     | 0    | 3539  | 1583  | 3433  | 1583  | 0     | 0    | 0    | 0     |
| Flt Permitted              | 0.950 |       |       |      |       |       | 0.950 |       |       |      |      |       |
| Satd. Flow (perm)          | 3433  | 3539  | 0     | 0    | 3539  | 1583  | 3433  | 1583  | 0     | 0    | 0    | 0     |
| Right Turn on Red          |       |       | Yes   |      |       | Yes   |       |       | Yes   |      |      | Yes   |
| Satd. Flow (RTOR)          |       |       |       |      |       | 164   |       | 21    |       |      |      |       |
| Link Speed (mph)           |       | 45    |       |      | 45    |       |       | 30    |       |      |      | 30    |
| Link Distance (ft)         |       | 572   |       |      | 598   |       |       | 589   |       |      |      | 504   |
| Travel Time (s)            |       | 8.7   |       |      | 9.1   |       |       | 13.4  |       |      |      | 11.5  |
| Peak Hour Factor           | 0.96  | 0.93  | 0.93  | 0.93 | 0.93  | 0.96  | 0.96  | 0.96  | 0.96  | 0.93 | 0.93 | 0.93  |
| Adj. Flow (vph)            | 1026  | 1780  | 0     | 0    | 1790  | 443   | 1521  | 0     | 661   | 0    | 0    | 0     |
| Shared Lane Traffic (%)    |       |       |       |      |       |       |       |       |       |      |      |       |
| Lane Group Flow (vph)      | 1026  | 1780  | 0     | 0    | 1790  | 443   | 1521  | 661   | 0     | 0    | 0    | 0     |
| Enter Blocked Intersection | No    | No    | No    | No   | No    | No    | No    | No    | No    | No   | No   | No    |
| Lane Alignment             | Left  | Left  | Right | Left | Left  | Right | Left  | Left  | Right | Left | Left | Right |
| Median Width(ft)           |       | 24    |       |      | 24    |       |       | 24    |       |      |      | 24    |
| Link Offset(ft)            |       | 0     |       |      | 0     |       |       | 0     |       |      |      | 0     |
| Crosswalk Width(ft)        |       | 16    |       |      | 16    |       |       | 16    |       |      |      | 16    |
| Two way Left Turn Lane     |       |       |       |      |       |       |       |       |       |      |      |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        | 15    |       | 9     | 15   |       | 9     | 15    |       | 9     | 15   |      | 9     |
| Number of Detectors        | 1     | 1     |       |      | 1     | 1     | 1     | 1     |       |      |      |       |
| Detector Template          |       |       |       |      |       |       |       |       |       |      |      |       |
| Leading Detector (ft)      | 50    | 50    |       |      | 50    | 50    | 50    | 50    |       |      |      |       |
| Trailing Detector (ft)     | 0     | 0     |       |      | 0     | 0     | 0     | 0     |       |      |      |       |
| Detector 1 Position(ft)    | 0     | 0     |       |      | 0     | 0     | 0     | 0     |       |      |      |       |
| Detector 1 Size(ft)        | 50    | 50    |       |      | 50    | 50    | 50    | 50    |       |      |      |       |
| Detector 1 Type            | Cl+Ex | Cl+Ex |       |      | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |       |      |      |       |
| Detector 1 Channel         |       |       |       |      |       |       |       |       |       |      |      |       |
| Detector 1 Extend (s)      | 0.0   | 0.0   |       |      | 0.0   | 0.0   | 0.0   | 0.0   |       |      |      |       |
| Detector 1 Queue (s)       | 0.0   | 0.0   |       |      | 0.0   | 0.0   | 0.0   | 0.0   |       |      |      |       |
| Detector 1 Delay (s)       | 0.0   | 0.0   |       |      | 0.0   | 0.0   | 0.0   | 0.0   |       |      |      |       |
| Turn Type                  | Prot  |       |       |      |       | Perm  | Perm  |       |       |      |      |       |
| Protected Phases           | 5     | 5 6   |       |      | 6     |       |       | 8     |       |      |      |       |
| Permitted Phases           |       |       |       |      |       | 6     | 8     |       |       |      |      |       |
| Detector Phase             | 5     | 5 6   |       |      | 6     | 6     | 8     | 8     |       |      |      |       |
| Switch Phase               |       |       |       |      |       |       |       |       |       |      |      |       |
| Minimum Initial (s)        | 4.0   |       |       |      | 4.0   | 4.0   | 4.0   | 4.0   |       |      |      |       |
| Minimum Split (s)          | 10.0  |       |       |      | 22.0  | 22.0  | 22.0  | 22.0  |       |      |      |       |
| Total Split (s)            | 23.0  | 65.0  | 0.0   | 0.0  | 42.0  | 42.0  | 35.0  | 35.0  | 0.0   | 0.0  | 0.0  | 0.0   |
| Total Split (%)            | 23.0% | 65.0% | 0.0%  | 0.0% | 42.0% | 42.0% | 35.0% | 35.0% | 0.0%  | 0.0% | 0.0% | 0.0%  |

Lanes, Volumes, Timings  
 3: SH 68 (Harmony Road) & NB Ramps

5/27/2010



| Lane Group              | EBL   | EBT   | EBR | WBL | WBT   | WBR  | NBL   | NBT   | NBR  | SBL | SBT  | SBR |
|-------------------------|-------|-------|-----|-----|-------|------|-------|-------|------|-----|------|-----|
| Maximum Green (s)       | 18.0  |       |     |     | 36.0  | 36.0 | 30.0  | 30.0  |      |     |      |     |
| Yellow Time (s)         | 3.0   |       |     |     | 4.0   | 4.0  | 3.0   | 3.0   |      |     |      |     |
| All-Red Time (s)        | 2.0   |       |     |     | 2.0   | 2.0  | 2.0   | 2.0   |      |     |      |     |
| Lost Time Adjust (s)    | -1.0  | -1.0  | 0.0 | 0.0 | -2.0  | -2.0 | -1.0  | -1.0  | 0.0  | 0.0 | 0.0  | 0.0 |
| Total Lost Time (s)     | 4.0   | 4.0   | 4.0 | 4.0 | 4.0   | 4.0  | 4.0   | 4.0   | 4.0  | 4.0 | 4.0  | 4.0 |
| Lead/Lag                | Lead  |       |     |     | Lag   |      |       |       | Lag  |     |      |     |
| Lead-Lag Optimize?      | Yes   |       |     |     | Yes   |      |       |       | Yes  |     |      |     |
| Vehicle Extension (s)   | 3.0   |       |     |     | 3.0   |      |       |       | 3.0  |     |      |     |
| Recall Mode             | None  |       |     |     | C-Max |      | C-Max |       | Min  |     | Min  |     |
| Walk Time (s)           |       |       |     |     | 5.0   |      | 5.0   |       | 5.0  |     | 5.0  |     |
| Flash Dont Walk (s)     |       |       |     |     | 11.0  |      | 11.0  |       | 11.0 |     | 11.0 |     |
| Pedestrian Calls (#/hr) |       |       |     |     | 0     |      | 0     |       | 0    |     | 0    |     |
| Act Effect Green (s)    | 19.0  | 61.0  |     |     | 38.0  | 38.0 | 31.0  | 31.0  |      |     |      |     |
| Actuated g/C Ratio      | 0.19  | 0.61  |     |     | 0.38  | 0.38 | 0.31  | 0.31  |      |     |      |     |
| v/c Ratio               | 1.57  | 0.82  |     |     | 1.33  | 0.63 | 1.43  | 1.31  |      |     |      |     |
| Control Delay           | 292.4 | 5.9   |     |     | 182.8 | 20.0 | 228.2 | 183.0 |      |     |      |     |
| Queue Delay             | 0.0   | 3.5   |     |     | 33.2  | 0.0  | 266.6 | 0.0   |      |     |      |     |
| Total Delay             | 292.4 | 9.3   |     |     | 216.0 | 20.0 | 494.9 | 183.0 |      |     |      |     |
| LOS                     | F     | A     |     |     | F     | C    | F     | F     |      |     |      |     |
| Approach Delay          |       | 112.9 |     |     | 177.2 |      |       | 400.4 |      |     |      |     |
| Approach LOS            |       | F     |     |     | F     |      |       | F     |      |     |      |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 45 (45%), Referenced to phase 6:EBWB, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.57  
 Intersection Signal Delay: 219.6      Intersection LOS: F  
 Intersection Capacity Utilization 172.9%      ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 3: SH 68 (Harmony Road) & NB Ramps



Lanes, Volumes, Timings  
 4: SH 68 (Harmony Road) & East Frontage Road

5/27/2010



| Lane Group                 | EBL   | EBT  | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------------|-------|------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations        |       |      |       |       |       |       |      |       |       |      |       |       |
| Volume (vph)               | 105   | 1870 | 315   | 95    | 1685  | 85    | 165  | 20    | 45    | 45   | 15    | 240   |
| Ideal Flow (vphpl)         | 1900  | 1900 | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        | 200   |      | 0     | 150   |       | 0     | 0    |       | 0     | 0    |       | 0     |
| Storage Lanes              | 1     |      | 1     | 1     |       | 0     | 0    |       | 0     | 0    |       | 0     |
| Taper Length (ft)          | 25    |      | 25    | 25    |       | 25    | 25   |       | 25    | 25   |       | 25    |
| Lane Util. Factor          | 1.00  | 1.00 | 1.00  | 1.00  | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Frt                        |       |      | 0.850 |       | 0.993 |       |      | 0.974 |       |      | 0.892 |       |
| Flt Protected              | 0.950 |      |       | 0.950 |       |       |      | 0.965 |       |      | 0.993 |       |
| Satd. Flow (prot)          | 1770  | 1863 | 1583  | 1770  | 3514  | 0     | 0    | 1751  | 0     | 0    | 1650  | 0     |
| Flt Permitted              | 0.950 |      |       | 0.950 |       |       |      | 0.965 |       |      | 0.993 |       |
| Satd. Flow (perm)          | 1770  | 1863 | 1583  | 1770  | 3514  | 0     | 0    | 1751  | 0     | 0    | 1650  | 0     |
| Link Speed (mph)           |       | 45   |       |       | 45    |       |      | 30    |       |      | 30    |       |
| Link Distance (ft)         |       | 598  |       |       | 172   |       |      | 162   |       |      | 226   |       |
| Travel Time (s)            |       | 9.1  |       |       | 2.6   |       |      | 3.7   |       |      | 5.1   |       |
| Peak Hour Factor           | 0.93  | 0.93 | 0.93  | 0.93  | 0.93  | 0.93  | 0.93 | 0.93  | 0.93  | 0.93 | 0.93  | 0.93  |
| Adj. Flow (vph)            | 113   | 2011 | 339   | 102   | 1812  | 91    | 177  | 22    | 48    | 48   | 16    | 258   |
| Shared Lane Traffic (%)    |       |      |       |       |       |       |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 113   | 2011 | 339   | 102   | 1903  | 0     | 0    | 247   | 0     | 0    | 322   | 0     |
| Enter Blocked Intersection | No    | No   | No    | No    | No    | No    | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left  | Left | Right | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right |
| Median Width(ft)           |       | 12   |       |       | 12    |       |      | 0     |       |      | 0     |       |
| Link Offset(ft)            |       | 0    |       |       | 0     |       |      | 0     |       |      | 0     |       |
| Crosswalk Width(ft)        |       | 16   |       |       | 16    |       |      | 16    |       |      | 16    |       |
| Two way Left Turn Lane     |       |      |       |       |       |       |      |       |       |      |       |       |
| Headway Factor             | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    |      | 9     | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     |
| Sign Control               |       | Free |       |       | Free  |       |      | Stop  |       |      | Stop  |       |

| Intersection Summary              |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 139.4%       |
| ICU Level of Service              | H            |
| Analysis Period (min)             | 15           |

## **Harmony Package A PM Traffic**

# HCM Signalized Intersection Capacity Analysis

## 2: Harmony Road & SB Ramps

2035 Package A - PM

10/14/2010



| Movement               | EBL  | EBT    | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR   |
|------------------------|------|--------|-------|------|------|------|------|------|------|------|------|-------|
| Lane Configurations    |      | ↑↑↑↑   | ↗     | ↘↘   | ↑↑↑  |      |      |      |      | ↖    | ↗    | ↖     |
| Volume (vph)           | 0    | 2140   | 1555  | 400  | 2480 | 0    | 0    | 0    | 0    | 430  | 0    | 1125  |
| Ideal Flow (vphpl)     | 1900 | 1900   | 1900  | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900  |
| Total Lost time (s)    |      | 4.0    | 4.0   | 4.0  | 4.0  |      |      |      |      | 4.0  | 4.0  | 4.0   |
| Lane Util. Factor      |      | 0.76   | 0.76  | 0.97 | 0.91 |      |      |      |      | 0.95 | 0.95 | 1.00  |
| Frt                    |      | 0.96   | 0.85  | 1.00 | 1.00 |      |      |      |      | 1.00 | 1.00 | 0.85  |
| Flt Protected          |      | 1.00   | 1.00  | 0.95 | 1.00 |      |      |      |      | 0.95 | 0.95 | 1.00  |
| Satd. Flow (prot)      |      | 6795   | 1203  | 3433 | 5085 |      |      |      |      | 1681 | 1681 | 1583  |
| Flt Permitted          |      | 1.00   | 1.00  | 0.95 | 1.00 |      |      |      |      | 0.95 | 0.95 | 1.00  |
| Satd. Flow (perm)      |      | 6795   | 1203  | 3433 | 5085 |      |      |      |      | 1681 | 1681 | 1583  |
| Peak-hour factor, PHF  | 0.92 | 0.92   | 0.92  | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92  |
| Adj. Flow (vph)        | 0    | 2326   | 1690  | 435  | 2696 | 0    | 0    | 0    | 0    | 467  | 0    | 1223  |
| RTOR Reduction (vph)   | 0    | 66     | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| Lane Group Flow (vph)  | 0    | 3105   | 845   | 435  | 2696 | 0    | 0    | 0    | 0    | 233  | 234  | 1223  |
| Turn Type              |      |        | Free  | Prot |      |      |      |      |      | Perm |      | Free  |
| Protected Phases       |      | 2      |       | 1    | 2 1  |      |      |      |      |      | 4    |       |
| Permitted Phases       |      |        | Free  |      |      |      |      |      |      | 4    |      | Free  |
| Actuated Green, G (s)  |      | 49.0   | 100.0 | 17.8 | 71.8 |      |      |      |      | 17.2 | 17.2 | 100.0 |
| Effective Green, g (s) |      | 51.0   | 100.0 | 18.8 | 70.8 |      |      |      |      | 18.2 | 18.2 | 100.0 |
| Actuated g/C Ratio     |      | 0.51   | 1.00  | 0.19 | 0.71 |      |      |      |      | 0.18 | 0.18 | 1.00  |
| Clearance Time (s)     |      | 6.0    |       | 5.0  |      |      |      |      |      | 5.0  | 5.0  |       |
| Vehicle Extension (s)  |      | 3.0    |       | 3.0  |      |      |      |      |      | 3.0  | 3.0  |       |
| Lane Grp Cap (vph)     |      | 3465   | 1203  | 645  | 3600 |      |      |      |      | 306  | 306  | 1583  |
| v/s Ratio Prot         |      | c0.46  |       | 0.13 | 0.53 |      |      |      |      |      |      |       |
| v/s Ratio Perm         |      |        | 0.70  |      |      |      |      |      |      | 0.14 | 0.14 | c0.77 |
| v/c Ratio              |      | 1.01dr | 0.70  | 0.67 | 0.75 |      |      |      |      | 0.76 | 0.76 | 0.77  |
| Uniform Delay, d1      |      | 22.1   | 0.0   | 37.8 | 9.1  |      |      |      |      | 38.8 | 38.9 | 0.0   |
| Progression Factor     |      | 0.37   | 1.00  | 0.94 | 0.14 |      |      |      |      | 1.00 | 1.00 | 1.00  |
| Incremental Delay, d2  |      | 1.1    | 0.9   | 0.9  | 0.4  |      |      |      |      | 10.7 | 10.8 | 3.7   |
| Delay (s)              |      | 9.2    | 0.9   | 36.4 | 1.7  |      |      |      |      | 49.5 | 49.7 | 3.7   |
| Level of Service       |      | A      | A     | D    | A    |      |      |      |      | D    | D    | A     |
| Approach Delay (s)     |      | 7.5    |       |      | 6.5  |      |      | 0.0  |      |      | 16.4 |       |
| Approach LOS           |      | A      |       |      | A    |      |      | A    |      |      | B    |       |

### Intersection Summary

|                                   |       |                      |     |
|-----------------------------------|-------|----------------------|-----|
| HCM Average Control Delay         | 8.8   | HCM Level of Service | A   |
| HCM Volume to Capacity ratio      | 0.84  |                      |     |
| Actuated Cycle Length (s)         | 100.0 | Sum of lost time (s) | 4.0 |
| Intersection Capacity Utilization | 95.9% | ICU Level of Service | F   |
| Analysis Period (min)             | 15    |                      |     |

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group






















# HCM Signalized Intersection Capacity Analysis

## 3: Harmony Road & NB Ramps

2035 Package A - PM

10/14/2010

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |  |
| Lane Configurations               |  |  |                                                                                   |                                                                                   |  |  |  |  |  |                                                                                     |                                                                                     |                                                                                     |  |
| Volume (vph)                      | 1140                                                                              | 1430                                                                              | 0                                                                                 | 0                                                                                 | 1245                                                                              | 375                                                                               | 1635                                                                                | 0                                                                                   | 930                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   |  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |  |
| Total Lost time (s)               | 4.0                                                                               | 4.0                                                                               |                                                                                   |                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |  |
| Lane Util. Factor                 | 0.97                                                                              | 0.91                                                                              |                                                                                   |                                                                                   | 0.81                                                                              | 1.00                                                                              | 0.91                                                                                | 0.91                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |  |
| Frt                               | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                   | 1.00                                                                              | 0.85                                                                              | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |                                                                                     |                                                                                     |                                                                                     |  |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |  |
| Satd. Flow (prot)                 | 3433                                                                              | 5085                                                                              |                                                                                   |                                                                                   | 7544                                                                              | 1583                                                                              | 3221                                                                                | 1610                                                                                | 1583                                                                                |                                                                                     |                                                                                     |                                                                                     |  |
| Flt Permitted                     | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |  |
| Satd. Flow (perm)                 | 3433                                                                              | 5085                                                                              |                                                                                   |                                                                                   | 7544                                                                              | 1583                                                                              | 3221                                                                                | 1610                                                                                | 1583                                                                                |                                                                                     |                                                                                     |                                                                                     |  |
| Peak-hour factor, PHF             | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |  |
| Adj. Flow (vph)                   | 1239                                                                              | 1554                                                                              | 0                                                                                 | 0                                                                                 | 1353                                                                              | 408                                                                               | 1777                                                                                | 0                                                                                   | 1011                                                                                | 0                                                                                   | 0                                                                                   | 0                                                                                   |  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 330                                                                               | 0                                                                                   | 0                                                                                   | 6                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |  |
| Lane Group Flow (vph)             | 1239                                                                              | 1554                                                                              | 0                                                                                 | 0                                                                                 | 1353                                                                              | 78                                                                                | 1191                                                                                | 586                                                                                 | 1005                                                                                | 0                                                                                   | 0                                                                                   | 0                                                                                   |  |
| Turn Type                         | Prot                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | Perm                                                                              | Perm                                                                                |                                                                                     | Perm                                                                                |                                                                                     |                                                                                     |                                                                                     |  |
| Protected Phases                  | 5                                                                                 | 5 6                                                                               |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |  |
| Permitted Phases                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6                                                                                 | 8                                                                                   |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |  |
| Actuated Green, G (s)             | 22.0                                                                              | 44.0                                                                              |                                                                                   |                                                                                   | 17.0                                                                              | 17.0                                                                              | 45.0                                                                                | 45.0                                                                                | 45.0                                                                                |                                                                                     |                                                                                     |                                                                                     |  |
| Effective Green, g (s)            | 23.0                                                                              | 45.0                                                                              |                                                                                   |                                                                                   | 19.0                                                                              | 19.0                                                                              | 46.0                                                                                | 46.0                                                                                | 46.0                                                                                |                                                                                     |                                                                                     |                                                                                     |  |
| Actuated g/C Ratio                | 0.23                                                                              | 0.45                                                                              |                                                                                   |                                                                                   | 0.19                                                                              | 0.19                                                                              | 0.46                                                                                | 0.46                                                                                | 0.46                                                                                |                                                                                     |                                                                                     |                                                                                     |  |
| Clearance Time (s)                | 5.0                                                                               |                                                                                   |                                                                                   |                                                                                   | 6.0                                                                               | 6.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |  |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |  |
| Lane Grp Cap (vph)                | 790                                                                               | 2288                                                                              |                                                                                   |                                                                                   | 1433                                                                              | 301                                                                               | 1482                                                                                | 741                                                                                 | 728                                                                                 |                                                                                     |                                                                                     |                                                                                     |  |
| v/s Ratio Prot                    | c0.36                                                                             | 0.31                                                                              |                                                                                   |                                                                                   | c0.18                                                                             |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |  |
| v/s Ratio Perm                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.05                                                                              | 0.37                                                                                | 0.36                                                                                | c0.63                                                                               |                                                                                     |                                                                                     |                                                                                     |  |
| v/c Ratio                         | 1.57                                                                              | 0.68                                                                              |                                                                                   |                                                                                   | 0.94                                                                              | 0.26                                                                              | 0.80                                                                                | 0.79                                                                                | 1.38                                                                                |                                                                                     |                                                                                     |                                                                                     |  |
| Uniform Delay, d1                 | 38.5                                                                              | 21.8                                                                              |                                                                                   |                                                                                   | 40.0                                                                              | 34.5                                                                              | 23.1                                                                                | 22.9                                                                                | 27.0                                                                                |                                                                                     |                                                                                     |                                                                                     |  |
| Progression Factor                | 0.66                                                                              | 0.80                                                                              |                                                                                   |                                                                                   | 0.83                                                                              | 1.83                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |  |
| Incremental Delay, d2             | 258.4                                                                             | 0.4                                                                               |                                                                                   |                                                                                   | 12.9                                                                              | 1.9                                                                               | 3.3                                                                                 | 5.8                                                                                 | 179.8                                                                               |                                                                                     |                                                                                     |                                                                                     |  |
| Delay (s)                         | 283.8                                                                             | 17.9                                                                              |                                                                                   |                                                                                   | 46.3                                                                              | 65.1                                                                              | 26.4                                                                                | 28.7                                                                                | 206.8                                                                               |                                                                                     |                                                                                     |                                                                                     |  |
| Level of Service                  | F                                                                                 | B                                                                                 |                                                                                   |                                                                                   | D                                                                                 | E                                                                                 | C                                                                                   | C                                                                                   | F                                                                                   |                                                                                     |                                                                                     |                                                                                     |  |
| Approach Delay (s)                |                                                                                   | 135.8                                                                             |                                                                                   |                                                                                   | 50.7                                                                              |                                                                                   |                                                                                     | 92.3                                                                                |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |  |
| Approach LOS                      |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | F                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |  |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |  |
| HCM Average Control Delay         |                                                                                   |                                                                                   | 98.9                                                                              |                                                                                   | HCM Level of Service                                                              |                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |                                                                                     |                                                                                     |  |
| HCM Volume to Capacity ratio      |                                                                                   |                                                                                   | 1.34                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |  |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 100.0                                                                             |                                                                                   | Sum of lost time (s)                                                              |                                                                                   |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |                                                                                     |  |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 95.9%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |                                                                                     |                                                                                     |  |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |  |
| c                                 | Critical Lane Group                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |  |

## **Harmony Package B PM Traffic**

HCM Signalized Intersection Capacity Analysis  
2: Harmony Road & SB Ramps

2035 Package B - PM Peak

10/14/2010



| Movement               | EBL  | EBT    | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL   | SBT  | SBR   |
|------------------------|------|--------|-------|------|------|------|------|------|------|-------|------|-------|
| Lane Configurations    |      | ↑↑↑↑   | ↗     | ↘↘   | ↑↑↑  |      |      |      |      | ↖     | ↗    | ↖     |
| Volume (vph)           | 0    | 2210   | 1390  | 480  | 2215 | 0    | 0    | 0    | 0    | 460   | 0    | 975   |
| Ideal Flow (vphpl)     | 1900 | 1900   | 1900  | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900  | 1900 | 1900  |
| Total Lost time (s)    |      | 4.0    | 4.0   | 4.0  | 4.0  |      |      |      |      | 4.0   | 4.0  | 4.0   |
| Lane Util. Factor      |      | 0.76   | 0.76  | 0.97 | 0.91 |      |      |      |      | 0.95  | 0.95 | 1.00  |
| Frt                    |      | 0.96   | 0.85  | 1.00 | 1.00 |      |      |      |      | 1.00  | 1.00 | 0.85  |
| Flt Protected          |      | 1.00   | 1.00  | 0.95 | 1.00 |      |      |      |      | 0.95  | 0.95 | 1.00  |
| Satd. Flow (prot)      |      | 6824   | 1203  | 3433 | 5085 |      |      |      |      | 1681  | 1681 | 1583  |
| Flt Permitted          |      | 1.00   | 1.00  | 0.95 | 1.00 |      |      |      |      | 0.95  | 0.95 | 1.00  |
| Satd. Flow (perm)      |      | 6824   | 1203  | 3433 | 5085 |      |      |      |      | 1681  | 1681 | 1583  |
| Peak-hour factor, PHF  | 0.92 | 0.92   | 0.92  | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92  | 0.92 | 0.92  |
| Adj. Flow (vph)        | 0    | 2402   | 1511  | 522  | 2408 | 0    | 0    | 0    | 0    | 500   | 0    | 1060  |
| RTOR Reduction (vph)   | 0    | 57     | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    | 0     |
| Lane Group Flow (vph)  | 0    | 3101   | 755   | 522  | 2408 | 0    | 0    | 0    | 0    | 250   | 250  | 1060  |
| Turn Type              |      |        | Free  | Prot |      |      |      |      |      | Perm  |      | Free  |
| Protected Phases       |      | 2      |       | 1    | 2 1  |      |      |      |      |       | 4    |       |
| Permitted Phases       |      |        | Free  |      |      |      |      |      |      | 4     |      | Free  |
| Actuated Green, G (s)  |      | 49.0   | 100.0 | 17.9 | 71.9 |      |      |      |      | 17.1  | 17.1 | 100.0 |
| Effective Green, g (s) |      | 51.0   | 100.0 | 18.9 | 70.9 |      |      |      |      | 18.1  | 18.1 | 100.0 |
| Actuated g/C Ratio     |      | 0.51   | 1.00  | 0.19 | 0.71 |      |      |      |      | 0.18  | 0.18 | 1.00  |
| Clearance Time (s)     |      | 6.0    |       | 5.0  |      |      |      |      |      | 5.0   | 5.0  |       |
| Vehicle Extension (s)  |      | 3.0    |       | 3.0  |      |      |      |      |      | 3.0   | 3.0  |       |
| Lane Grp Cap (vph)     |      | 3480   | 1203  | 649  | 3605 |      |      |      |      | 304   | 304  | 1583  |
| v/s Ratio Prot         |      | c0.45  |       | 0.15 | 0.47 |      |      |      |      |       |      |       |
| v/s Ratio Perm         |      |        | 0.63  |      |      |      |      |      |      | c0.15 | 0.15 | c0.67 |
| v/c Ratio              |      | 0.92dr | 0.63  | 0.80 | 0.67 |      |      |      |      | 0.82  | 0.82 | 0.67  |
| Uniform Delay, d1      |      | 22.0   | 0.0   | 38.8 | 8.0  |      |      |      |      | 39.4  | 39.4 | 0.0   |
| Progression Factor     |      | 0.38   | 1.00  | 0.89 | 0.18 |      |      |      |      | 1.00  | 1.00 | 1.00  |
| Incremental Delay, d2  |      | 1.2    | 0.7   | 3.1  | 0.3  |      |      |      |      | 16.2  | 16.2 | 2.3   |
| Delay (s)              |      | 9.5    | 0.7   | 37.4 | 1.8  |      |      |      |      | 55.6  | 55.6 | 2.3   |
| Level of Service       |      | A      | A     | D    | A    |      |      |      |      | E     | E    | A     |
| Approach Delay (s)     |      | 7.8    |       |      | 8.1  |      |      | 0.0  |      |       | 19.4 |       |
| Approach LOS           |      | A      |       |      | A    |      |      | A    |      |       | B    |       |



























| Intersection Summary                                              |        |                          |
|-------------------------------------------------------------------|--------|--------------------------|
| HCM Average Control Delay                                         | 10.1   | HCM Level of Service B   |
| HCM Volume to Capacity ratio                                      | 0.82   |                          |
| Actuated Cycle Length (s)                                         | 100.0  | Sum of lost time (s) 8.0 |
| Intersection Capacity Utilization                                 | 102.6% | ICU Level of Service G   |
| Analysis Period (min)                                             | 15     |                          |
| dr Defacto Right Lane. Recode with 1 though lane as a right lane. |        |                          |
| c Critical Lane Group                                             |        |                          |

# HCM Signalized Intersection Capacity Analysis

## 3: Harmony Road & NB Ramps

2035 Package B - PM Peak




























10/14/2010

|                                   |                                                                                    |                                                                                                                                                                      |  |  |                                                                                                                                                                                                                                                         |    |                                                                                       |  |  |  |  |  |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                                                                                                                 | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                                                                                                      | WBR                                                                                 | NBL                                                                                                                                                                     | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |   |    |                                                                                   |                                                                                   |     |  |   |  |  |                                                                                     |                                                                                     |                                                                                     |
| Volume (vph)                      | 1100                                                                                                                                                                | 1570                                                                                                                                                                                                                                                  | 0                                                                                 | 0                                                                                 | 1195                                                                                                                                                                                                                                                                                                                                     | 415                                                                                 | 1500                                                                                                                                                                    | 0                                                                                   | 1060                                                                                | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ideal Flow (vphpl)                | 1900                                                                                                                                                                | 1900                                                                                                                                                                                                                                                  | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                                                                                                                                                                                     | 1900                                                                                | 1900                                                                                                                                                                    | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               | 4.0                                                                                                                                                                 | 4.0                                                                                                                                                                                                                                                   |                                                                                   |                                                                                   | 4.0                                                                                                                                                                                                                                                                                                                                      | 4.0                                                                                 | 4.0                                                                                                                                                                     | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Lane Util. Factor                 | 0.97                                                                                                                                                                | 0.91                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 0.81                                                                                                                                                                                                                                                                                                                                     | 1.00                                                                                | 0.91                                                                                                                                                                    | 0.91                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Frt                               | 1.00                                                                                                                                                                | 1.00                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 1.00                                                                                                                                                                                                                                                                                                                                     | 0.85                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                | 0.85                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Flt Protected                     | 0.95                                                                                                                                                                | 1.00                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 1.00                                                                                                                                                                                                                                                                                                                                     | 1.00                                                                                | 0.95                                                                                                                                                                    | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (prot)                 | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 7544                                                                                                                                                                                                                                                                                                                                     | 1583                                                                                | 3221                                                                                                                                                                    | 1610                                                                                | 1583                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Flt Permitted                     | 0.95                                                                                                                                                                | 1.00                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 1.00                                                                                                                                                                                                                                                                                                                                     | 1.00                                                                                | 0.95                                                                                                                                                                    | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)                 | 3433                                                                                                                                                                | 5085                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 7544                                                                                                                                                                                                                                                                                                                                     | 1583                                                                                | 3221                                                                                                                                                                    | 1610                                                                                | 1583                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Peak-hour factor, PHF             | 0.92                                                                                                                                                                | 0.92                                                                                                                                                                                                                                                  | 0.92                                                                              | 0.92                                                                              | 0.92                                                                                                                                                                                                                                                                                                                                     | 0.92                                                                                | 0.92                                                                                                                                                                    | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Adj. Flow (vph)                   | 1196                                                                                                                                                                | 1707                                                                                                                                                                                                                                                  | 0                                                                                 | 0                                                                                 | 1299                                                                                                                                                                                                                                                                                                                                     | 451                                                                                 | 1630                                                                                                                                                                    | 0                                                                                   | 1152                                                                                | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| RTOR Reduction (vph)              | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                                                                                                        | 365                                                                                 | 0                                                                                                                                                                       | 0                                                                                   | 2                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 1196                                                                                                                                                                | 1707                                                                                                                                                                                                                                                  | 0                                                                                 | 0                                                                                 | 1299                                                                                                                                                                                                                                                                                                                                     | 86                                                                                  | 1092                                                                                                                                                                    | 538                                                                                 | 1150                                                                                | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Turn Type                         | Prot                                                                                                                                                                |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                                                                                                          | Perm                                                                                |                                                                                                                                                                         | Perm                                                                                | Perm                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Protected Phases                  | 5                                                                                                                                                                   | 5 6                                                                                                                                                                                                                                                   |                                                                                   |                                                                                   | 6                                                                                                                                                                                                                                                                                                                                        |                                                                                     |                                                                                                                                                                         | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Permitted Phases                  |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                                                                                                          | 6                                                                                   | 8                                                                                                                                                                       |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Actuated Green, G (s)             | 19.0                                                                                                                                                                | 41.0                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 17.0                                                                                                                                                                                                                                                                                                                                     | 17.0                                                                                | 48.0                                                                                                                                                                    | 48.0                                                                                | 48.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Effective Green, g (s)            | 20.0                                                                                                                                                                | 42.0                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 19.0                                                                                                                                                                                                                                                                                                                                     | 19.0                                                                                | 49.0                                                                                                                                                                    | 49.0                                                                                | 49.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Actuated g/C Ratio                | 0.20                                                                                                                                                                | 0.42                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 0.19                                                                                                                                                                                                                                                                                                                                     | 0.19                                                                                | 0.49                                                                                                                                                                    | 0.49                                                                                | 0.49                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Clearance Time (s)                | 5.0                                                                                                                                                                 |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   | 6.0                                                                                                                                                                                                                                                                                                                                      | 6.0                                                                                 | 5.0                                                                                                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                                                                                                                 |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   | 3.0                                                                                                                                                                                                                                                                                                                                      | 3.0                                                                                 | 3.0                                                                                                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Lane Grp Cap (vph)                | 687                                                                                                                                                                 | 2136                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 1433                                                                                                                                                                                                                                                                                                                                     | 301                                                                                 | 1578                                                                                                                                                                    | 789                                                                                 | 776                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Prot                    | c0.35                                                                                                                                                               | 0.34                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | c0.17                                                                                                                                                                                                                                                                                                                                    |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                                                                                                          | 0.05                                                                                | 0.34                                                                                                                                                                    | 0.33                                                                                | c0.73                                                                               |                                                                                     |                                                                                     |                                                                                     |
| v/c Ratio                         | 1.74                                                                                                                                                                | 0.80                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 0.91                                                                                                                                                                                                                                                                                                                                     | 0.28                                                                                | 0.69                                                                                                                                                                    | 0.68                                                                                | 1.48                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Uniform Delay, d1                 | 40.0                                                                                                                                                                | 25.3                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 39.6                                                                                                                                                                                                                                                                                                                                     | 34.7                                                                                | 19.7                                                                                                                                                                    | 19.5                                                                                | 25.5                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Progression Factor                | 0.67                                                                                                                                                                | 0.87                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 0.83                                                                                                                                                                                                                                                                                                                                     | 2.11                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Incremental Delay, d2             | 336.0                                                                                                                                                               | 1.1                                                                                                                                                                                                                                                   |                                                                                   |                                                                                   | 9.2                                                                                                                                                                                                                                                                                                                                      | 2.2                                                                                 | 1.3                                                                                                                                                                     | 2.4                                                                                 | 223.8                                                                               |                                                                                     |                                                                                     |                                                                                     |
| Delay (s)                         | 362.9                                                                                                                                                               | 23.2                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 42.2                                                                                                                                                                                                                                                                                                                                     | 75.2                                                                                | 21.0                                                                                                                                                                    | 22.0                                                                                | 249.3                                                                               |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  | F                                                                                                                                                                   | C                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | D                                                                                                                                                                                                                                                                                                                                        | E                                                                                   | C                                                                                                                                                                       | C                                                                                   | F                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                |                                                                                                                                                                     | 163.1                                                                                                                                                                                                                                                 |                                                                                   |                                                                                   | 50.7                                                                                                                                                                                                                                                                                                                                     |                                                                                     |                                                                                                                                                                         | 115.7                                                                               |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                                                                                                     | F                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | D                                                                                                                                                                                                                                                                                                                                        |                                                                                     |                                                                                                                                                                         | F                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                                                                                                          |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM Average Control Delay         |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 118.9                                                                             |                                                                                   |                                                                                                                                                                                                                                                                                                                                          | HCM Level of Service                                                                |                                                                                                                                                                         |                                                                                     | F                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| HCM Volume to Capacity ratio      |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 1.42                                                                              |                                                                                   |                                                                                                                                                                                                                                                                                                                                          |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 100.0                                                                             |                                                                                   |                                                                                                                                                                                                                                                                                                                                          | Sum of lost time (s)                                                                |                                                                                                                                                                         |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 102.6%                                                                            |                                                                                   |                                                                                                                                                                                                                                                                                                                                          | ICU Level of Service                                                                |                                                                                                                                                                         |                                                                                     | G                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 15                                                                                |                                                                                   |                                                                                                                                                                                                                                                                                                                                          |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c                                 | Critical Lane Group                                                                                                                                                 |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                                                                                                          |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

HCM Signalized Intersection Capacity Analysis  
1: Harmony Road & West Frontage Road

2035 Package B - PM Peak

11/1/2010

|                                   |  |                                                                                                                                                                            |  |  |                                                                                                                                                                            |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                                                                                                                                                                                                         | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                         | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  | <br><br> |  |  | <br><br> |                                                                                   |  |  |  |  |  |  |
| Volume (vph)                      | 30                                                                                | 3345                                                                                                                                                                                                                                                        | 55                                                                                | 70                                                                                | 3065                                                                                                                                                                                                                                                        | 55                                                                                | 35                                                                                  | 15                                                                                  | 135                                                                                 | 120                                                                                 | 30                                                                                  | 150                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                                                                                                                                                                                                        | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                                                                                                        | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                         | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                                                                                                                                                                                         |                                                                                   | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 0.91                                                                                                                                                                                                                                                        | 1.00                                                                              | 1.00                                                                              | 0.86                                                                                                                                                                                                                                                        |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                        | 0.85                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                        |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                                                                                                                                                                                                        | 1.00                                                                              | 0.95                                                                              | 1.00                                                                                                                                                                                                                                                        |                                                                                   | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1770                                                                              | 5085                                                                                                                                                                                                                                                        | 1583                                                                              | 1770                                                                              | 6391                                                                                                                                                                                                                                                        |                                                                                   | 1770                                                                                | 1863                                                                                | 1583                                                                                | 1770                                                                                | 1863                                                                                | 1583                                                                                |
| Flt Permitted                     | 0.07                                                                              | 1.00                                                                                                                                                                                                                                                        | 1.00                                                                              | 0.06                                                                              | 1.00                                                                                                                                                                                                                                                        |                                                                                   | 0.74                                                                                | 1.00                                                                                | 1.00                                                                                | 0.54                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 121                                                                               | 5085                                                                                                                                                                                                                                                        | 1583                                                                              | 118                                                                               | 6391                                                                                                                                                                                                                                                        |                                                                                   | 1370                                                                                | 1863                                                                                | 1583                                                                                | 1008                                                                                | 1863                                                                                | 1583                                                                                |
| Peak-hour factor, PHF             | 0.92                                                                              | 0.92                                                                                                                                                                                                                                                        | 0.92                                                                              | 0.92                                                                              | 0.92                                                                                                                                                                                                                                                        | 0.92                                                                              | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Adj. Flow (vph)                   | 33                                                                                | 3636                                                                                                                                                                                                                                                        | 60                                                                                | 76                                                                                | 3332                                                                                                                                                                                                                                                        | 60                                                                                | 38                                                                                  | 16                                                                                  | 147                                                                                 | 130                                                                                 | 33                                                                                  | 163                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                                                                                                                                                                                           | 13                                                                                | 0                                                                                 | 2                                                                                                                                                                                                                                                           | 0                                                                                 | 0                                                                                   | 0                                                                                   | 85                                                                                  | 0                                                                                   | 0                                                                                   | 60                                                                                  |
| Lane Group Flow (vph)             | 33                                                                                | 3636                                                                                                                                                                                                                                                        | 47                                                                                | 76                                                                                | 3390                                                                                                                                                                                                                                                        | 0                                                                                 | 38                                                                                  | 16                                                                                  | 62                                                                                  | 130                                                                                 | 33                                                                                  | 103                                                                                 |
| Turn Type                         | pm+pt                                                                             |                                                                                                                                                                                                                                                             | Perm                                                                              | pm+pt                                                                             |                                                                                                                                                                                                                                                             |                                                                                   | Perm                                                                                |                                                                                     | Perm                                                                                | pm+pt                                                                               |                                                                                     | Perm                                                                                |
| Protected Phases                  | 5                                                                                 | 2                                                                                                                                                                                                                                                           |                                                                                   | 1                                                                                 | 6                                                                                                                                                                                                                                                           |                                                                                   |                                                                                     | 8                                                                                   |                                                                                     | 7                                                                                   |                                                                                     | 4                                                                                   |
| Permitted Phases                  | 2                                                                                 |                                                                                                                                                                                                                                                             | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                             |                                                                                   | 8                                                                                   |                                                                                     | 8                                                                                   | 4                                                                                   |                                                                                     | 4                                                                                   |
| Actuated Green, G (s)             | 63.9                                                                              | 60.4                                                                                                                                                                                                                                                        | 60.4                                                                              | 67.1                                                                              | 62.0                                                                                                                                                                                                                                                        |                                                                                   | 9.5                                                                                 | 9.5                                                                                 | 9.5                                                                                 | 18.5                                                                                | 18.5                                                                                | 18.5                                                                                |
| Effective Green, g (s)            | 65.9                                                                              | 62.4                                                                                                                                                                                                                                                        | 62.4                                                                              | 69.1                                                                              | 64.0                                                                                                                                                                                                                                                        |                                                                                   | 10.5                                                                                | 10.5                                                                                | 10.5                                                                                | 19.5                                                                                | 19.5                                                                                | 19.5                                                                                |
| Actuated g/C Ratio                | 0.66                                                                              | 0.62                                                                                                                                                                                                                                                        | 0.62                                                                              | 0.69                                                                              | 0.64                                                                                                                                                                                                                                                        |                                                                                   | 0.10                                                                                | 0.10                                                                                | 0.10                                                                                | 0.20                                                                                | 0.20                                                                                | 0.20                                                                                |
| Clearance Time (s)                | 5.0                                                                               | 6.0                                                                                                                                                                                                                                                         | 6.0                                                                               | 5.0                                                                               | 6.0                                                                                                                                                                                                                                                         |                                                                                   | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                                                                                                                                                                                                         | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                                                                                                                                                                                         |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 154                                                                               | 3173                                                                                                                                                                                                                                                        | 988                                                                               | 182                                                                               | 4090                                                                                                                                                                                                                                                        |                                                                                   | 144                                                                                 | 196                                                                                 | 166                                                                                 | 235                                                                                 | 363                                                                                 | 309                                                                                 |
| v/s Ratio Prot                    | 0.01                                                                              | c0.72                                                                                                                                                                                                                                                       |                                                                                   | c0.03                                                                             | 0.53                                                                                                                                                                                                                                                        |                                                                                   |                                                                                     | 0.01                                                                                |                                                                                     | c0.03                                                                               | 0.02                                                                                |                                                                                     |
| v/s Ratio Perm                    | 0.13                                                                              |                                                                                                                                                                                                                                                             | 0.03                                                                              | 0.26                                                                              |                                                                                                                                                                                                                                                             |                                                                                   | 0.03                                                                                |                                                                                     | 0.04                                                                                | c0.08                                                                               |                                                                                     | 0.07                                                                                |
| v/c Ratio                         | 0.21                                                                              | 1.15                                                                                                                                                                                                                                                        | 0.05                                                                              | 0.42                                                                              | 0.83                                                                                                                                                                                                                                                        |                                                                                   | 0.26                                                                                | 0.08                                                                                | 0.37                                                                                | 0.55                                                                                | 0.09                                                                                | 0.33                                                                                |
| Uniform Delay, d1                 | 14.0                                                                              | 18.8                                                                                                                                                                                                                                                        | 7.3                                                                               | 23.1                                                                              | 13.8                                                                                                                                                                                                                                                        |                                                                                   | 41.2                                                                                | 40.4                                                                                | 41.7                                                                                | 35.9                                                                                | 33.0                                                                                | 34.7                                                                                |
| Progression Factor                | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                        | 1.00                                                                              | 1.42                                                                              | 0.62                                                                                                                                                                                                                                                        |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 0.7                                                                               | 69.9                                                                                                                                                                                                                                                        | 0.1                                                                               | 1.2                                                                               | 1.6                                                                                                                                                                                                                                                         |                                                                                   | 1.0                                                                                 | 0.2                                                                                 | 1.4                                                                                 | 2.8                                                                                 | 0.1                                                                                 | 0.6                                                                                 |
| Delay (s)                         | 14.7                                                                              | 88.7                                                                                                                                                                                                                                                        | 7.4                                                                               | 34.0                                                                              | 10.1                                                                                                                                                                                                                                                        |                                                                                   | 42.2                                                                                | 40.6                                                                                | 43.1                                                                                | 38.7                                                                                | 33.1                                                                                | 35.3                                                                                |
| Level of Service                  | B                                                                                 | F                                                                                                                                                                                                                                                           | A                                                                                 | C                                                                                 | B                                                                                                                                                                                                                                                           |                                                                                   | D                                                                                   | D                                                                                   | D                                                                                   | D                                                                                   | C                                                                                   | D                                                                                   |
| Approach Delay (s)                |                                                                                   | 86.7                                                                                                                                                                                                                                                        |                                                                                   |                                                                                   | 10.6                                                                                                                                                                                                                                                        |                                                                                   |                                                                                     | 42.7                                                                                |                                                                                     |                                                                                     | 36.4                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | F                                                                                                                                                                                                                                                           |                                                                                   |                                                                                   | B                                                                                                                                                                                                                                                           |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                                                                                                                                                                                             |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                             |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM Average Control Delay         |                                                                                   |                                                                                                                                                                                                                                                             | 49.3                                                                              |                                                                                   |                                                                                                                                                                                                                                                             | HCM Level of Service                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| HCM Volume to Capacity ratio      |                                                                                   |                                                                                                                                                                                                                                                             | 1.01                                                                              |                                                                                   |                                                                                                                                                                                                                                                             |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                                                                                                                                                                                             | 100.0                                                                             |                                                                                   |                                                                                                                                                                                                                                                             | Sum of lost time (s)                                                              |                                                                                     |                                                                                     |                                                                                     | 16.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                                                                                                                                                                                             | 89.6%                                                                             |                                                                                   |                                                                                                                                                                                                                                                             | ICU Level of Service                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                                                                                                                                                                                             | 15                                                                                |                                                                                   |                                                                                                                                                                                                                                                             |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                                                                                                                                                                                             |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                             |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## **Harmony Preferred Alternative PM Traffic**

Lanes, Volumes, Timings  
1: Harmony Road & West Frontage Road

5/27/2010



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Volume (vph)               | 40    | 3585  | 80    | 90    | 4075  | 45    | 55    | 20    | 210   | 110   | 30    | 135   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Storage Length (ft)        | 200   |       | 200   | 150   |       | 0     | 200   |       | 100   | 200   |       | 100   |
| Storage Lanes              | 1     |       | 1     | 1     |       | 0     | 1     |       | 1     | 1     |       | 1     |
| Taper Length (ft)          | 25    |       | 25    | 25    |       | 25    | 25    |       | 25    | 25    |       | 25    |
| Lane Util. Factor          | 1.00  | 0.91  | 1.00  | 1.00  | 0.86  | 0.86  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       |       | 0.850 |       | 0.998 |       |       |       | 0.850 |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1770  | 5085  | 1583  | 1770  | 6395  | 0     | 1770  | 1863  | 1583  | 1770  | 1863  | 1583  |
| Flt Permitted              | 0.072 |       |       | 0.071 |       |       | 0.736 |       |       | 0.577 |       |       |
| Satd. Flow (perm)          | 134   | 5085  | 1583  | 132   | 6395  | 0     | 1371  | 1863  | 1583  | 1075  | 1863  | 1583  |
| Right Turn on Red          |       |       | Yes   |       |       | Yes   |       |       | Yes   |       |       | Yes   |
| Satd. Flow (RTOR)          |       |       | 46    |       | 3     |       |       |       | 90    |       |       | 82    |
| Link Speed (mph)           |       | 40    |       |       | 40    |       |       | 30    |       |       |       | 30    |
| Link Distance (ft)         |       | 392   |       |       | 549   |       |       | 374   |       |       |       | 372   |
| Travel Time (s)            |       | 6.7   |       |       | 9.4   |       |       | 8.5   |       |       |       | 8.5   |
| Peak Hour Factor           | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  |
| Adj. Flow (vph)            | 43    | 3855  | 86    | 97    | 4382  | 48    | 59    | 22    | 226   | 118   | 32    | 145   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 43    | 3855  | 86    | 97    | 4430  | 0     | 59    | 22    | 226   | 118   | 32    | 145   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | L NA  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 24    |       |       | 24    |       |       | 12    |       |       |       | 12    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Number of Detectors        | 1     | 1     | 1     | 1     | 1     |       | 1     | 1     | 1     | 1     | 1     | 1     |
| Detector Template          |       |       |       |       |       |       |       |       |       |       |       |       |
| Leading Detector (ft)      | 50    | 50    | 50    | 50    | 50    |       | 50    | 50    | 50    | 50    | 50    | 50    |
| Trailing Detector (ft)     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     | 0     | 0     | 0     | 0     |
| Detector 1 Position(ft)    | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     | 0     | 0     | 0     | 0     |
| Detector 1 Size(ft)        | 50    | 50    | 50    | 50    | 50    |       | 50    | 50    | 50    | 50    | 50    | 50    |
| Detector 1 Type            | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |       | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel         |       |       |       |       |       |       |       |       |       |       |       |       |
| Detector 1 Extend (s)      | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Detector 1 Queue (s)       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Detector 1 Delay (s)       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Turn Type                  | pm+pt |       | Perm  | pm+pt |       |       | Perm  |       | Perm  | pm+pt |       | Perm  |
| Protected Phases           | 5     | 2     |       | 1     | 6     |       |       | 8     |       | 7     |       | 4     |
| Permitted Phases           | 2     |       | 2     | 6     |       |       | 8     |       | 8     | 4     |       | 4     |
| Detector Phase             | 5     | 2     | 2     | 1     | 6     |       | 8     | 8     | 8     | 7     | 4     | 4     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   |       | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   |
| Minimum Split (s)          | 9.0   | 22.0  | 22.0  | 9.0   | 22.0  |       | 21.0  | 21.0  | 21.0  | 9.0   | 21.0  | 21.0  |
| Total Split (s)            | 9.0   | 61.0  | 61.0  | 9.0   | 61.0  | 0.0   | 21.0  | 21.0  | 21.0  | 9.0   | 30.0  | 30.0  |
| Total Split (%)            | 9.0%  | 61.0% | 61.0% | 9.0%  | 61.0% | 0.0%  | 21.0% | 21.0% | 21.0% | 9.0%  | 30.0% | 30.0% |

Lanes, Volumes, Timings  
 1: Harmony Road & West Frontage Road

5/27/2010



| Lane Group              | EBL  | EBT   | EBR   | WBL  | WBT   | WBR | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|-------------------------|------|-------|-------|------|-------|-----|------|------|------|------|------|------|
| Maximum Green (s)       | 4.0  | 55.0  | 55.0  | 4.0  | 55.0  |     | 16.0 | 16.0 | 16.0 | 4.0  | 25.0 | 25.0 |
| Yellow Time (s)         | 3.0  | 4.0   | 4.0   | 3.0  | 4.0   |     | 3.0  | 3.0  | 3.0  | 3.0  | 3.0  | 3.0  |
| All-Red Time (s)        | 2.0  | 2.0   | 2.0   | 2.0  | 2.0   |     | 2.0  | 2.0  | 2.0  | 2.0  | 2.0  | 2.0  |
| Lost Time Adjust (s)    | -1.0 | -2.0  | -2.0  | -1.0 | -2.0  | 0.0 | -1.0 | -1.0 | -1.0 | -1.0 | -1.0 | -1.0 |
| Total Lost Time (s)     | 4.0  | 4.0   | 4.0   | 4.0  | 4.0   | 4.0 | 4.0  | 4.0  | 4.0  | 4.0  | 4.0  | 4.0  |
| Lead/Lag                | Lead | Lead  | Lead  | Lag  | Lag   |     | Lag  | Lag  | Lag  | Lead |      |      |
| Lead-Lag Optimize?      | Yes  | Yes   | Yes   | Yes  | Yes   |     | Yes  | Yes  | Yes  | Yes  |      |      |
| Vehicle Extension (s)   | 3.0  | 3.0   | 3.0   | 3.0  | 3.0   |     | 3.0  | 3.0  | 3.0  | 3.0  | 3.0  | 3.0  |
| Recall Mode             | None | C-Max | C-Max | None | C-Max |     | None | None | None | None | None | None |
| Walk Time (s)           |      | 5.0   | 5.0   |      | 5.0   |     | 5.0  | 5.0  | 5.0  |      | 5.0  | 5.0  |
| Flash Dont Walk (s)     |      | 11.0  | 11.0  |      | 11.0  |     | 11.0 | 11.0 | 11.0 |      | 11.0 | 11.0 |
| Pedestrian Calls (#/hr) |      | 0     | 0     |      | 0     |     | 0    | 0    | 0    |      | 0    | 0    |
| Act Effect Green (s)    | 61.9 | 61.9  | 61.9  | 63.4 | 63.4  |     | 13.9 | 13.9 | 13.9 | 22.9 | 22.9 | 22.9 |
| Actuated g/C Ratio      | 0.62 | 0.62  | 0.62  | 0.63 | 0.63  |     | 0.14 | 0.14 | 0.14 | 0.23 | 0.23 | 0.23 |
| v/c Ratio               | 0.24 | 1.22  | 0.09  | 0.59 | 1.09  |     | 0.31 | 0.08 | 0.76 | 0.42 | 0.08 | 0.34 |
| Control Delay           | 12.3 | 125.9 | 5.3   | 27.7 | 57.7  |     | 41.7 | 36.4 | 41.0 | 35.9 | 29.1 | 16.5 |
| Queue Delay             | 0.0  | 0.0   | 0.0   | 0.0  | 0.2   |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 12.3 | 125.9 | 5.3   | 27.7 | 57.9  |     | 41.7 | 36.4 | 41.0 | 35.9 | 29.1 | 16.5 |
| LOS                     | B    | F     | A     | C    | E     |     | D    | D    | D    | D    | C    | B    |
| Approach Delay          |      | 122.1 |       |      | 57.3  |     |      | 40.8 |      |      | 25.6 |      |
| Approach LOS            |      | F     |       |      | E     |     |      | D    |      |      | C    |      |

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 13 (13%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.22  
 Intersection Signal Delay: 84.0  
 Intersection LOS: F  
 Intersection Capacity Utilization 98.4%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 1: Harmony Road & West Frontage Road





# Lanes, Volumes, Timings

## 2: Harmony Road & SB Ramps

5/27/2010



| Lane Group                 | EBL  | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT  | NBR   | SBL   | SBT   | SBR   |
|----------------------------|------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|
| Lane Configurations        |      | ↑↑↑↑  | ↗     | ↘↘    | ↑↑↑   |       |      |      |       | ↖     | ↗     | ↗     |
| Volume (vph)               | 0    | 2000  | 1800  | 285   | 2920  | 0     | 0    | 0    | 0     | 385   | 0     | 1290  |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 | 1900 | 1900  | 1900  | 1900  | 1900  |
| Storage Length (ft)        | 400  |       | 0     | 600   |       | 0     | 0    |      | 0     | 400   |       | 0     |
| Storage Lanes              | 2    |       | 1     | 0     |       | 0     | 0    |      | 0     | 1     |       | 0     |
| Taper Length (ft)          | 25   |       | 25    | 25    |       | 25    | 25   |      | 25    | 25    |       | 25    |
| Lane Util. Factor          | 1.00 | 0.76  | 0.76  | 0.97  | 0.91  | 1.00  | 1.00 | 1.00 | 1.00  | 0.95  | 0.95  | 1.00  |
| Fr <sub>t</sub>            |      | 0.954 | 0.850 |       |       |       |      |      |       |       |       | 0.850 |
| Fl <sub>t</sub> Protected  |      |       |       | 0.950 |       |       |      |      |       | 0.950 | 0.950 |       |
| Satd. Flow (prot)          | 0    | 6753  | 1203  | 3433  | 5085  | 0     | 0    | 0    | 0     | 1681  | 1681  | 1583  |
| Fl <sub>t</sub> Permitted  |      |       |       | 0.950 |       |       |      |      |       | 0.950 | 0.950 |       |
| Satd. Flow (perm)          | 0    | 6753  | 1203  | 3433  | 5085  | 0     | 0    | 0    | 0     | 1681  | 1681  | 1583  |
| Right Turn on Red          |      |       | Yes   |       |       | Yes   |      |      | Yes   |       |       | Yes   |
| Satd. Flow (RTOR)          |      | 178   | 863   |       |       |       |      |      |       |       |       | 236   |
| Link Speed (mph)           |      | 40    |       |       | 40    |       |      | 50   |       |       |       | 50    |
| Link Distance (ft)         |      | 549   |       |       | 662   |       |      | 639  |       |       |       | 1508  |
| Travel Time (s)            |      | 9.4   |       |       | 11.3  |       |      | 8.7  |       |       |       | 20.6  |
| Peak Hour Factor           | 0.93 | 0.93  | 0.96  | 0.96  | 0.93  | 0.93  | 0.93 | 0.93 | 0.93  | 0.96  | 0.96  | 0.96  |
| Adj. Flow (vph)            | 0    | 2151  | 1875  | 297   | 3140  | 0     | 0    | 0    | 0     | 401   | 0     | 1344  |
| Shared Lane Traffic (%)    |      |       | 50%   |       |       |       |      |      |       | 50%   |       |       |
| Lane Group Flow (vph)      | 0    | 3089  | 937   | 297   | 3140  | 0     | 0    | 0    | 0     | 200   | 201   | 1344  |
| Enter Blocked Intersection | No   | No    | No    | No    | No    | No    | No   | No   | No    | No    | No    | No    |
| Lane Alignment             | Left | Left  | Right | L NA  | L NA  | Right | Left | Left | Right | Right | L NA  | Right |
| Median Width(ft)           |      | 24    |       |       | 24    |       |      | 12   |       |       |       | 12    |
| Link Offset(ft)            |      | 0     |       |       | 0     |       |      | 0    |       |       |       | 0     |
| Crosswalk Width(ft)        |      | 16    |       |       | 16    |       |      | 16   |       |       |       | 16    |
| Two way Left Turn Lane     |      |       |       |       |       |       |      |      |       |       |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15   |       | 20    | 15    |       | 9     | 15   |      | 9     | 15    |       | 20    |
| Number of Detectors        |      | 1     | 1     | 1     | 1     |       |      |      |       | 1     | 1     | 1     |
| Detector Template          |      |       |       |       |       |       |      |      |       |       |       |       |
| Leading Detector (ft)      |      | 50    | 50    | 50    | 50    |       |      |      |       | 50    | 50    | 50    |
| Trailing Detector (ft)     |      | 0     | 0     | 0     | 0     |       |      |      |       | 0     | 0     | 0     |
| Detector 1 Position(ft)    |      | 0     | 0     | 0     | 0     |       |      |      |       | 0     | 0     | 0     |
| Detector 1 Size(ft)        |      | 50    | 50    | 50    | 50    |       |      |      |       | 50    | 50    | 50    |
| Detector 1 Type            |      | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |       |      |      |       | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel         |      |       |       |       |       |       |      |      |       |       |       |       |
| Detector 1 Extend (s)      |      | 0.0   | 0.0   | 0.0   | 0.0   |       |      |      |       | 0.0   | 0.0   | 0.0   |
| Detector 1 Queue (s)       |      | 0.0   | 0.0   | 0.0   | 0.0   |       |      |      |       | 0.0   | 0.0   | 0.0   |
| Detector 1 Delay (s)       |      | 0.0   | 0.0   | 0.0   | 0.0   |       |      |      |       | 0.0   | 0.0   | 0.0   |
| Turn Type                  |      |       | Free  | Prot  |       |       |      |      |       | Perm  |       | Free  |
| Protected Phases           |      | 2     |       | 1     | 2 1   |       |      |      |       |       |       | 4     |
| Permitted Phases           |      |       | Free  |       |       |       |      |      |       | 4     |       | Free  |
| Detector Phase             |      | 2     |       | 1     | 2 1   |       |      |      |       | 4     | 4     |       |
| Switch Phase               |      |       |       |       |       |       |      |      |       |       |       |       |
| Minimum Initial (s)        |      | 4.0   |       | 4.0   |       |       |      |      |       | 4.0   | 4.0   |       |
| Minimum Split (s)          |      | 22.0  |       | 9.0   |       |       |      |      |       | 22.0  | 22.0  |       |
| Total Split (s)            | 0.0  | 60.0  | 0.0   | 17.0  | 77.0  | 0.0   | 0.0  | 0.0  | 0.0   | 23.0  | 23.0  | 0.0   |
| Total Split (%)            | 0.0% | 60.0% | 0.0%  | 17.0% | 77.0% | 0.0%  | 0.0% | 0.0% | 0.0%  | 23.0% | 23.0% | 0.0%  |

# Lanes, Volumes, Timings

## 2: Harmony Road & SB Ramps

5/27/2010



| Lane Group              | EBL | EBT    | EBR   | WBL  | WBT  | WBR | NBL | NBT | NBR | SBL  | SBT  | SBR   |
|-------------------------|-----|--------|-------|------|------|-----|-----|-----|-----|------|------|-------|
| Maximum Green (s)       |     | 54.0   |       | 12.0 |      |     |     |     |     | 18.0 | 18.0 |       |
| Yellow Time (s)         |     | 4.0    |       | 3.0  |      |     |     |     |     | 3.0  | 3.0  |       |
| All-Red Time (s)        |     | 2.0    |       | 2.0  |      |     |     |     |     | 2.0  | 2.0  |       |
| Lost Time Adjust (s)    | 0.0 | -2.0   | 0.0   | -1.0 | -2.0 | 0.0 | 0.0 | 0.0 | 0.0 | -1.0 | -1.0 | 0.0   |
| Total Lost Time (s)     | 4.0 | 4.0    | 4.0   | 4.0  | 4.0  | 4.0 | 4.0 | 4.0 | 4.0 | 4.0  | 4.0  | 4.0   |
| Lead/Lag                |     | Lag    |       | Lead |      |     |     |     |     |      |      |       |
| Lead-Lag Optimize?      |     | Yes    |       | Yes  |      |     |     |     |     |      |      |       |
| Vehicle Extension (s)   |     | 3.0    |       | 3.0  |      |     |     |     |     | 3.0  | 3.0  |       |
| Recall Mode             |     | C-Max  |       | None |      |     |     |     |     | None | None |       |
| Walk Time (s)           |     | 5.0    |       |      |      |     |     |     |     | 5.0  | 5.0  |       |
| Flash Dont Walk (s)     |     | 11.0   |       |      |      |     |     |     |     | 11.0 | 11.0 |       |
| Pedestrian Calls (#/hr) |     | 0      |       |      |      |     |     |     |     | 0    | 0    |       |
| Act Effect Green (s)    |     | 56.0   | 100.0 | 15.3 | 75.3 |     |     |     |     | 16.7 | 16.7 | 100.0 |
| Actuated g/C Ratio      |     | 0.56   | 1.00  | 0.15 | 0.75 |     |     |     |     | 0.17 | 0.17 | 1.00  |
| v/c Ratio               |     | 1.02dr | 0.78  | 0.56 | 0.82 |     |     |     |     | 0.71 | 0.72 | 0.85  |
| Control Delay           |     | 3.0    | 8.5   | 29.8 | 1.7  |     |     |     |     | 53.7 | 53.9 | 6.3   |
| Queue Delay             |     | 0.3    | 0.0   | 0.0  | 1.8  |     |     |     |     | 0.0  | 0.0  | 0.0   |
| Total Delay             |     | 3.4    | 8.5   | 29.8 | 3.5  |     |     |     |     | 53.7 | 53.9 | 6.3   |
| LOS                     |     | A      | A     | C    | A    |     |     |     |     | D    | D    | A     |
| Approach Delay          |     | 4.6    |       |      | 5.8  |     |     |     |     |      | 17.2 |       |
| Approach LOS            |     | A      |       |      | A    |     |     |     |     |      | B    |       |

### Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 22 (22%), Referenced to phase 2:EBWB, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 7.4  
 Intersection Capacity Utilization 101.4%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service G  
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 2: Harmony Road & SB Ramps



Lanes, Volumes, Timings  
3: Harmony Road & NB Ramps

5/27/2010



| Lane Group                 | EBL   | EBT   | EBR   | WBL  | WBT   | WBR   | NBL   | NBT   | NBR   | SBL  | SBT  | SBR   |
|----------------------------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|------|-------|
| Lane Configurations        |       |       |       |      |       |       |       |       |       |      |      |       |
| Volume (vph)               | 1165  | 1220  | 0     | 0    | 1120  | 350   | 2085  | 0     | 620   | 0    | 0    | 0     |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 | 1900 | 1900  |
| Storage Length (ft)        | 600   |       | 0     | 200  |       | 0     | 650   |       | 400   | 0    |      | 0     |
| Storage Lanes              | 0     |       | 0     | 2    |       | 1     | 1     |       | 1     | 0    |      | 0     |
| Taper Length (ft)          | 25    |       | 25    | 25   |       | 25    | 25    |       | 25    | 25   |      | 25    |
| Lane Util. Factor          | 0.97  | 0.91  | 1.00  | 1.00 | 0.81  | 1.00  | 0.91  | 0.91  | 1.00  | 1.00 | 1.00 | 1.00  |
| Fr                         |       |       |       |      |       | 0.850 |       |       | 0.850 |      |      |       |
| Flt Protected              | 0.950 |       |       |      |       |       | 0.950 | 0.950 |       |      |      |       |
| Satd. Flow (prot)          | 3433  | 5085  | 0     | 0    | 7544  | 1583  | 3221  | 1610  | 1583  | 0    | 0    | 0     |
| Flt Permitted              | 0.950 |       |       |      |       |       | 0.950 | 0.950 |       |      |      |       |
| Satd. Flow (perm)          | 3433  | 5085  | 0     | 0    | 7544  | 1583  | 3221  | 1610  | 1583  | 0    | 0    | 0     |
| Right Turn on Red          |       |       | Yes   |      |       | Yes   |       |       | Yes   |      |      | Yes   |
| Satd. Flow (RTOR)          |       |       |       |      |       | 365   |       |       | 34    |      |      |       |
| Link Speed (mph)           |       | 40    |       |      | 40    |       |       | 50    |       |      |      | 50    |
| Link Distance (ft)         |       | 662   |       |      | 903   |       |       | 988   |       |      |      | 1510  |
| Travel Time (s)            |       | 11.3  |       |      | 15.4  |       |       | 13.5  |       |      |      | 20.6  |
| Peak Hour Factor           | 0.96  | 0.93  | 0.93  | 0.93 | 0.93  | 0.96  | 0.96  | 0.96  | 0.96  | 0.93 | 0.93 | 0.93  |
| Adj. Flow (vph)            | 1214  | 1312  | 0     | 0    | 1204  | 365   | 2172  | 0     | 646   | 0    | 0    | 0     |
| Shared Lane Traffic (%)    |       |       |       |      |       |       | 33%   |       |       |      |      |       |
| Lane Group Flow (vph)      | 1214  | 1312  | 0     | 0    | 1204  | 365   | 1455  | 717   | 646   | 0    | 0    | 0     |
| Enter Blocked Intersection | No    | No    | No    | No   | No    | No    | No    | No    | No    | No   | No   | No    |
| Lane Alignment             | Left  | Left  | Right | Left | Left  | Right | Right | L NA  | Right | Left | Left | Right |
| Median Width(ft)           |       | 24    |       |      | 24    |       |       | 24    |       |      |      | 24    |
| Link Offset(ft)            |       | 0     |       |      | 0     |       |       | 0     |       |      |      | 0     |
| Crosswalk Width(ft)        |       | 16    |       |      | 16    |       |       | 16    |       |      |      | 16    |
| Two way Left Turn Lane     |       |       |       |      |       |       |       |       |       |      |      |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        | 15    |       | 9     | 15   |       | 9     | 15    |       | 9     | 15   |      | 9     |
| Number of Detectors        | 1     | 1     |       |      | 1     | 1     | 1     | 1     | 1     |      |      |       |
| Detector Template          |       |       |       |      |       |       |       |       |       |      |      |       |
| Leading Detector (ft)      | 50    | 50    |       |      | 50    | 50    | 50    | 50    | 50    |      |      |       |
| Trailing Detector (ft)     | 0     | 0     |       |      | 0     | 0     | 0     | 0     | 0     |      |      |       |
| Detector 1 Position(ft)    | 0     | 0     |       |      | 0     | 0     | 0     | 0     | 0     |      |      |       |
| Detector 1 Size(ft)        | 50    | 50    |       |      | 50    | 50    | 50    | 50    | 50    |      |      |       |
| Detector 1 Type            | Cl+Ex | Cl+Ex |       |      | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |      |      |       |
| Detector 1 Channel         |       |       |       |      |       |       |       |       |       |      |      |       |
| Detector 1 Extend (s)      | 0.0   | 0.0   |       |      | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |      |       |
| Detector 1 Queue (s)       | 0.0   | 0.0   |       |      | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |      |       |
| Detector 1 Delay (s)       | 0.0   | 0.0   |       |      | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |      |       |
| Turn Type                  | Prot  |       |       |      |       | Perm  | Perm  |       | Perm  |      |      |       |
| Protected Phases           | 5     | 5 6   |       |      | 6     |       |       | 8     |       |      |      |       |
| Permitted Phases           |       |       |       |      |       | 6     | 8     |       | 8     |      |      |       |
| Detector Phase             | 5     | 5 6   |       |      | 6     | 6     | 8     | 8     | 8     |      |      |       |
| Switch Phase               |       |       |       |      |       |       |       |       |       |      |      |       |
| Minimum Initial (s)        | 4.0   |       |       |      | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   |      |      |       |
| Minimum Split (s)          | 9.0   |       |       |      | 22.0  | 22.0  | 31.0  | 31.0  | 31.0  |      |      |       |
| Total Split (s)            | 34.0  | 55.0  | 0.0   | 0.0  | 21.0  | 21.0  | 45.0  | 45.0  | 45.0  | 0.0  | 0.0  | 0.0   |
| Total Split (%)            | 34.0% | 55.0% | 0.0%  | 0.0% | 21.0% | 21.0% | 45.0% | 45.0% | 45.0% | 0.0% | 0.0% | 0.0%  |

# Lanes, Volumes, Timings

## 3: Harmony Road & NB Ramps

5/27/2010



| Lane Group              | EBL   | EBT  | EBR | WBL | WBT   | WBR  | NBL   | NBT  | NBR  | SBL | SBT  | SBR |      |
|-------------------------|-------|------|-----|-----|-------|------|-------|------|------|-----|------|-----|------|
| Maximum Green (s)       | 29.0  |      |     |     | 15.0  | 15.0 | 40.0  | 40.0 | 40.0 |     |      |     |      |
| Yellow Time (s)         | 3.0   |      |     |     | 4.0   | 4.0  | 3.0   | 3.0  | 3.0  |     |      |     |      |
| All-Red Time (s)        | 2.0   |      |     |     | 2.0   | 2.0  | 2.0   | 2.0  | 2.0  |     |      |     |      |
| Lost Time Adjust (s)    | -1.0  | -1.0 | 0.0 | 0.0 | -2.0  | -2.0 | -1.0  | -1.0 | -1.0 | 0.0 | 0.0  | 0.0 |      |
| Total Lost Time (s)     | 4.0   | 4.0  | 4.0 | 4.0 | 4.0   | 4.0  | 4.0   | 4.0  | 4.0  | 4.0 | 4.0  | 4.0 |      |
| Lead/Lag                | Lead  |      |     |     | Lag   |      |       |      | Lag  |     |      |     |      |
| Lead-Lag Optimize?      | Yes   |      |     |     | Yes   |      |       |      | Yes  |     |      |     |      |
| Vehicle Extension (s)   | 3.0   |      |     |     | 3.0   |      |       |      | 3.0  |     |      |     |      |
| Recall Mode             | None  |      |     |     | C-Max |      | C-Max |      | None |     | None |     | None |
| Walk Time (s)           |       |      |     |     | 4.0   |      | 4.0   |      | 4.0  |     | 4.0  |     |      |
| Flash Dont Walk (s)     |       |      |     |     | 11.0  |      | 11.0  |      | 22.0 |     | 22.0 |     |      |
| Pedestrian Calls (#/hr) |       |      |     |     | 0     |      | 0     |      | 0    |     | 0    |     |      |
| Act Effct Green (s)     | 30.0  | 51.0 |     |     | 17.0  | 17.0 | 41.0  | 41.0 | 41.0 |     |      |     |      |
| Actuated g/C Ratio      | 0.30  | 0.51 |     |     | 0.17  | 0.17 | 0.41  | 0.41 | 0.41 |     |      |     |      |
| v/c Ratio               | 1.18  | 0.51 |     |     | 0.94  | 0.64 | 1.10  | 1.09 | 0.97 |     |      |     |      |
| Control Delay           | 108.4 | 9.7  |     |     | 50.4  | 10.3 | 87.0  | 90.9 | 56.1 |     |      |     |      |
| Queue Delay             | 0.0   | 0.0  |     |     | 0.0   | 0.0  | 0.0   | 0.0  | 0.0  |     |      |     |      |
| Total Delay             | 108.4 | 9.7  |     |     | 50.4  | 10.3 | 87.0  | 90.9 | 56.1 |     |      |     |      |
| LOS                     | F     | A    |     |     | D     | B    | F     | F    | E    |     |      |     |      |
| Approach Delay          |       | 57.2 |     |     | 41.1  |      |       | 80.9 |      |     |      |     |      |
| Approach LOS            |       | E    |     |     | D     |      |       | F    |      |     |      |     |      |

### Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 57 (57%), Referenced to phase 6:EBWB, Start of Yellow  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.18  
 Intersection Signal Delay: 63.2  
 Intersection LOS: E  
 Intersection Capacity Utilization 101.4%  
 ICU Level of Service G  
 Analysis Period (min) 15

Splits and Phases: 3: Harmony Road & NB Ramps



# Lanes, Volumes, Timings

## 4: Harmony Road & East Frontage Road

5/27/2010



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Volume (vph)               | 105   | 1585  | 150   | 40    | 1155  | 85    | 75    | 10    | 20    | 45    | 10    | 240   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Storage Length (ft)        | 300   |       | 0     | 150   |       | 200   | 200   |       | 100   | 200   |       | 100   |
| Storage Lanes              | 1     |       | 1     | 1     |       | 1     | 1     |       | 1     | 1     |       | 1     |
| Taper Length (ft)          | 25    |       | 25    | 25    |       | 25    | 25    |       | 25    | 25    |       | 25    |
| Lane Util. Factor          | 1.00  | 0.95  | 1.00  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       |       | 0.850 |       | 0.990 |       |       |       | 0.850 |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1770  | 3539  | 1583  | 1770  | 3504  | 0     | 1770  | 1863  | 1583  | 1770  | 1863  | 1583  |
| Flt Permitted              | 0.135 |       |       | 0.081 |       |       | 0.569 |       |       | 0.750 |       |       |
| Satd. Flow (perm)          | 251   | 3539  | 1583  | 151   | 3504  | 0     | 1060  | 1863  | 1583  | 1397  | 1863  | 1583  |
| Right Turn on Red          |       |       | Yes   |       |       | Yes   |       |       | Yes   |       |       | Yes   |
| Satd. Flow (RTOR)          |       |       | 142   |       | 11    |       |       |       | 22    |       |       | 258   |
| Link Speed (mph)           |       | 40    |       |       | 40    |       |       | 30    |       |       |       | 30    |
| Link Distance (ft)         |       | 903   |       |       | 1425  |       |       | 582   |       |       |       | 598   |
| Travel Time (s)            |       | 15.4  |       |       | 24.3  |       |       | 13.2  |       |       |       | 13.6  |
| Peak Hour Factor           | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  |
| Adj. Flow (vph)            | 113   | 1704  | 161   | 43    | 1242  | 91    | 81    | 11    | 22    | 48    | 11    | 258   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 113   | 1704  | 161   | 43    | 1333  | 0     | 81    | 11    | 22    | 48    | 11    | 258   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 24    |       |       | 24    |       |       | 12    |       |       |       | 12    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 20    |
| Number of Detectors        | 1     | 1     | 1     | 1     | 1     |       | 1     | 1     | 1     | 1     | 1     | 1     |
| Detector Template          |       |       |       |       |       |       |       |       |       |       |       |       |
| Leading Detector (ft)      | 50    | 50    | 50    | 50    | 50    |       | 50    | 50    | 50    | 50    | 50    | 50    |
| Trailing Detector (ft)     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     | 0     | 0     | 0     | 0     |
| Detector 1 Position(ft)    | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     | 0     | 0     | 0     | 0     |
| Detector 1 Size(ft)        | 50    | 50    | 50    | 50    | 50    |       | 50    | 50    | 50    | 50    | 50    | 50    |
| Detector 1 Type            | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |       | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel         |       |       |       |       |       |       |       |       |       |       |       |       |
| Detector 1 Extend (s)      | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Detector 1 Queue (s)       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Detector 1 Delay (s)       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Turn Type                  | pm+pt |       | Perm  | pm+pt |       |       | pm+pt |       | Perm  | pm+pt |       | Free  |
| Protected Phases           | 5     | 2     |       | 1     | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Permitted Phases           | 2     |       | 2     | 6     |       |       | 8     |       | 8     | 4     |       | Free  |
| Detector Phase             | 5     | 2     | 2     | 1     | 6     |       | 3     | 8     | 8     | 7     | 4     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   |       | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   |       |
| Minimum Split (s)          | 9.0   | 21.0  | 21.0  | 9.0   | 21.0  |       | 9.0   | 28.0  | 28.0  | 9.0   | 28.0  |       |
| Total Split (s)            | 10.0  | 54.0  | 54.0  | 9.0   | 53.0  | 0.0   | 9.0   | 28.0  | 28.0  | 9.0   | 28.0  | 0.0   |
| Total Split (%)            | 10.0% | 54.0% | 54.0% | 9.0%  | 53.0% | 0.0%  | 9.0%  | 28.0% | 28.0% | 9.0%  | 28.0% | 0.0%  |

Lanes, Volumes, Timings  
4: Harmony Road & East Frontage Road

5/27/2010



| Lane Group              | EBL  | EBT   | EBR   | WBL  | WBT   | WBR | NBL  | NBT  | NBR  | SBL  | SBT  | SBR   |
|-------------------------|------|-------|-------|------|-------|-----|------|------|------|------|------|-------|
| Maximum Green (s)       | 5.0  | 48.0  | 48.0  | 4.0  | 47.0  |     | 4.0  | 23.0 | 23.0 | 4.0  | 23.0 |       |
| Yellow Time (s)         | 3.0  | 4.0   | 4.0   | 3.0  | 4.0   |     | 3.0  | 3.0  | 3.0  | 3.0  | 3.0  |       |
| All-Red Time (s)        | 2.0  | 2.0   | 2.0   | 2.0  | 2.0   |     | 2.0  | 2.0  | 2.0  | 2.0  | 2.0  |       |
| Lost Time Adjust (s)    | -1.0 | -2.0  | -2.0  | -1.0 | -2.0  | 0.0 | -1.0 | -1.0 | -1.0 | -1.0 | -1.0 | 0.0   |
| Total Lost Time (s)     | 4.0  | 4.0   | 4.0   | 4.0  | 4.0   | 4.0 | 4.0  | 4.0  | 4.0  | 4.0  | 4.0  | 4.0   |
| Lead/Lag                | Lead | Lag   | Lag   | Lead | Lag   |     | Lead | Lag  | Lag  | Lead | Lag  |       |
| Lead-Lag Optimize?      | Yes  | Yes   | Yes   | Yes  | Yes   |     | Yes  | Yes  | Yes  | Yes  | Yes  |       |
| Vehicle Extension (s)   | 3.0  | 3.0   | 3.0   | 3.0  | 3.0   |     | 3.0  | 3.0  | 3.0  | 3.0  | 3.0  |       |
| Recall Mode             | None | C-Max | C-Max | None | C-Max |     | None | None | None | None | None |       |
| Walk Time (s)           |      | 4.0   | 4.0   |      | 4.0   |     |      | 4.0  | 4.0  |      | 4.0  |       |
| Flash Dont Walk (s)     |      | 11.0  | 11.0  |      | 11.0  |     |      | 19.0 | 19.0 |      | 19.0 |       |
| Pedestrian Calls (#/hr) |      | 0     | 0     |      | 0     |     |      | 6    | 6    |      | 6    |       |
| Act Effect Green (s)    | 77.1 | 73.2  | 73.2  | 73.8 | 67.3  |     | 13.5 | 10.3 | 10.3 | 11.3 | 10.3 | 100.0 |
| Actuated g/C Ratio      | 0.77 | 0.73  | 0.73  | 0.74 | 0.67  |     | 0.14 | 0.10 | 0.10 | 0.11 | 0.10 | 1.00  |
| v/c Ratio               | 0.37 | 0.66  | 0.13  | 0.20 | 0.56  |     | 0.42 | 0.06 | 0.12 | 0.27 | 0.06 | 0.16  |
| Control Delay           | 8.0  | 9.6   | 1.0   | 7.6  | 12.5  |     | 40.8 | 36.6 | 15.2 | 37.9 | 36.6 | 0.2   |
| Queue Delay             | 0.0  | 0.0   | 0.0   | 0.0  | 0.0   |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |
| Total Delay             | 8.0  | 9.6   | 1.0   | 7.6  | 12.5  |     | 40.8 | 36.6 | 15.2 | 37.9 | 36.6 | 0.2   |
| LOS                     | A    | A     | A     | A    | B     |     | D    | D    | B    | D    | D    | A     |
| Approach Delay          |      | 8.8   |       |      | 12.3  |     |      | 35.4 |      |      | 7.2  |       |
| Approach LOS            |      | A     |       |      | B     |     |      | D    |      |      | A    |       |

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 65 (65%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.66  
 Intersection Signal Delay: 10.8  
 Intersection LOS: B  
 Intersection Capacity Utilization 68.0%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 4: Harmony Road & East Frontage Road















## **SH 7 Package A PM Traffic**

HCM Signalized Intersection Capacity Analysis  
 1: SH 7 & SB Ramps

2035 Package A - PM

10/14/2010

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   | ↑↑↑                                                                               | ↑↑                                                                                | ↑↑                                                                                | ↑↑↑                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | ↑                                                                                   | ↑                                                                                   | ↑                                                                                   |
| Volume (vph)                      | 0                                                                                 | 2445                                                                              | 945                                                                               | 515                                                                               | 1875                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 900                                                                                 | 1                                                                                   | 425                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               |                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Lane Util. Factor                 |                                                                                   | 0.91                                                                              | 0.88                                                                              | 0.97                                                                              | 0.91                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frt                               |                                                                                   | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 |                                                                                   | 4715                                                                              | 2584                                                                              | 3183                                                                              | 4715                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1559                                                                                | 1563                                                                                | 1468                                                                                |
| Flt Permitted                     |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 |                                                                                   | 4715                                                                              | 2584                                                                              | 3183                                                                              | 4715                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1559                                                                                | 1563                                                                                | 1468                                                                                |
| Peak-hour factor, PHF             | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.95                                                                              | 0.96                                                                              | 0.95                                                                              | 0.92                                                                               | 0.92                                                                                | 0.92                                                                                | 0.96                                                                                | 0.92                                                                                | 0.96                                                                                |
| Adj. Flow (vph)                   | 0                                                                                 | 2547                                                                              | 984                                                                               | 542                                                                               | 1953                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 938                                                                                 | 1                                                                                   | 443                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 0                                                                                 | 2547                                                                              | 984                                                                               | 542                                                                               | 1953                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 469                                                                                 | 470                                                                                 | 443                                                                                 |
| Heavy Vehicles (%)                | 2%                                                                                | 10%                                                                               | 10%                                                                               | 10%                                                                               | 10%                                                                               | 2%                                                                                | 2%                                                                                 | 2%                                                                                  | 2%                                                                                  | 10%                                                                                 | 2%                                                                                  | 10%                                                                                 |
| Turn Type                         |                                                                                   |                                                                                   | Free                                                                              | Prot                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | Perm                                                                                |                                                                                     | Free                                                                                |
| Protected Phases                  |                                                                                   | 2                                                                                 |                                                                                   | 1                                                                                 | 2 1                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     | Free                                                                                |
| Actuated Green, G (s)             |                                                                                   | 50.0                                                                              | 110.0                                                                             | 16.0                                                                              | 72.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 27.0                                                                                | 27.0                                                                                | 110.0                                                                               |
| Effective Green, g (s)            |                                                                                   | 52.0                                                                              | 110.0                                                                             | 18.0                                                                              | 74.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 28.0                                                                                | 28.0                                                                                | 110.0                                                                               |
| Actuated g/C Ratio                |                                                                                   | 0.47                                                                              | 1.00                                                                              | 0.16                                                                              | 0.67                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.25                                                                                | 0.25                                                                                | 1.00                                                                                |
| Clearance Time (s)                |                                                                                   | 6.0                                                                               |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Vehicle Extension (s)             |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                |                                                                                   | 2229                                                                              | 2584                                                                              | 521                                                                               | 3172                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 397                                                                                 | 398                                                                                 | 1468                                                                                |
| v/s Ratio Prot                    |                                                                                   | c0.54                                                                             |                                                                                   | c0.17                                                                             | 0.41                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | 0.38                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | c0.30                                                                               | 0.30                                                                                | 0.30                                                                                |
| v/c Ratio                         |                                                                                   | 1.14                                                                              | 0.38                                                                              | 1.04                                                                              | 0.62                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1.18                                                                                | 1.18                                                                                | 0.30                                                                                |
| Uniform Delay, d1                 |                                                                                   | 29.0                                                                              | 0.0                                                                               | 46.0                                                                              | 10.1                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 41.0                                                                                | 41.0                                                                                | 0.0                                                                                 |
| Progression Factor                |                                                                                   | 0.53                                                                              | 1.00                                                                              | 0.70                                                                              | 0.98                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             |                                                                                   | 65.7                                                                              | 0.1                                                                               | 38.4                                                                              | 0.1                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 104.6                                                                               | 104.4                                                                               | 0.5                                                                                 |
| Delay (s)                         |                                                                                   | 80.9                                                                              | 0.1                                                                               | 70.8                                                                              | 10.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 145.6                                                                               | 145.4                                                                               | 0.5                                                                                 |
| Level of Service                  |                                                                                   | F                                                                                 | A                                                                                 | E                                                                                 | B                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     | F                                                                                   | F                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 58.4                                                                              |                                                                                   |                                                                                   | 23.2                                                                              |                                                                                   |                                                                                    | 0.0                                                                                 |                                                                                     |                                                                                     | 99.1                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | A                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM Average Control Delay         |                                                                                   |                                                                                   | 54.2                                                                              |                                                                                   |                                                                                   | HCM Level of Service                                                              |                                                                                    |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |
| HCM Volume to Capacity ratio      |                                                                                   |                                                                                   | 1.14                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 110.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                    |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 96.9%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                    |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |




















c Critical Lane Group



# HCM Signalized Intersection Capacity Analysis

## 2: SH 7 & NB Ramps

2035 Package A - PM  
10/14/2010

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |                                                                                   |                                                                                   |  |  |  |  |  |                                                                                     |                                                                                     |                                                                                     |
| Volume (vph)                      | 475                                                                               | 2870                                                                              | 0                                                                                 | 0                                                                                 | 1395                                                                              | 630                                                                               | 995                                                                                | 1                                                                                   | 1250                                                                                | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               | 4.0                                                                               | 4.0                                                                               |                                                                                   |                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Lane Util. Factor                 | 0.97                                                                              | 0.91                                                                              |                                                                                   |                                                                                   | *0.91                                                                             | 1.00                                                                              | 0.91                                                                               | 0.91                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Frt                               | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                   | 1.00                                                                              | 0.85                                                                              | 1.00                                                                               | 1.00                                                                                | 0.85                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                               | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (prot)                 | 3183                                                                              | 4715                                                                              |                                                                                   |                                                                                   | 4715                                                                              | 1468                                                                              | 2986                                                                               | 1497                                                                                | 1468                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Flt Permitted                     | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                               | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)                 | 3183                                                                              | 4715                                                                              |                                                                                   |                                                                                   | 4715                                                                              | 1468                                                                              | 2986                                                                               | 1497                                                                                | 1468                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Peak-hour factor, PHF             | 0.96                                                                              | 0.96                                                                              | 0.93                                                                              | 0.87                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                               | 0.96                                                                                | 0.96                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Adj. Flow (vph)                   | 495                                                                               | 2990                                                                              | 0                                                                                 | 0                                                                                 | 1453                                                                              | 656                                                                               | 1036                                                                               | 1                                                                                   | 1302                                                                                | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 495                                                                               | 2990                                                                              | 0                                                                                 | 0                                                                                 | 1453                                                                              | 656                                                                               | 694                                                                                | 343                                                                                 | 1302                                                                                | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Heavy Vehicles (%)                | 10%                                                                               | 10%                                                                               | 2%                                                                                | 2%                                                                                | 10%                                                                               | 10%                                                                               | 10%                                                                                | 2%                                                                                  | 10%                                                                                 | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Turn Type                         | Prot                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | Free                                                                              | Perm                                                                               |                                                                                     | Free                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Protected Phases                  | 5                                                                                 | 5 6                                                                               |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                    | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | Free                                                                              | 8                                                                                  |                                                                                     | Free                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Actuated Green, G (s)             | 31.0                                                                              | 74.0                                                                              |                                                                                   |                                                                                   | 39.0                                                                              | 110.0                                                                             | 25.0                                                                               | 25.0                                                                                | 110.0                                                                               |                                                                                     |                                                                                     |                                                                                     |
| Effective Green, g (s)            | 32.0                                                                              | 72.0                                                                              |                                                                                   |                                                                                   | 39.0                                                                              | 110.0                                                                             | 27.0                                                                               | 27.0                                                                                | 110.0                                                                               |                                                                                     |                                                                                     |                                                                                     |
| Actuated g/C Ratio                | 0.29                                                                              | 0.65                                                                              |                                                                                   |                                                                                   | 0.35                                                                              | 1.00                                                                              | 0.25                                                                               | 0.25                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Clearance Time (s)                | 5.0                                                                               |                                                                                   |                                                                                   |                                                                                   | 4.0                                                                               |                                                                                   | 6.0                                                                                | 6.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Grp Cap (vph)                | 926                                                                               | 3086                                                                              |                                                                                   |                                                                                   | 1672                                                                              | 1468                                                                              | 733                                                                                | 367                                                                                 | 1468                                                                                |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Prot                    | 0.16                                                                              | c0.63                                                                             |                                                                                   |                                                                                   | 0.31                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.45                                                                              | 0.23                                                                               | 0.23                                                                                | c0.89                                                                               |                                                                                     |                                                                                     |                                                                                     |
| v/c Ratio                         | 0.53                                                                              | 0.97                                                                              |                                                                                   |                                                                                   | 0.87                                                                              | 0.45                                                                              | 0.95                                                                               | 0.93                                                                                | 0.89                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Uniform Delay, d1                 | 32.7                                                                              | 17.9                                                                              |                                                                                   |                                                                                   | 33.1                                                                              | 0.0                                                                               | 40.8                                                                               | 40.6                                                                                | 0.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Progression Factor                | 0.21                                                                              | 0.20                                                                              |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Incremental Delay, d2             | 0.1                                                                               | 1.4                                                                               |                                                                                   |                                                                                   | 6.4                                                                               | 1.0                                                                               | 21.0                                                                               | 30.5                                                                                | 8.3                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Delay (s)                         | 7.1                                                                               | 5.0                                                                               |                                                                                   |                                                                                   | 39.6                                                                              | 1.0                                                                               | 61.8                                                                               | 71.2                                                                                | 8.3                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  | A                                                                                 | A                                                                                 |                                                                                   |                                                                                   | D                                                                                 | A                                                                                 | E                                                                                  | E                                                                                   | A                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                |                                                                                   | 5.3                                                                               |                                                                                   |                                                                                   | 27.6                                                                              |                                                                                   |                                                                                    | 33.4                                                                                |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | C                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM Average Control Delay         |                                                                                   |                                                                                   | 19.5                                                                              |                                                                                   |                                                                                   |                                                                                   | HCM Level of Service                                                               |                                                                                     |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| HCM Volume to Capacity ratio      |                                                                                   |                                                                                   | 0.93                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 110.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                               |                                                                                     |                                                                                     |                                                                                     | 4.0                                                                                 |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 96.9%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                               |                                                                                     |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |













c Critical Lane Group

## **SH 7 Package B PM Traffic**

HCM Signalized Intersection Capacity Analysis  
 1: SH 7 & SB Ramps

2035 Package B - PM

10/14/2010

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   | ↑↑↑                                                                               | ↑↑                                                                                | ↑↑                                                                                | ↑↑↑                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | ↑                                                                                   | ↑                                                                                   | ↑                                                                                   |
| Volume (vph)                      | 0                                                                                 | 2210                                                                              | 1505                                                                              | 585                                                                               | 2085                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 280                                                                                 | 1                                                                                   | 780                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               |                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Lane Util. Factor                 |                                                                                   | 0.91                                                                              | 0.88                                                                              | 0.97                                                                              | 0.91                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frt                               |                                                                                   | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 |                                                                                   | 4715                                                                              | 2584                                                                              | 3183                                                                              | 4715                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1559                                                                                | 1564                                                                                | 1468                                                                                |
| Flt Permitted                     |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 |                                                                                   | 4715                                                                              | 2584                                                                              | 3183                                                                              | 4715                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1559                                                                                | 1564                                                                                | 1468                                                                                |
| Peak-hour factor, PHF             | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.95                                                                              | 0.96                                                                              | 0.95                                                                              | 0.92                                                                               | 0.92                                                                                | 0.92                                                                                | 0.96                                                                                | 0.92                                                                                | 0.96                                                                                |
| Adj. Flow (vph)                   | 0                                                                                 | 2302                                                                              | 1568                                                                              | 616                                                                               | 2172                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 292                                                                                 | 1                                                                                   | 812                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 0                                                                                 | 2302                                                                              | 1568                                                                              | 616                                                                               | 2172                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 146                                                                                 | 147                                                                                 | 812                                                                                 |
| Heavy Vehicles (%)                | 2%                                                                                | 10%                                                                               | 10%                                                                               | 10%                                                                               | 10%                                                                               | 2%                                                                                | 2%                                                                                 | 2%                                                                                  | 2%                                                                                  | 10%                                                                                 | 2%                                                                                  | 10%                                                                                 |
| Turn Type                         |                                                                                   |                                                                                   | Free                                                                              | Prot                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | Perm                                                                                |                                                                                     | Free                                                                                |
| Protected Phases                  |                                                                                   | 2                                                                                 |                                                                                   | 1                                                                                 | 2 1                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                   | Free                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     | Free                                                                                |
| Actuated Green, G (s)             |                                                                                   | 55.0                                                                              | 110.0                                                                             | 22.0                                                                              | 83.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 16.0                                                                                | 16.0                                                                                | 110.0                                                                               |
| Effective Green, g (s)            |                                                                                   | 57.0                                                                              | 110.0                                                                             | 24.0                                                                              | 85.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 17.0                                                                                | 17.0                                                                                | 110.0                                                                               |
| Actuated g/C Ratio                |                                                                                   | 0.52                                                                              | 1.00                                                                              | 0.22                                                                              | 0.77                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.15                                                                                | 0.15                                                                                | 1.00                                                                                |
| Clearance Time (s)                |                                                                                   | 6.0                                                                               |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 5.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Vehicle Extension (s)             |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                |                                                                                   | 2443                                                                              | 2584                                                                              | 694                                                                               | 3643                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 241                                                                                 | 242                                                                                 | 1468                                                                                |
| v/s Ratio Prot                    |                                                                                   | c0.49                                                                             |                                                                                   | c0.19                                                                             | 0.46                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | c0.61                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.09                                                                                | 0.09                                                                                | 0.55                                                                                |
| v/c Ratio                         |                                                                                   | 0.94                                                                              | 0.61                                                                              | 0.89                                                                              | 0.60                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.61                                                                                | 0.61                                                                                | 0.55                                                                                |
| Uniform Delay, d1                 |                                                                                   | 25.0                                                                              | 0.0                                                                               | 41.7                                                                              | 5.3                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 43.4                                                                                | 43.4                                                                                | 0.0                                                                                 |
| Progression Factor                |                                                                                   | 0.51                                                                              | 1.00                                                                              | 0.71                                                                              | 2.36                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             |                                                                                   | 4.2                                                                               | 0.4                                                                               | 6.3                                                                               | 0.1                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 10.8                                                                                | 10.8                                                                                | 1.5                                                                                 |
| Delay (s)                         |                                                                                   | 16.9                                                                              | 0.4                                                                               | 36.0                                                                              | 12.5                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 54.2                                                                                | 54.2                                                                                | 1.5                                                                                 |
| Level of Service                  |                                                                                   | B                                                                                 | A                                                                                 | D                                                                                 | B                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     | D                                                                                   | D                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 10.2                                                                              |                                                                                   |                                                                                   | 17.7                                                                              |                                                                                   |                                                                                    | 0.0                                                                                 |                                                                                     |                                                                                     | 15.5                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                    | A                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM Average Control Delay         |                                                                                   |                                                                                   | 13.7                                                                              |                                                                                   |                                                                                   | HCM Level of Service                                                              |                                                                                    |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |
| HCM Volume to Capacity ratio      |                                                                                   |                                                                                   | 0.86                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 110.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                    |                                                                                     |                                                                                     | 8.0                                                                                 |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 79.6%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                    |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 2: SH 7 & NB Ramps

2035 Package B - PM

10/14/2010


























| Movement                          | EBL   | EBT  | EBR   | WBL  | WBT   | WBR  | NBL   | NBT                  | NBR  | SBL  | SBT   | SBR  |
|-----------------------------------|-------|------|-------|------|-------|------|-------|----------------------|------|------|-------|------|
| Lane Configurations               | ↖↗    | ↑↑↑  |       |      | ↑↑↑   | ↖    | ↖↗    | ↖                    | ↖    |      |       |      |
| Volume (vph)                      | 675   | 1815 | 0     | 0    | 1195  | 295  | 1475  | 1                    | 1030 | 0    | 0     | 0    |
| Ideal Flow (vphpl)                | 1900  | 1900 | 1900  | 1900 | 1900  | 1900 | 1900  | 1900                 | 1900 | 1900 | 1900  | 1900 |
| Total Lost time (s)               | 4.0   | 4.0  |       |      | 4.0   | 4.0  | 4.0   | 4.0                  | 4.0  |      |       |      |
| Lane Util. Factor                 | 0.97  | 0.91 |       |      | *0.91 | 1.00 | 0.91  | 0.91                 | 1.00 |      |       |      |
| Frt                               | 1.00  | 1.00 |       |      | 1.00  | 0.85 | 1.00  | 1.00                 | 0.85 |      |       |      |
| Flt Protected                     | 0.95  | 1.00 |       |      | 1.00  | 1.00 | 0.95  | 0.95                 | 1.00 |      |       |      |
| Satd. Flow (prot)                 | 3183  | 4715 |       |      | 4715  | 1468 | 2986  | 1497                 | 1468 |      |       |      |
| Flt Permitted                     | 0.95  | 1.00 |       |      | 1.00  | 1.00 | 0.95  | 0.95                 | 1.00 |      |       |      |
| Satd. Flow (perm)                 | 3183  | 4715 |       |      | 4715  | 1468 | 2986  | 1497                 | 1468 |      |       |      |
| Peak-hour factor, PHF             | 0.96  | 0.96 | 0.93  | 0.87 | 0.96  | 0.96 | 0.96  | 0.96                 | 0.96 | 0.92 | 0.92  | 0.92 |
| Adj. Flow (vph)                   | 703   | 1891 | 0     | 0    | 1245  | 307  | 1536  | 1                    | 1073 | 0    | 0     | 0    |
| RTOR Reduction (vph)              | 0     | 0    | 0     | 0    | 0     | 0    | 0     | 0                    | 0    | 0    | 0     | 0    |
| Lane Group Flow (vph)             | 703   | 1891 | 0     | 0    | 1245  | 307  | 1029  | 508                  | 1073 | 0    | 0     | 0    |
| Heavy Vehicles (%)                | 10%   | 10%  | 2%    | 2%   | 10%   | 10%  | 10%   | 2%                   | 10%  | 2%   | 2%    | 2%   |
| Turn Type                         | Prot  |      |       |      |       |      | Free  | Perm                 | Free |      |       |      |
| Protected Phases                  | 5     | 5 6  |       |      |       |      | 6     | 8                    |      |      |       |      |
| Permitted Phases                  |       |      |       |      |       |      | Free  | 8                    | Free |      |       |      |
| Actuated Green, G (s)             | 25.0  | 61.0 |       |      |       |      | 32.0  | 110.0                | 38.0 | 38.0 | 110.0 |      |
| Effective Green, g (s)            | 26.0  | 59.0 |       |      |       |      | 32.0  | 110.0                | 40.0 | 40.0 | 110.0 |      |
| Actuated g/C Ratio                | 0.24  | 0.54 |       |      |       |      | 0.29  | 1.00                 | 0.36 | 0.36 | 1.00  |      |
| Clearance Time (s)                | 5.0   |      |       |      |       |      |       | 4.0                  | 6.0  | 6.0  |       |      |
| Vehicle Extension (s)             | 3.0   |      |       |      |       |      |       | 3.0                  | 3.0  | 3.0  |       |      |
| Lane Grp Cap (vph)                | 752   | 2529 |       |      |       |      | 1372  | 1468                 | 1086 | 544  | 1468  |      |
| v/s Ratio Prot                    | c0.22 | 0.40 |       |      |       |      | c0.26 |                      |      |      |       |      |
| v/s Ratio Perm                    |       |      |       |      |       |      | 0.21  | c0.34                | 0.34 | 0.73 |       |      |
| v/c Ratio                         | 0.93  | 0.75 |       |      |       |      | 0.91  | 0.21                 | 0.95 | 0.93 | 0.73  |      |
| Uniform Delay, d1                 | 41.2  | 19.7 |       |      |       |      | 37.6  | 0.0                  | 34.0 | 33.7 | 0.0   |      |
| Progression Factor                | 0.45  | 0.24 |       |      |       |      | 1.00  | 1.00                 | 1.00 | 1.00 | 1.00  |      |
| Incremental Delay, d2             | 8.1   | 0.5  |       |      |       |      | 10.3  | 0.3                  | 16.1 | 23.3 | 3.2   |      |
| Delay (s)                         | 26.5  | 5.3  |       |      |       |      | 47.9  | 0.3                  | 50.1 | 57.0 | 3.2   |      |
| Level of Service                  | C     | A    |       |      |       |      | D     | A                    | D    | E    | A     |      |
| Approach Delay (s)                | 11.0  |      |       |      |       |      | 38.5  |                      |      | 32.2 | 0.0   |      |
| Approach LOS                      | B     |      |       |      |       |      | D     |                      |      | C    | A     |      |
| <b>Intersection Summary</b>       |       |      |       |      |       |      |       |                      |      |      |       |      |
| HCM Average Control Delay         |       |      | 25.5  |      |       |      |       | HCM Level of Service |      | C    |       |      |
| HCM Volume to Capacity ratio      |       |      | 0.93  |      |       |      |       |                      |      |      |       |      |
| Actuated Cycle Length (s)         |       |      | 110.0 |      |       |      |       | Sum of lost time (s) |      | 12.0 |       |      |
| Intersection Capacity Utilization |       |      | 79.6% |      |       |      |       | ICU Level of Service |      | D    |       |      |
| Analysis Period (min)             |       |      | 15    |      |       |      |       |                      |      |      |       |      |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
16: SH 7 & Street A

2035 Package B - PM  
11/1/2010

|                        |  |  |  |  |  |  |   |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement               | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |                                                                                     |  |  |  |
| Volume (vph)           | 325                                                                               | 2855                                                                              | 200                                                                               | 290                                                                               | 2180                                                                              | 395                                                                               | 170                                                                                 | 20                                                                                  | 290                                                                                 | 570                                                                                 | 20                                                                                  | 290                                                                                 |
| Ideal Flow (vphpl)     | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)    | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                 | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Lane Util. Factor      | 0.97                                                                              | 0.91                                                                              | 1.00                                                                              | 0.97                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                |                                                                                     | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frt                    | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                                | 0.86                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected          | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                | 1.00                                                                                |                                                                                     | 0.95                                                                                | 0.96                                                                                | 1.00                                                                                |
| Satd. Flow (prot)      | 3433                                                                              | 4715                                                                              | 1583                                                                              | 3433                                                                              | 4715                                                                              | 1583                                                                              | 1770                                                                                | 1602                                                                                |                                                                                     | 1681                                                                                | 1691                                                                                | 1583                                                                                |
| Flt Permitted          | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.56                                                                                | 1.00                                                                                |                                                                                     | 0.20                                                                                | 0.19                                                                                | 1.00                                                                                |
| Satd. Flow (perm)      | 3433                                                                              | 4715                                                                              | 1583                                                                              | 3433                                                                              | 4715                                                                              | 1583                                                                              | 1039                                                                                | 1602                                                                                |                                                                                     | 354                                                                                 | 342                                                                                 | 1583                                                                                |
| Peak-hour factor, PHF  | 0.92                                                                              | 0.96                                                                              | 0.92                                                                              | 0.92                                                                              | 0.96                                                                              | 0.92                                                                              | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Adj. Flow (vph)        | 353                                                                               | 2974                                                                              | 217                                                                               | 315                                                                               | 2271                                                                              | 429                                                                               | 185                                                                                 | 22                                                                                  | 315                                                                                 | 620                                                                                 | 22                                                                                  | 315                                                                                 |
| RTOR Reduction (vph)   | 0                                                                                 | 0                                                                                 | 85                                                                                | 0                                                                                 | 0                                                                                 | 186                                                                               | 0                                                                                   | 107                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 151                                                                                 |
| Lane Group Flow (vph)  | 353                                                                               | 2974                                                                              | 132                                                                               | 315                                                                               | 2271                                                                              | 243                                                                               | 185                                                                                 | 230                                                                                 | 0                                                                                   | 322                                                                                 | 320                                                                                 | 164                                                                                 |
| Heavy Vehicles (%)     | 2%                                                                                | 10%                                                                               | 2%                                                                                | 2%                                                                                | 10%                                                                               | 2%                                                                                | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Turn Type              | Prot                                                                              |                                                                                   | Perm                                                                              | Prot                                                                              |                                                                                   | Perm                                                                              | pm+pt                                                                               |                                                                                     |                                                                                     | pm+pt                                                                               |                                                                                     | Perm                                                                                |
| Protected Phases       | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 5                                                                                   | 2                                                                                   |                                                                                     | 1                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases       |                                                                                   |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)  | 11.0                                                                              | 57.0                                                                              | 57.0                                                                              | 8.0                                                                               | 54.0                                                                              | 54.0                                                                              | 20.0                                                                                | 16.0                                                                                |                                                                                     | 33.0                                                                                | 33.0                                                                                | 25.0                                                                                |
| Effective Green, g (s) | 11.0                                                                              | 57.0                                                                              | 57.0                                                                              | 8.0                                                                               | 54.0                                                                              | 54.0                                                                              | 20.0                                                                                | 16.0                                                                                |                                                                                     | 33.0                                                                                | 33.0                                                                                | 25.0                                                                                |
| Actuated g/C Ratio     | 0.10                                                                              | 0.52                                                                              | 0.52                                                                              | 0.07                                                                              | 0.49                                                                              | 0.49                                                                              | 0.18                                                                                | 0.15                                                                                |                                                                                     | 0.30                                                                                | 0.30                                                                                | 0.23                                                                                |
| Clearance Time (s)     | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                 | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Vehicle Extension (s)  | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)     | 343                                                                               | 2443                                                                              | 820                                                                               | 250                                                                               | 2315                                                                              | 777                                                                               | 215                                                                                 | 233                                                                                 |                                                                                     | 263                                                                                 | 262                                                                                 | 360                                                                                 |
| v/s Ratio Prot         | 0.10                                                                              | c0.63                                                                             |                                                                                   | 0.09                                                                              | c0.48                                                                             |                                                                                   | 0.03                                                                                | 0.14                                                                                |                                                                                     | c0.14                                                                               | 0.14                                                                                |                                                                                     |
| v/s Ratio Perm         |                                                                                   |                                                                                   | 0.08                                                                              |                                                                                   |                                                                                   | 0.15                                                                              | 0.12                                                                                |                                                                                     |                                                                                     | c0.22                                                                               | 0.22                                                                                | 0.10                                                                                |
| v/c Ratio              | 1.03                                                                              | 1.22                                                                              | 0.16                                                                              | 1.26                                                                              | 0.98                                                                              | 0.31                                                                              | 0.86                                                                                | 0.99                                                                                |                                                                                     | 1.22                                                                                | 1.22                                                                                | 0.46                                                                                |
| Uniform Delay, d1      | 49.5                                                                              | 26.5                                                                              | 13.9                                                                              | 51.0                                                                              | 27.5                                                                              | 16.8                                                                              | 42.5                                                                                | 46.9                                                                                |                                                                                     | 34.5                                                                                | 38.5                                                                                | 36.6                                                                                |
| Progression Factor     | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.68                                                                              | 0.38                                                                              | 0.02                                                                              | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2  | 56.3                                                                              | 101.8                                                                             | 0.4                                                                               | 140.8                                                                             | 13.0                                                                              | 0.9                                                                               | 27.8                                                                                | 55.0                                                                                |                                                                                     | 130.0                                                                               | 128.9                                                                               | 0.9                                                                                 |
| Delay (s)              | 105.8                                                                             | 128.3                                                                             | 14.4                                                                              | 175.3                                                                             | 23.6                                                                              | 1.2                                                                               | 70.3                                                                                | 101.9                                                                               |                                                                                     | 164.5                                                                               | 167.4                                                                               | 37.6                                                                                |
| Level of Service       | F                                                                                 | F                                                                                 | B                                                                                 | F                                                                                 | C                                                                                 | A                                                                                 | E                                                                                   | F                                                                                   |                                                                                     | F                                                                                   | F                                                                                   | D                                                                                   |
| Approach Delay (s)     |                                                                                   | 119.1                                                                             |                                                                                   |                                                                                   | 36.3                                                                              |                                                                                   |                                                                                     | 90.7                                                                                |                                                                                     |                                                                                     | 123.7                                                                               |                                                                                     |
| Approach LOS           |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | F                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |

Intersection Summary

|                                   |        |                      |     |
|-----------------------------------|--------|----------------------|-----|
| HCM Average Control Delay         | 86.7   | HCM Level of Service | F   |
| HCM Volume to Capacity ratio      | 1.16   |                      |     |
| Actuated Cycle Length (s)         | 110.0  | Sum of lost time (s) | 8.0 |
| Intersection Capacity Utilization | 112.1% | ICU Level of Service | H   |
| Analysis Period (min)             | 15     |                      |     |

c Critical Lane Group

## **SH 7 Phase I PM Traffic**

# HCM Signalized Intersection Capacity Analysis

## 1: SH 7 & SB Ramps

Phase 1 Analysis - PM Peak

9/21/2010



| Movement               | EBL  | EBT   | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR   |
|------------------------|------|-------|-------|------|------|------|------|------|------|------|------|-------|
| Lane Configurations    |      | ↑↑↑   | ↗     |      | ↑↑↑  |      |      |      |      | ↘    | ↖    | ↗     |
| Volume (vph)           | 0    | 2080  | 960   | 0    | 1765 | 0    | 0    | 0    | 0    | 830  | 1    | 140   |
| Ideal Flow (vphpl)     | 1900 | 1900  | 1900  | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900  |
| Total Lost time (s)    |      | 4.0   | 4.0   |      | 4.0  |      |      |      |      | 4.0  | 4.0  | 4.0   |
| Lane Util. Factor      |      | 0.91  | 1.00  |      | 0.91 |      |      |      |      | 0.95 | 0.95 | 1.00  |
| Frt                    |      | 1.00  | 0.85  |      | 1.00 |      |      |      |      | 1.00 | 1.00 | 0.85  |
| Flt Protected          |      | 1.00  | 1.00  |      | 1.00 |      |      |      |      | 0.95 | 0.95 | 1.00  |
| Satd. Flow (prot)      |      | 4715  | 1468  |      | 4715 |      |      |      |      | 1559 | 1563 | 1468  |
| Flt Permitted          |      | 1.00  | 1.00  |      | 1.00 |      |      |      |      | 0.95 | 0.95 | 1.00  |
| Satd. Flow (perm)      |      | 4715  | 1468  |      | 4715 |      |      |      |      | 1559 | 1563 | 1468  |
| Peak-hour factor, PHF  | 0.96 | 0.96  | 0.96  | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96  |
| Adj. Flow (vph)        | 0    | 2167  | 1000  | 0    | 1839 | 0    | 0    | 0    | 0    | 865  | 1    | 146   |
| RTOR Reduction (vph)   | 0    | 0     | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| Lane Group Flow (vph)  | 0    | 2167  | 1000  | 0    | 1839 | 0    | 0    | 0    | 0    | 432  | 434  | 146   |
| Heavy Vehicles (%)     | 2%   | 10%   | 10%   | 10%  | 10%  | 2%   | 2%   | 2%   | 2%   | 10%  | 2%   | 10%   |
| Turn Type              |      |       | Free  |      |      |      |      |      |      | Perm |      | Free  |
| Protected Phases       |      | 2     |       |      | 2    |      |      |      |      |      | 4    |       |
| Permitted Phases       |      |       | Free  |      |      |      |      |      |      | 4    |      | Free  |
| Actuated Green, G (s)  |      | 57.0  | 110.0 |      | 57.0 |      |      |      |      | 42.0 | 42.0 | 110.0 |
| Effective Green, g (s) |      | 59.0  | 110.0 |      | 59.0 |      |      |      |      | 43.0 | 43.0 | 110.0 |
| Actuated g/C Ratio     |      | 0.54  | 1.00  |      | 0.54 |      |      |      |      | 0.39 | 0.39 | 1.00  |
| Clearance Time (s)     |      | 6.0   |       |      | 6.0  |      |      |      |      | 5.0  | 5.0  |       |
| Vehicle Extension (s)  |      | 3.0   |       |      | 3.0  |      |      |      |      | 3.0  | 3.0  |       |
| Lane Grp Cap (vph)     |      | 2529  | 1468  |      | 2529 |      |      |      |      | 609  | 611  | 1468  |
| v/s Ratio Prot         |      | c0.46 |       |      | 0.39 |      |      |      |      |      |      |       |
| v/s Ratio Perm         |      |       | c0.68 |      |      |      |      |      |      | 0.28 | 0.28 | 0.10  |
| v/c Ratio              |      | 0.86  | 0.68  |      | 0.73 |      |      |      |      | 0.71 | 0.71 | 0.10  |
| Uniform Delay, d1      |      | 21.9  | 0.0   |      | 19.4 |      |      |      |      | 28.2 | 28.2 | 0.0   |
| Progression Factor     |      | 0.44  | 1.00  |      | 0.59 |      |      |      |      | 1.00 | 1.00 | 1.00  |
| Incremental Delay, d2  |      | 1.1   | 0.7   |      | 1.6  |      |      |      |      | 6.9  | 6.9  | 0.1   |
| Delay (s)              |      | 10.7  | 0.7   |      | 13.0 |      |      |      |      | 35.1 | 35.1 | 0.1   |
| Level of Service       |      | B     | A     |      | B    |      |      |      |      | D    | D    | A     |
| Approach Delay (s)     |      | 7.5   |       |      | 13.0 |      |      | 0.0  |      |      | 30.1 |       |
| Approach LOS           |      | A     |       |      | B    |      |      | A    |      |      | C    |       |

### Intersection Summary

|                                   |       |                      |     |
|-----------------------------------|-------|----------------------|-----|
| HCM Average Control Delay         | 13.0  | HCM Level of Service | B   |
| HCM Volume to Capacity ratio      | 0.78  |                      |     |
| Actuated Cycle Length (s)         | 110.0 | Sum of lost time (s) | 4.0 |
| Intersection Capacity Utilization | 69.9% | ICU Level of Service | C   |
| Analysis Period (min)             | 15    |                      |     |













c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 2: SH 7 & NB Ramps

Phase 1 Analysis - PM Peak

9/21/2010













|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   | ↑↑↑                                                                               |                                                                                   |                                                                                   | ↑↑↑                                                                               | ↗                                                                                 | ↖↗                                                                                  | ↖                                                                                   | ↗                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Volume (vph)                      | 0                                                                                 | 2615                                                                              | 0                                                                                 | 0                                                                                 | 1680                                                                              | 650                                                                               | 875                                                                                 | 1                                                                                   | 1495                                                                                | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Lane Util. Factor                 |                                                                                   | 0.91                                                                              |                                                                                   |                                                                                   | *0.91                                                                             | 1.00                                                                              | 0.91                                                                                | 0.91                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Frt                               |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   | 1.00                                                                              | 0.85                                                                              | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Flt Protected                     |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (prot)                 |                                                                                   | 4715                                                                              |                                                                                   |                                                                                   | 4715                                                                              | 1468                                                                              | 2986                                                                                | 1498                                                                                | 1468                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Flt Permitted                     |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)                 |                                                                                   | 4715                                                                              |                                                                                   |                                                                                   | 4715                                                                              | 1468                                                                              | 2986                                                                                | 1498                                                                                | 1468                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Peak-hour factor, PHF             | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                                | 0.96                                                                                | 0.96                                                                                | 0.96                                                                                | 0.96                                                                                | 0.96                                                                                |
| Adj. Flow (vph)                   | 0                                                                                 | 2724                                                                              | 0                                                                                 | 0                                                                                 | 1750                                                                              | 677                                                                               | 911                                                                                 | 1                                                                                   | 1557                                                                                | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 0                                                                                 | 2724                                                                              | 0                                                                                 | 0                                                                                 | 1750                                                                              | 677                                                                               | 610                                                                                 | 302                                                                                 | 1557                                                                                | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Heavy Vehicles (%)                | 10%                                                                               | 10%                                                                               | 2%                                                                                | 2%                                                                                | 10%                                                                               | 10%                                                                               | 10%                                                                                 | 2%                                                                                  | 10%                                                                                 | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Turn Type                         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | Free                                                                              | Perm                                                                                |                                                                                     | Free                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Protected Phases                  |                                                                                   | 6                                                                                 |                                                                                   |                                                                                   | 6                                                                                 |                                                                                   |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | Free                                                                              | 8                                                                                   |                                                                                     | Free                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Actuated Green, G (s)             |                                                                                   | 69.8                                                                              |                                                                                   |                                                                                   | 69.8                                                                              | 110.0                                                                             | 30.2                                                                                | 30.2                                                                                | 110.0                                                                               |                                                                                     |                                                                                     |                                                                                     |
| Effective Green, g (s)            |                                                                                   | 70.8                                                                              |                                                                                   |                                                                                   | 69.8                                                                              | 110.0                                                                             | 32.2                                                                                | 32.2                                                                                | 110.0                                                                               |                                                                                     |                                                                                     |                                                                                     |
| Actuated g/C Ratio                |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   | 0.63                                                                              | 1.00                                                                              | 0.29                                                                                | 0.29                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Clearance Time (s)                |                                                                                   | 4.0                                                                               |                                                                                   |                                                                                   | 4.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)             |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Grp Cap (vph)                |                                                                                   | 3035                                                                              |                                                                                   |                                                                                   | 2992                                                                              | 1468                                                                              | 874                                                                                 | 439                                                                                 | 1468                                                                                |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Prot                    |                                                                                   | 0.58                                                                              |                                                                                   |                                                                                   | 0.37                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.46                                                                              | 0.20                                                                                | 0.20                                                                                | c1.06                                                                               |                                                                                     |                                                                                     |                                                                                     |
| v/c Ratio                         |                                                                                   | 0.90                                                                              |                                                                                   |                                                                                   | 0.58                                                                              | 0.46                                                                              | 0.70                                                                                | 0.69                                                                                | 1.06                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Uniform Delay, d1                 |                                                                                   | 16.5                                                                              |                                                                                   |                                                                                   | 11.7                                                                              | 0.0                                                                               | 34.6                                                                                | 34.5                                                                                | 55.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Progression Factor                |                                                                                   | 0.69                                                                              |                                                                                   |                                                                                   | 0.55                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Incremental Delay, d2             |                                                                                   | 2.7                                                                               |                                                                                   |                                                                                   | 0.1                                                                               | 0.1                                                                               | 2.4                                                                                 | 4.5                                                                                 | 41.4                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Delay (s)                         |                                                                                   | 14.1                                                                              |                                                                                   |                                                                                   | 6.5                                                                               | 0.1                                                                               | 37.0                                                                                | 38.9                                                                                | 96.4                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | A                                                                                 | A                                                                                 | D                                                                                   | D                                                                                   | F                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                |                                                                                   | 14.1                                                                              |                                                                                   |                                                                                   | 4.7                                                                               |                                                                                   |                                                                                     | 74.7                                                                                |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | E                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM Average Control Delay         |                                                                                   |                                                                                   | 30.8                                                                              |                                                                                   |                                                                                   |                                                                                   | HCM Level of Service                                                                |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| HCM Volume to Capacity ratio      |                                                                                   |                                                                                   | 1.06                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 110.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                                |                                                                                     | 0.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 73.4%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                                |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

c Critical Lane Group



HCM Unsignalized Intersection Capacity Analysis  
 12: South Carpool Access & Street A

























Phase 1 Analysis - PM Peak  
 9/21/2010

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|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |  |  |  |  |  |
| Volume (veh/h)                    | 20                                                                                | 125                                                                               | 365                                                                               | 10                                                                                | 50                                                                                | 425                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              |
| Hourly flow rate (vph)            | 21                                                                                | 130                                                                               | 380                                                                               | 10                                                                                | 52                                                                                | 443                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (ft)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (ft/s)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (ft)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 503                                                                               |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 927                                                                               | 380                                                                               |                                                                                   |                                                                                   | 391                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 927                                                                               | 380                                                                               |                                                                                   |                                                                                   | 391                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 93                                                                                | 80                                                                                |                                                                                   |                                                                                   | 96                                                                                |                                                                                   |
| cM capacity (veh/h)               | 285                                                                               | 667                                                                               |                                                                                   |                                                                                   | 1168                                                                              |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | WB 2                                                                              | NB 1                                                                              | NB 2                                                                              | SB 1                                                                              | SB 2                                                                              |
| Volume Total                      | 21                                                                                | 130                                                                               | 380                                                                               | 10                                                                                | 52                                                                                | 443                                                                               |
| Volume Left                       | 21                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 52                                                                                | 0                                                                                 |
| Volume Right                      | 0                                                                                 | 130                                                                               | 0                                                                                 | 10                                                                                | 0                                                                                 | 0                                                                                 |
| cSH                               | 285                                                                               | 667                                                                               | 1700                                                                              | 1700                                                                              | 1168                                                                              | 1700                                                                              |
| Volume to Capacity                | 0.07                                                                              | 0.20                                                                              | 0.22                                                                              | 0.01                                                                              | 0.04                                                                              | 0.26                                                                              |
| Queue Length 95th (ft)            | 6                                                                                 | 18                                                                                | 0                                                                                 | 0                                                                                 | 3                                                                                 | 0                                                                                 |
| Control Delay (s)                 | 18.6                                                                              | 11.7                                                                              | 0.0                                                                               | 0.0                                                                               | 8.2                                                                               | 0.0                                                                               |
| Lane LOS                          | C                                                                                 | B                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |
| Approach Delay (s)                | 12.7                                                                              |                                                                                   | 0.0                                                                               |                                                                                   | 0.9                                                                               |                                                                                   |
| Approach LOS                      | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 2.3                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 35.9%                                                                             |                                                                                   | ICU Level of Service                                                              | A                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

HCM Signalized Intersection Capacity Analysis  
16: SH 7 & Street A

Phase 1 Analysis - PM Peak

9/21/2010

|                        |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement               | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |  |  |
| Volume (vph)           | 325                                                                               | 2175                                                                              | 165                                                                               | 275                                                                               | 1215                                                                              | 370                                                                               | 175                                                                                | 20                                                                                  | 295                                                                                 | 570                                                                                 | 20                                                                                  | 300                                                                                 |
| Ideal Flow (vphp)      | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)    | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Lane Util. Factor      | 0.97                                                                              | 0.91                                                                              | 1.00                                                                              | 0.97                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                |                                                                                     | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frt                    | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                               | 0.86                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected          | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                               | 1.00                                                                                |                                                                                     | 0.95                                                                                | 0.96                                                                                | 1.00                                                                                |
| Satd. Flow (prot)      | 3433                                                                              | 4715                                                                              | 1583                                                                              | 3433                                                                              | 4715                                                                              | 1583                                                                              | 1770                                                                               | 1601                                                                                |                                                                                     | 1681                                                                                | 1691                                                                                | 1583                                                                                |
| Flt Permitted          | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.57                                                                               | 1.00                                                                                |                                                                                     | 0.20                                                                                | 0.19                                                                                | 1.00                                                                                |
| Satd. Flow (perm)      | 3433                                                                              | 4715                                                                              | 1583                                                                              | 3433                                                                              | 4715                                                                              | 1583                                                                              | 1053                                                                               | 1601                                                                                |                                                                                     | 354                                                                                 | 342                                                                                 | 1583                                                                                |
| Peak-hour factor, PHF  | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                               | 0.96                                                                                | 0.96                                                                                | 0.96                                                                                | 0.96                                                                                | 0.96                                                                                |
| Adj. Flow (vph)        | 339                                                                               | 2266                                                                              | 172                                                                               | 286                                                                               | 1266                                                                              | 385                                                                               | 182                                                                                | 21                                                                                  | 307                                                                                 | 594                                                                                 | 21                                                                                  | 312                                                                                 |
| RTOR Reduction (vph)   | 0                                                                                 | 0                                                                                 | 86                                                                                | 0                                                                                 | 0                                                                                 | 214                                                                               | 0                                                                                  | 122                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 238                                                                                 |
| Lane Group Flow (vph)  | 339                                                                               | 2266                                                                              | 86                                                                                | 286                                                                               | 1266                                                                              | 171                                                                               | 182                                                                                | 206                                                                                 | 0                                                                                   | 309                                                                                 | 306                                                                                 | 74                                                                                  |
| Heavy Vehicles (%)     | 2%                                                                                | 10%                                                                               | 2%                                                                                | 2%                                                                                | 10%                                                                               | 2%                                                                                | 2%                                                                                 | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Turn Type              | Prot                                                                              |                                                                                   | Perm                                                                              | Prot                                                                              |                                                                                   | Perm                                                                              | pm+pt                                                                              |                                                                                     |                                                                                     | pm+pt                                                                               |                                                                                     | Perm                                                                                |
| Protected Phases       | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 5                                                                                  | 2                                                                                   |                                                                                     | 1                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases       |                                                                                   |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 | 2                                                                                  |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)  | 15.2                                                                              | 55.0                                                                              | 55.0                                                                              | 9.0                                                                               | 48.8                                                                              | 48.8                                                                              | 20.0                                                                               | 16.0                                                                                |                                                                                     | 34.0                                                                                | 34.0                                                                                | 26.0                                                                                |
| Effective Green, g (s) | 15.2                                                                              | 55.0                                                                              | 55.0                                                                              | 9.0                                                                               | 48.8                                                                              | 48.8                                                                              | 20.0                                                                               | 16.0                                                                                |                                                                                     | 34.0                                                                                | 34.0                                                                                | 26.0                                                                                |
| Actuated g/C Ratio     | 0.14                                                                              | 0.50                                                                              | 0.50                                                                              | 0.08                                                                              | 0.44                                                                              | 0.44                                                                              | 0.18                                                                               | 0.15                                                                                |                                                                                     | 0.31                                                                                | 0.31                                                                                | 0.24                                                                                |
| Clearance Time (s)     | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Vehicle Extension (s)  | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)     | 474                                                                               | 2358                                                                              | 792                                                                               | 281                                                                               | 2092                                                                              | 702                                                                               | 218                                                                                | 233                                                                                 |                                                                                     | 278                                                                                 | 277                                                                                 | 374                                                                                 |
| v/s Ratio Prot         | 0.10                                                                              | c0.48                                                                             |                                                                                   | c0.08                                                                             | 0.27                                                                              |                                                                                   | 0.03                                                                               | 0.13                                                                                |                                                                                     | c0.14                                                                               | 0.14                                                                                |                                                                                     |
| v/s Ratio Perm         |                                                                                   |                                                                                   | 0.05                                                                              |                                                                                   |                                                                                   | 0.11                                                                              | 0.12                                                                               |                                                                                     |                                                                                     | c0.20                                                                               | 0.20                                                                                | 0.05                                                                                |
| v/c Ratio              | 0.72                                                                              | 0.96                                                                              | 0.11                                                                              | 1.02                                                                              | 0.61                                                                              | 0.24                                                                              | 0.83                                                                               | 0.88                                                                                |                                                                                     | 1.11                                                                                | 1.10                                                                                | 0.20                                                                                |
| Uniform Delay, d1      | 45.3                                                                              | 26.5                                                                              | 14.5                                                                              | 50.5                                                                              | 23.3                                                                              | 19.1                                                                              | 42.3                                                                               | 46.1                                                                                |                                                                                     | 33.8                                                                                | 38.0                                                                                | 33.6                                                                                |
| Progression Factor     | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.72                                                                              | 0.46                                                                              | 0.27                                                                              | 1.00                                                                               | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2  | 5.1                                                                               | 11.4                                                                              | 0.3                                                                               | 50.2                                                                              | 0.9                                                                               | 0.6                                                                               | 23.2                                                                               | 30.0                                                                                |                                                                                     | 87.3                                                                                | 85.1                                                                                | 0.3                                                                                 |
| Delay (s)              | 50.4                                                                              | 37.9                                                                              | 14.8                                                                              | 86.5                                                                              | 11.6                                                                              | 5.7                                                                               | 65.5                                                                               | 76.1                                                                                |                                                                                     | 121.0                                                                               | 123.1                                                                               | 33.9                                                                                |
| Level of Service       | D                                                                                 | D                                                                                 | B                                                                                 | F                                                                                 | B                                                                                 | A                                                                                 | E                                                                                  | E                                                                                   |                                                                                     | F                                                                                   | F                                                                                   | C                                                                                   |
| Approach Delay (s)     |                                                                                   | 38.0                                                                              |                                                                                   |                                                                                   | 21.5                                                                              |                                                                                   |                                                                                    | 72.3                                                                                |                                                                                     |                                                                                     | 92.4                                                                                |                                                                                     |
| Approach LOS           |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | E                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |

Intersection Summary

































|                                   |       |                      |      |
|-----------------------------------|-------|----------------------|------|
| HCM Average Control Delay         | 43.8  | HCM Level of Service | D    |
| HCM Volume to Capacity ratio      | 1.00  |                      |      |
| Actuated Cycle Length (s)         | 110.0 | Sum of lost time (s) | 12.0 |
| Intersection Capacity Utilization | 98.8% | ICU Level of Service | F    |
| Analysis Period (min)             | 15    |                      |      |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
20: SH 7 & Washington St

Phase 1 Analysis - PM Peak

9/21/2010

|                                   |                                                                                    |                                                                                    |  |                                                                                    |                                                                                    |  |                                                                                      |                                                                                      |  |                                                                                      |                                                                                      |  |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | SEL                                                                                                                                                                 | SET                                                                                                                                                                 | SER                                                                               | NWL                                                                                                                                                                 | NWT                                                                                                                                                                 | NWR                                                                               | NEL                                                                                                                                                                    | NET                                                                                                                                                                     | NER                                                                                 | SWL                                                                                                                                                                     | SWT                                                                                                                                                                     | SWR                                                                                 |
| Lane Configurations               |   |   |  |   |   |  |   |   |  |   |   |  |
| Volume (vph)                      | 250                                                                                                                                                                 | 2445                                                                                                                                                                | 840                                                                               | 190                                                                                                                                                                 | 990                                                                                                                                                                 | 45                                                                                | 1030                                                                                                                                                                   | 945                                                                                                                                                                     | 315                                                                                 | 75                                                                                                                                                                      | 905                                                                                                                                                                     | 205                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                                                                                                                | 1900                                                                                                                                                                | 1900                                                                              | 1900                                                                                                                                                                | 1900                                                                                                                                                                | 1900                                                                              | 1900                                                                                                                                                                   | 1900                                                                                                                                                                    | 1900                                                                                | 1900                                                                                                                                                                    | 1900                                                                                                                                                                    | 1900                                                                                |
| Total Lost time (s)               | 4.0                                                                                                                                                                 | 4.0                                                                                                                                                                 | 4.0                                                                               | 4.0                                                                                                                                                                 | 4.0                                                                                                                                                                 | 4.0                                                                               | 4.0                                                                                                                                                                    | 4.0                                                                                                                                                                     | 4.0                                                                                 | 4.0                                                                                                                                                                     | 4.0                                                                                                                                                                     | 4.0                                                                                 |
| Lane Util. Factor                 | 0.97                                                                                                                                                                | 0.95                                                                                                                                                                | 1.00                                                                              | 0.97                                                                                                                                                                | 0.95                                                                                                                                                                | 1.00                                                                              | 0.97                                                                                                                                                                   | 0.95                                                                                                                                                                    | 1.00                                                                                | 0.97                                                                                                                                                                    | 0.95                                                                                                                                                                    | 1.00                                                                                |
| Frt                               | 1.00                                                                                                                                                                | 1.00                                                                                                                                                                | 0.85                                                                              | 1.00                                                                                                                                                                | 1.00                                                                                                                                                                | 0.85                                                                              | 1.00                                                                                                                                                                   | 1.00                                                                                                                                                                    | 0.85                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                                                                                                    | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                                                                                                                | 1.00                                                                                                                                                                | 1.00                                                                              | 0.95                                                                                                                                                                | 1.00                                                                                                                                                                | 1.00                                                                              | 0.95                                                                                                                                                                   | 1.00                                                                                                                                                                    | 1.00                                                                                | 0.95                                                                                                                                                                    | 1.00                                                                                                                                                                    | 1.00                                                                                |
| Satd. Flow (prot)                 | 3433                                                                                                                                                                | 3539                                                                                                                                                                | 1583                                                                              | 3433                                                                                                                                                                | 3539                                                                                                                                                                | 1583                                                                              | 3433                                                                                                                                                                   | 3539                                                                                                                                                                    | 1583                                                                                | 3433                                                                                                                                                                    | 3539                                                                                                                                                                    | 1583                                                                                |
| Flt Permitted                     | 0.95                                                                                                                                                                | 1.00                                                                                                                                                                | 1.00                                                                              | 0.95                                                                                                                                                                | 1.00                                                                                                                                                                | 1.00                                                                              | 0.95                                                                                                                                                                   | 1.00                                                                                                                                                                    | 1.00                                                                                | 0.95                                                                                                                                                                    | 1.00                                                                                                                                                                    | 1.00                                                                                |
| Satd. Flow (perm)                 | 3433                                                                                                                                                                | 3539                                                                                                                                                                | 1583                                                                              | 3433                                                                                                                                                                | 3539                                                                                                                                                                | 1583                                                                              | 3433                                                                                                                                                                   | 3539                                                                                                                                                                    | 1583                                                                                | 3433                                                                                                                                                                    | 3539                                                                                                                                                                    | 1583                                                                                |
| Peak-hour factor, PHF             | 0.96                                                                                                                                                                | 0.96                                                                                                                                                                | 0.96                                                                              | 0.96                                                                                                                                                                | 0.96                                                                                                                                                                | 0.96                                                                              | 0.96                                                                                                                                                                   | 0.96                                                                                                                                                                    | 0.96                                                                                | 0.96                                                                                                                                                                    | 0.96                                                                                                                                                                    | 0.96                                                                                |
| Adj. Flow (vph)                   | 260                                                                                                                                                                 | 2547                                                                                                                                                                | 875                                                                               | 198                                                                                                                                                                 | 1031                                                                                                                                                                | 47                                                                                | 1073                                                                                                                                                                   | 984                                                                                                                                                                     | 328                                                                                 | 78                                                                                                                                                                      | 943                                                                                                                                                                     | 214                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                                                                                                   | 0                                                                                                                                                                   | 151                                                                               | 0                                                                                                                                                                   | 0                                                                                                                                                                   | 20                                                                                | 0                                                                                                                                                                      | 0                                                                                                                                                                       | 57                                                                                  | 0                                                                                                                                                                       | 0                                                                                                                                                                       | 98                                                                                  |
| Lane Group Flow (vph)             | 260                                                                                                                                                                 | 2547                                                                                                                                                                | 724                                                                               | 198                                                                                                                                                                 | 1031                                                                                                                                                                | 27                                                                                | 1073                                                                                                                                                                   | 984                                                                                                                                                                     | 271                                                                                 | 78                                                                                                                                                                      | 943                                                                                                                                                                     | 116                                                                                 |
| Turn Type                         | Prot                                                                                                                                                                |                                                                                                                                                                     | Perm                                                                              | Prot                                                                                                                                                                |                                                                                                                                                                     | Perm                                                                              | Prot                                                                                                                                                                   |                                                                                                                                                                         | Perm                                                                                | Prot                                                                                                                                                                    |                                                                                                                                                                         | Perm                                                                                |
| Protected Phases                  | 1                                                                                                                                                                   | 6                                                                                                                                                                   |                                                                                   | 5                                                                                                                                                                   | 2                                                                                                                                                                   |                                                                                   | 7                                                                                                                                                                      | 4                                                                                                                                                                       |                                                                                     | 3                                                                                                                                                                       | 8                                                                                                                                                                       |                                                                                     |
| Permitted Phases                  |                                                                                                                                                                     |                                                                                                                                                                     | 6                                                                                 |                                                                                                                                                                     |                                                                                                                                                                     | 2                                                                                 |                                                                                                                                                                        |                                                                                                                                                                         | 4                                                                                   |                                                                                                                                                                         |                                                                                                                                                                         | 8                                                                                   |
| Actuated Green, G (s)             | 10.8                                                                                                                                                                | 49.2                                                                                                                                                                | 49.2                                                                              | 4.0                                                                                                                                                                 | 42.4                                                                                                                                                                | 42.4                                                                              | 19.0                                                                                                                                                                   | 37.6                                                                                                                                                                    | 37.6                                                                                | 3.2                                                                                                                                                                     | 21.8                                                                                                                                                                    | 21.8                                                                                |
| Effective Green, g (s)            | 10.8                                                                                                                                                                | 49.2                                                                                                                                                                | 49.2                                                                              | 4.0                                                                                                                                                                 | 42.4                                                                                                                                                                | 42.4                                                                              | 19.0                                                                                                                                                                   | 37.6                                                                                                                                                                    | 37.6                                                                                | 3.2                                                                                                                                                                     | 21.8                                                                                                                                                                    | 21.8                                                                                |
| Actuated g/C Ratio                | 0.10                                                                                                                                                                | 0.45                                                                                                                                                                | 0.45                                                                              | 0.04                                                                                                                                                                | 0.39                                                                                                                                                                | 0.39                                                                              | 0.17                                                                                                                                                                   | 0.34                                                                                                                                                                    | 0.34                                                                                | 0.03                                                                                                                                                                    | 0.20                                                                                                                                                                    | 0.20                                                                                |
| Clearance Time (s)                | 4.0                                                                                                                                                                 | 4.0                                                                                                                                                                 | 4.0                                                                               | 4.0                                                                                                                                                                 | 4.0                                                                                                                                                                 | 4.0                                                                               | 4.0                                                                                                                                                                    | 4.0                                                                                                                                                                     | 4.0                                                                                 | 4.0                                                                                                                                                                     | 4.0                                                                                                                                                                     | 4.0                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                                                                                                                 | 3.0                                                                                                                                                                 | 3.0                                                                               | 3.0                                                                                                                                                                 | 3.0                                                                                                                                                                 | 3.0                                                                               | 3.0                                                                                                                                                                    | 3.0                                                                                                                                                                     | 3.0                                                                                 | 3.0                                                                                                                                                                     | 3.0                                                                                                                                                                     | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 337                                                                                                                                                                 | 1583                                                                                                                                                                | 708                                                                               | 125                                                                                                                                                                 | 1364                                                                                                                                                                | 610                                                                               | 593                                                                                                                                                                    | 1210                                                                                                                                                                    | 541                                                                                 | 100                                                                                                                                                                     | 701                                                                                                                                                                     | 314                                                                                 |
| v/s Ratio Prot                    | 0.08                                                                                                                                                                | c0.72                                                                                                                                                               |                                                                                   | c0.06                                                                                                                                                               | 0.29                                                                                                                                                                |                                                                                   | c0.31                                                                                                                                                                  | 0.28                                                                                                                                                                    |                                                                                     | 0.02                                                                                                                                                                    | c0.27                                                                                                                                                                   |                                                                                     |
| v/s Ratio Perm                    |                                                                                                                                                                     |                                                                                                                                                                     | 0.46                                                                              |                                                                                                                                                                     |                                                                                                                                                                     | 0.02                                                                              |                                                                                                                                                                        |                                                                                                                                                                         | 0.17                                                                                |                                                                                                                                                                         |                                                                                                                                                                         | 0.07                                                                                |
| v/c Ratio                         | 0.77                                                                                                                                                                | 1.61                                                                                                                                                                | 1.02                                                                              | 1.58                                                                                                                                                                | 0.76                                                                                                                                                                | 0.04                                                                              | 1.81                                                                                                                                                                   | 0.81                                                                                                                                                                    | 0.50                                                                                | 0.78                                                                                                                                                                    | 1.35                                                                                                                                                                    | 0.37                                                                                |
| Uniform Delay, d1                 | 48.4                                                                                                                                                                | 30.4                                                                                                                                                                | 30.4                                                                              | 53.0                                                                                                                                                                | 29.3                                                                                                                                                                | 21.1                                                                              | 45.5                                                                                                                                                                   | 33.0                                                                                                                                                                    | 28.8                                                                                | 53.1                                                                                                                                                                    | 44.1                                                                                                                                                                    | 38.2                                                                                |
| Progression Factor                | 1.05                                                                                                                                                                | 0.63                                                                                                                                                                | 0.41                                                                              | 1.00                                                                                                                                                                | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                                                                                                                   | 1.00                                                                                                                                                                    | 1.00                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                                                                                                    | 1.00                                                                                |
| Incremental Delay, d2             | 4.6                                                                                                                                                                 | 275.3                                                                                                                                                               | 27.5                                                                              | 297.3                                                                                                                                                               | 3.9                                                                                                                                                                 | 0.1                                                                               | 370.9                                                                                                                                                                  | 4.3                                                                                                                                                                     | 0.7                                                                                 | 31.6                                                                                                                                                                    | 164.8                                                                                                                                                                   | 0.7                                                                                 |
| Delay (s)                         | 55.3                                                                                                                                                                | 294.4                                                                                                                                                               | 39.9                                                                              | 350.3                                                                                                                                                               | 33.3                                                                                                                                                                | 21.3                                                                              | 416.4                                                                                                                                                                  | 37.3                                                                                                                                                                    | 29.5                                                                                | 84.6                                                                                                                                                                    | 208.9                                                                                                                                                                   | 38.9                                                                                |
| Level of Service                  | E                                                                                                                                                                   | F                                                                                                                                                                   | D                                                                                 | F                                                                                                                                                                   | C                                                                                                                                                                   | C                                                                                 | F                                                                                                                                                                      | D                                                                                                                                                                       | C                                                                                   | F                                                                                                                                                                       | F                                                                                                                                                                       | D                                                                                   |
| Approach Delay (s)                |                                                                                                                                                                     | 217.1                                                                                                                                                               |                                                                                   |                                                                                                                                                                     | 82.0                                                                                                                                                                |                                                                                   |                                                                                                                                                                        | 206.8                                                                                                                                                                   |                                                                                     |                                                                                                                                                                         | 171.6                                                                                                                                                                   |                                                                                     |
| Approach LOS                      |                                                                                                                                                                     | F                                                                                                                                                                   |                                                                                   |                                                                                                                                                                     | F                                                                                                                                                                   |                                                                                   |                                                                                                                                                                        | F                                                                                                                                                                       |                                                                                     |                                                                                                                                                                         | F                                                                                                                                                                       |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                        |                                                                                                                                                                         |                                                                                     |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                     |
| HCM Average Control Delay         |                                                                                                                                                                     |                                                                                                                                                                     | 187.6                                                                             | HCM Level of Service                                                                                                                                                |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                        | F                                                                                                                                                                       |                                                                                     |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                     |
| HCM Volume to Capacity ratio      |                                                                                                                                                                     |                                                                                                                                                                     | 1.59                                                                              |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                        |                                                                                                                                                                         |                                                                                     |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                                                                                                     |                                                                                                                                                                     | 110.0                                                                             | Sum of lost time (s)                                                                                                                                                |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                        | 16.0                                                                                                                                                                    |                                                                                     |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                     |
| Intersection Capacity Utilization |                                                                                                                                                                     |                                                                                                                                                                     | 140.7%                                                                            | ICU Level of Service                                                                                                                                                |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                        | H                                                                                                                                                                       |                                                                                     |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                     |
| Analysis Period (min)             |                                                                                                                                                                     |                                                                                                                                                                     | 15                                                                                |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                        |                                                                                                                                                                         |                                                                                     |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                     |
| c                                 | Critical Lane Group                                                                                                                                                 |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                        |                                                                                                                                                                         |                                                                                     |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                     |

## **SH 7 Preferred Alternative PM Traffic**

# HCM Signalized Intersection Capacity Analysis

## 1: SH 7 & SB Ramps

SH 7

Action - PM



| Movement               | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR   |
|------------------------|------|------|-------|------|------|------|------|------|------|------|------|-------|
| Lane Configurations    |      | ↑↑↑  | ↗     |      | ↑↑↑  |      |      |      |      | ↘    | ↖    | ↗     |
| Volume (vph)           | 0    | 2070 | 1185  | 0    | 1875 | 0    | 0    | 0    | 0    | 880  | 1    | 145   |
| Ideal Flow (vphpl)     | 1900 | 1900 | 1900  | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900  |
| Total Lost time (s)    |      | 4.0  | 4.0   |      | 4.0  |      |      |      |      | 4.0  | 4.0  | 4.0   |
| Lane Util. Factor      |      | 0.91 | 1.00  |      | 0.91 |      |      |      |      | 0.95 | 0.95 | 1.00  |
| Frt                    |      | 1.00 | 0.85  |      | 1.00 |      |      |      |      | 1.00 | 1.00 | 0.85  |
| Flt Protected          |      | 1.00 | 1.00  |      | 1.00 |      |      |      |      | 0.95 | 0.95 | 1.00  |
| Satd. Flow (prot)      |      | 4715 | 1468  |      | 4715 |      |      |      |      | 1559 | 1563 | 1468  |
| Flt Permitted          |      | 1.00 | 1.00  |      | 1.00 |      |      |      |      | 0.95 | 0.95 | 1.00  |
| Satd. Flow (perm)      |      | 4715 | 1468  |      | 4715 |      |      |      |      | 1559 | 1563 | 1468  |
| Peak-hour factor, PHF  | 0.96 | 0.96 | 0.96  | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96  |
| Adj. Flow (vph)        | 0    | 2156 | 1234  | 0    | 1953 | 0    | 0    | 0    | 0    | 917  | 1    | 151   |
| RTOR Reduction (vph)   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| Lane Group Flow (vph)  | 0    | 2156 | 1234  | 0    | 1953 | 0    | 0    | 0    | 0    | 458  | 460  | 151   |
| Heavy Vehicles (%)     | 2%   | 10%  | 10%   | 10%  | 10%  | 2%   | 2%   | 2%   | 2%   | 10%  | 2%   | 10%   |
| Turn Type              |      |      | Free  |      |      |      |      |      |      | Perm |      | Free  |
| Protected Phases       |      | 2    |       |      | 2    |      |      |      |      |      | 4    |       |
| Permitted Phases       |      |      | Free  |      |      |      |      |      |      | 4    |      | Free  |
| Actuated Green, G (s)  |      | 57.0 | 110.0 |      | 57.0 |      |      |      |      | 42.0 | 42.0 | 110.0 |
| Effective Green, g (s) |      | 59.0 | 110.0 |      | 59.0 |      |      |      |      | 43.0 | 43.0 | 110.0 |
| Actuated g/C Ratio     |      | 0.54 | 1.00  |      | 0.54 |      |      |      |      | 0.39 | 0.39 | 1.00  |
| Clearance Time (s)     |      | 6.0  |       |      | 6.0  |      |      |      |      | 5.0  | 5.0  |       |
| Vehicle Extension (s)  |      | 3.0  |       |      | 3.0  |      |      |      |      | 3.0  | 3.0  |       |
| Lane Grp Cap (vph)     |      | 2529 | 1468  |      | 2529 |      |      |      |      | 609  | 611  | 1468  |
| v/s Ratio Prot         |      | 0.46 |       |      | 0.41 |      |      |      |      |      |      |       |
| v/s Ratio Perm         |      |      | c0.84 |      |      |      |      |      |      | 0.29 | 0.29 | 0.10  |
| v/c Ratio              |      | 0.85 | 0.84  |      | 0.77 |      |      |      |      | 0.75 | 0.75 | 0.10  |
| Uniform Delay, d1      |      | 21.8 | 0.0   |      | 20.2 |      |      |      |      | 28.9 | 28.9 | 0.0   |
| Progression Factor     |      | 0.40 | 1.00  |      | 0.64 |      |      |      |      | 1.00 | 1.00 | 1.00  |
| Incremental Delay, d2  |      | 0.4  | 0.6   |      | 1.8  |      |      |      |      | 8.3  | 8.3  | 0.1   |
| Delay (s)              |      | 9.1  | 0.6   |      | 14.7 |      |      |      |      | 37.2 | 37.3 | 0.1   |
| Level of Service       |      | A    | A     |      | B    |      |      |      |      | D    | D    | A     |
| Approach Delay (s)     |      | 6.0  |       |      | 14.7 |      |      | 0.0  |      |      | 32.0 |       |
| Approach LOS           |      | A    |       |      | B    |      |      | A    |      |      | C    |       |

### Intersection Summary

|                                   |       |                      |     |
|-----------------------------------|-------|----------------------|-----|
| HCM Average Control Delay         | 13.0  | HCM Level of Service | B   |
| HCM Volume to Capacity ratio      | 0.84  |                      |     |
| Actuated Cycle Length (s)         | 110.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 71.1% | ICU Level of Service | C   |
| Analysis Period (min)             | 15    |                      |     |

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 2: SH 7 & NB Ramps

SH 7  
Action - PM



| Movement               | EBL  | EBT  | EBR  | WBL  | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT  | SBR  |
|------------------------|------|------|------|------|-------|-------|------|-------|-------|------|------|------|
| Lane Configurations    |      | ↑↑↑  |      |      | ↑↑↑   | ↗     | ↘↗   | ↖     | ↗     |      |      |      |
| Volume (vph)           | 0    | 2665 | 0    | 0    | 1870  | 635   | 985  | 1     | 1680  | 0    | 0    | 0    |
| Ideal Flow (vphpl)     | 1900 | 1900 | 1900 | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900 |
| Total Lost time (s)    |      | 3.0  |      |      | 4.0   | 4.0   | 4.0  | 4.0   | 4.0   |      |      |      |
| Lane Util. Factor      |      | 0.91 |      |      | *0.91 | 1.00  | 0.91 | 0.91  | 1.00  |      |      |      |
| Frt                    |      | 1.00 |      |      | 1.00  | 0.85  | 1.00 | 1.00  | 0.85  |      |      |      |
| Flt Protected          |      | 1.00 |      |      | 1.00  | 1.00  | 0.95 | 0.95  | 1.00  |      |      |      |
| Satd. Flow (prot)      |      | 4715 |      |      | 4715  | 1468  | 2986 | 1497  | 1468  |      |      |      |
| Flt Permitted          |      | 1.00 |      |      | 1.00  | 1.00  | 0.95 | 0.95  | 1.00  |      |      |      |
| Satd. Flow (perm)      |      | 4715 |      |      | 4715  | 1468  | 2986 | 1497  | 1468  |      |      |      |
| Peak-hour factor, PHF  | 0.96 | 0.96 | 0.96 | 0.96 | 0.96  | 0.96  | 0.96 | 0.96  | 0.96  | 0.96 | 0.96 | 0.96 |
| Adj. Flow (vph)        | 0    | 2776 | 0    | 0    | 1948  | 661   | 1026 | 1     | 1750  | 0    | 0    | 0    |
| RTOR Reduction (vph)   | 0    | 0    | 0    | 0    | 0     | 0     | 0    | 0     | 0     | 0    | 0    | 0    |
| Lane Group Flow (vph)  | 0    | 2776 | 0    | 0    | 1948  | 661   | 687  | 340   | 1750  | 0    | 0    | 0    |
| Heavy Vehicles (%)     | 10%  | 10%  | 2%   | 2%   | 10%   | 10%   | 10%  | 2%    | 10%   | 2%   | 2%   | 2%   |
| Turn Type              |      |      |      |      |       | Free  | Perm |       | Free  |      |      |      |
| Protected Phases       |      | 6    |      |      | 6     |       |      | 8     |       |      |      |      |
| Permitted Phases       |      |      |      |      |       | Free  | 8    |       | Free  |      |      |      |
| Actuated Green, G (s)  |      | 66.7 |      |      | 66.7  | 110.0 | 33.3 | 33.3  | 110.0 |      |      |      |
| Effective Green, g (s) |      | 67.7 |      |      | 66.7  | 110.0 | 35.3 | 35.3  | 110.0 |      |      |      |
| Actuated g/C Ratio     |      | 0.62 |      |      | 0.61  | 1.00  | 0.32 | 0.32  | 1.00  |      |      |      |
| Clearance Time (s)     |      | 4.0  |      |      | 4.0   |       | 6.0  | 6.0   |       |      |      |      |
| Vehicle Extension (s)  |      | 3.0  |      |      | 3.0   |       | 3.0  | 3.0   |       |      |      |      |
| Lane Grp Cap (vph)     |      | 2902 |      |      | 2859  | 1468  | 958  | 480   | 1468  |      |      |      |
| v/s Ratio Prot         |      | 0.59 |      |      | 0.41  |       |      |       |       |      |      |      |
| v/s Ratio Perm         |      |      |      |      |       | 0.45  | 0.23 | 0.23  | c1.19 |      |      |      |
| v/c Ratio              |      | 0.96 |      |      | 0.68  | 0.45  | 0.72 | 0.71  | 1.19  |      |      |      |
| Uniform Delay, d1      |      | 19.8 |      |      | 14.5  | 0.0   | 32.9 | 32.8  | 55.0  |      |      |      |
| Progression Factor     |      | 0.75 |      |      | 0.61  | 1.00  | 1.00 | 1.00  | 1.00  |      |      |      |
| Incremental Delay, d2  |      | 5.7  |      |      | 0.1   | 0.1   | 2.6  | 4.7   | 93.5  |      |      |      |
| Delay (s)              |      | 20.5 |      |      | 9.0   | 0.1   | 35.5 | 37.6  | 148.5 |      |      |      |
| Level of Service       |      | C    |      |      | A     | A     | D    | D     | F     |      |      |      |
| Approach Delay (s)     |      | 20.5 |      |      | 6.7   |       |      | 107.0 |       |      | 0.0  |      |
| Approach LOS           |      | C    |      |      | A     |       |      | F     |       |      | A    |      |

### Intersection Summary

|                                   |       |                      |     |
|-----------------------------------|-------|----------------------|-----|
| HCM Average Control Delay         | 45.5  | HCM Level of Service | D   |
| HCM Volume to Capacity ratio      | 1.19  |                      |     |
| Actuated Cycle Length (s)         | 110.0 | Sum of lost time (s) | 0.0 |
| Intersection Capacity Utilization | 76.4% | ICU Level of Service | D   |
| Analysis Period (min)             | 15    |                      |     |

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 12: South Carpool Access & Street A

SH 7  
 Action - PM



























| Movement               | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
|------------------------|------|------|------|------|------|------|
| Lane Configurations    |      |      |      |      |      |      |
| Volume (veh/h)         | 20   | 125  | 365  | 10   | 50   | 425  |
| Sign Control           | Stop |      | Free |      |      | Free |
| Grade                  | 0%   |      | 0%   |      |      | 0%   |
| Peak Hour Factor       | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Hourly flow rate (vph) | 21   | 130  | 380  | 10   | 52   | 443  |
| Pedestrians            |      |      |      |      |      |      |
| Lane Width (ft)        |      |      |      |      |      |      |
| Walking Speed (ft/s)   |      |      |      |      |      |      |
| Percent Blockage       |      |      |      |      |      |      |
| Right turn flare (veh) |      |      |      |      |      |      |
| Median type            |      |      | None |      |      | None |
| Median storage (veh)   |      |      |      |      |      |      |
| Upstream signal (ft)   |      |      |      |      |      | 503  |
| pX, platoon unblocked  |      |      |      |      |      |      |
| vC, conflicting volume | 927  | 380  |      |      | 391  |      |
| vC1, stage 1 conf vol  |      |      |      |      |      |      |
| vC2, stage 2 conf vol  |      |      |      |      |      |      |
| vCu, unblocked vol     | 927  | 380  |      |      | 391  |      |
| tC, single (s)         | 6.4  | 6.2  |      |      | 4.1  |      |
| tC, 2 stage (s)        |      |      |      |      |      |      |
| tF (s)                 | 3.5  | 3.3  |      |      | 2.2  |      |
| p0 queue free %        | 93   | 80   |      |      | 96   |      |
| cM capacity (veh/h)    | 285  | 667  |      |      | 1168 |      |

| Direction, Lane #      | WB 1 | WB 2 | NB 1 | NB 2 | SB 1 | SB 2 |
|------------------------|------|------|------|------|------|------|
| Volume Total           | 21   | 130  | 380  | 10   | 52   | 443  |
| Volume Left            | 21   | 0    | 0    | 0    | 52   | 0    |
| Volume Right           | 0    | 130  | 0    | 10   | 0    | 0    |
| cSH                    | 285  | 667  | 1700 | 1700 | 1168 | 1700 |
| Volume to Capacity     | 0.07 | 0.20 | 0.22 | 0.01 | 0.04 | 0.26 |
| Queue Length 95th (ft) | 6    | 18   | 0    | 0    | 3    | 0    |
| Control Delay (s)      | 18.6 | 11.7 | 0.0  | 0.0  | 8.2  | 0.0  |
| Lane LOS               | C    | B    |      |      | A    |      |
| Approach Delay (s)     | 12.7 |      | 0.0  |      | 0.9  |      |
| Approach LOS           | B    |      |      |      |      |      |

| Intersection Summary              |  |  |       |  |                      |   |
|-----------------------------------|--|--|-------|--|----------------------|---|
| Average Delay                     |  |  | 2.3   |  |                      |   |
| Intersection Capacity Utilization |  |  | 35.9% |  | ICU Level of Service | A |
| Analysis Period (min)             |  |  | 15    |  |                      |   |

HCM Signalized Intersection Capacity Analysis  
 16: SH 7 & Street A

SH 7  
 Action - PM

|                        |  |  |  |  |  |  |   |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement               | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |  |  |
| Volume (vph)           | 325                                                                               | 2375                                                                              | 165                                                                               | 290                                                                               | 1335                                                                              | 395                                                                               | 175                                                                                 | 20                                                                                  | 295                                                                                 | 585                                                                                 | 20                                                                                  | 300                                                                                 |
| Ideal Flow (vphpl)     | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)    | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                 | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Lane Util. Factor      | 0.97                                                                              | 0.91                                                                              | 1.00                                                                              | 0.97                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                |                                                                                     | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frt                    | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                                | 0.86                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected          | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                | 1.00                                                                                |                                                                                     | 0.95                                                                                | 0.96                                                                                | 1.00                                                                                |
| Satd. Flow (prot)      | 3433                                                                              | 4715                                                                              | 1583                                                                              | 3433                                                                              | 4715                                                                              | 1583                                                                              | 1770                                                                                | 1601                                                                                |                                                                                     | 1681                                                                                | 1691                                                                                | 1583                                                                                |
| Flt Permitted          | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.56                                                                                | 1.00                                                                                |                                                                                     | 0.20                                                                                | 0.19                                                                                | 1.00                                                                                |
| Satd. Flow (perm)      | 3433                                                                              | 4715                                                                              | 1583                                                                              | 3433                                                                              | 4715                                                                              | 1583                                                                              | 1046                                                                                | 1601                                                                                |                                                                                     | 354                                                                                 | 342                                                                                 | 1583                                                                                |
| Peak-hour factor, PHF  | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 0.96                                                                                | 0.96                                                                                | 0.96                                                                                | 0.96                                                                                | 0.96                                                                                | 0.96                                                                                |
| Adj. Flow (vph)        | 339                                                                               | 2474                                                                              | 172                                                                               | 302                                                                               | 1391                                                                              | 411                                                                               | 182                                                                                 | 21                                                                                  | 307                                                                                 | 609                                                                                 | 21                                                                                  | 312                                                                                 |
| RTOR Reduction (vph)   | 0                                                                                 | 0                                                                                 | 81                                                                                | 0                                                                                 | 0                                                                                 | 229                                                                               | 0                                                                                   | 121                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 235                                                                                 |
| Lane Group Flow (vph)  | 339                                                                               | 2474                                                                              | 91                                                                                | 302                                                                               | 1391                                                                              | 182                                                                               | 182                                                                                 | 207                                                                                 | 0                                                                                   | 317                                                                                 | 313                                                                                 | 77                                                                                  |
| Heavy Vehicles (%)     | 2%                                                                                | 10%                                                                               | 2%                                                                                | 2%                                                                                | 10%                                                                               | 2%                                                                                | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Turn Type              | Prot                                                                              |                                                                                   | Perm                                                                              | Prot                                                                              |                                                                                   | Perm                                                                              | pm+pt                                                                               |                                                                                     |                                                                                     | pm+pt                                                                               |                                                                                     | Perm                                                                                |
| Protected Phases       | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 5                                                                                   | 2                                                                                   |                                                                                     | 1                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases       |                                                                                   |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)  | 15.2                                                                              | 55.0                                                                              | 55.0                                                                              | 9.0                                                                               | 48.8                                                                              | 48.8                                                                              | 20.0                                                                                | 16.0                                                                                |                                                                                     | 34.0                                                                                | 34.0                                                                                | 26.0                                                                                |
| Effective Green, g (s) | 15.2                                                                              | 55.0                                                                              | 55.0                                                                              | 9.0                                                                               | 48.8                                                                              | 48.8                                                                              | 20.0                                                                                | 16.0                                                                                |                                                                                     | 34.0                                                                                | 34.0                                                                                | 26.0                                                                                |
| Actuated g/C Ratio     | 0.14                                                                              | 0.50                                                                              | 0.50                                                                              | 0.08                                                                              | 0.44                                                                              | 0.44                                                                              | 0.18                                                                                | 0.15                                                                                |                                                                                     | 0.31                                                                                | 0.31                                                                                | 0.24                                                                                |
| Clearance Time (s)     | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                 | 4.0                                                                                 |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Vehicle Extension (s)  | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)     | 474                                                                               | 2358                                                                              | 792                                                                               | 281                                                                               | 2092                                                                              | 702                                                                               | 217                                                                                 | 233                                                                                 |                                                                                     | 278                                                                                 | 277                                                                                 | 374                                                                                 |
| v/s Ratio Prot         | 0.10                                                                              | c0.52                                                                             |                                                                                   | c0.09                                                                             | 0.29                                                                              |                                                                                   | 0.03                                                                                | 0.13                                                                                |                                                                                     | c0.14                                                                               | 0.14                                                                                |                                                                                     |
| v/s Ratio Perm         |                                                                                   |                                                                                   | 0.06                                                                              |                                                                                   |                                                                                   | 0.12                                                                              | 0.12                                                                                |                                                                                     |                                                                                     | c0.21                                                                               | 0.21                                                                                | 0.05                                                                                |
| v/c Ratio              | 0.72                                                                              | 1.05                                                                              | 0.11                                                                              | 1.07                                                                              | 0.66                                                                              | 0.26                                                                              | 0.84                                                                                | 0.89                                                                                |                                                                                     | 1.14                                                                                | 1.13                                                                                | 0.21                                                                                |
| Uniform Delay, d1      | 45.3                                                                              | 27.5                                                                              | 14.6                                                                              | 50.5                                                                              | 24.1                                                                              | 19.2                                                                              | 42.4                                                                                | 46.1                                                                                |                                                                                     | 33.8                                                                                | 38.0                                                                                | 33.7                                                                                |
| Progression Factor     | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.70                                                                              | 0.43                                                                              | 0.22                                                                              | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2  | 5.1                                                                               | 33.0                                                                              | 0.3                                                                               | 65.5                                                                              | 1.1                                                                               | 0.6                                                                               | 23.7                                                                                | 30.6                                                                                |                                                                                     | 97.3                                                                                | 93.7                                                                                | 0.3                                                                                 |
| Delay (s)              | 50.4                                                                              | 60.5                                                                              | 14.9                                                                              | 100.7                                                                             | 11.5                                                                              | 4.8                                                                               | 66.0                                                                                | 76.7                                                                                |                                                                                     | 131.0                                                                               | 131.7                                                                               | 34.0                                                                                |
| Level of Service       | D                                                                                 | E                                                                                 | B                                                                                 | F                                                                                 | B                                                                                 | A                                                                                 | E                                                                                   | E                                                                                   |                                                                                     | F                                                                                   | F                                                                                   | C                                                                                   |
| Approach Delay (s)     |                                                                                   | 56.8                                                                              |                                                                                   |                                                                                   | 23.0                                                                              |                                                                                   |                                                                                     | 72.9                                                                                |                                                                                     |                                                                                     | 99.1                                                                                |                                                                                     |
| Approach LOS           |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                     | E                                                                                   |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |

| Intersection Summary              |        |                           |
|-----------------------------------|--------|---------------------------|
| HCM Average Control Delay         | 53.3   | HCM Level of Service D    |
| HCM Volume to Capacity ratio      | 1.07   |                           |
| Actuated Cycle Length (s)         | 110.0  | Sum of lost time (s) 12.0 |
| Intersection Capacity Utilization | 103.5% | ICU Level of Service G    |
| Analysis Period (min)             | 15     |                           |

c Critical Lane Group



# HCM Signalized Intersection Capacity Analysis

## 20: SH 7 & Washington St

SH 7  
Action - PM



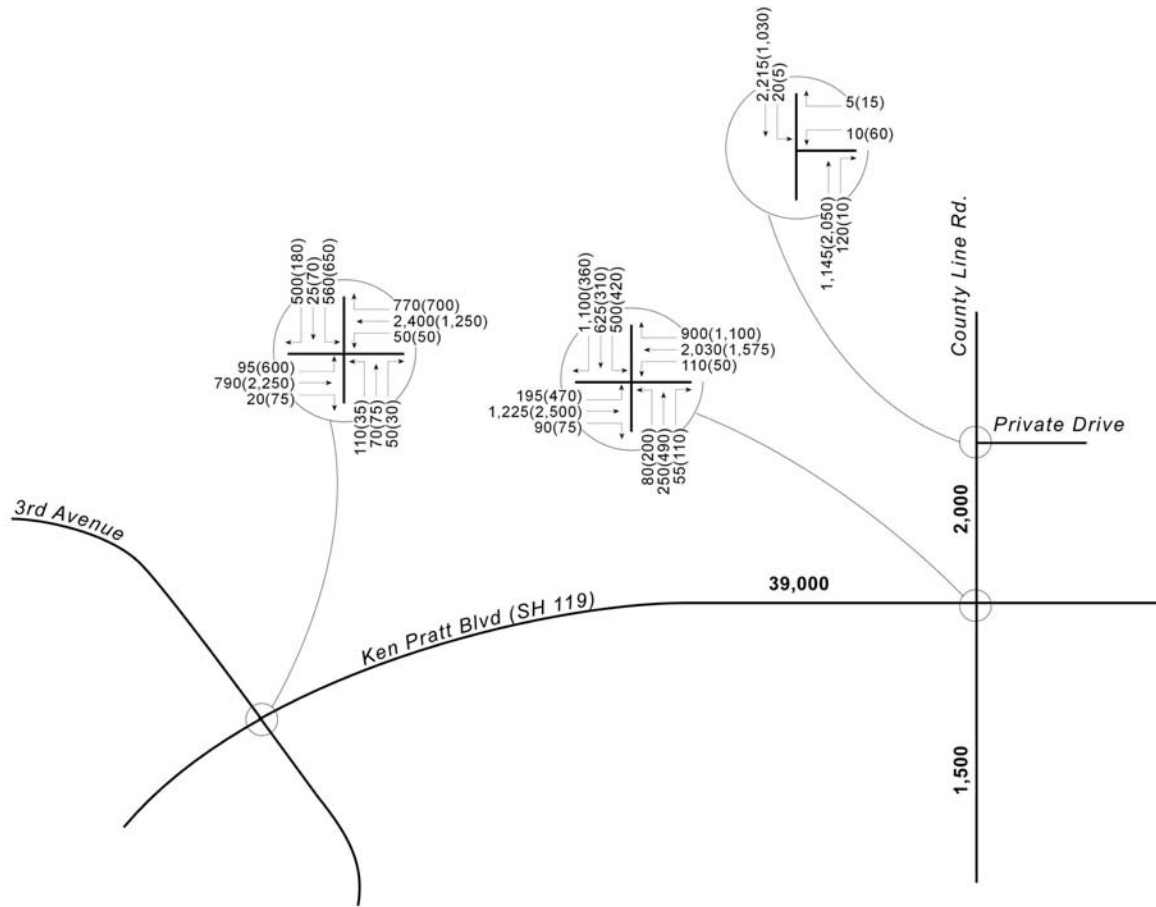
| Movement               | SEL  | SET   | SER  | NWL   | NWT  | NWR  | NEL   | NET   | NER  | SWL  | SWT   | SWR  |
|------------------------|------|-------|------|-------|------|------|-------|-------|------|------|-------|------|
| Lane Configurations    |      |       |      |       |      |      |       |       |      |      |       |      |
| Volume (vph)           | 250  | 2580  | 940  | 190   | 1090 | 45   | 1105  | 945   | 315  | 75   | 905   | 205  |
| Ideal Flow (vphpl)     | 1900 | 1900  | 1900 | 1900  | 1900 | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  | 1900 |
| Total Lost time (s)    | 4.0  | 4.0   | 4.0  | 4.0   | 4.0  | 4.0  | 4.0   | 4.0   | 4.0  | 4.0  | 4.0   | 4.0  |
| Lane Util. Factor      | 0.97 | 0.95  | 1.00 | 0.97  | 0.95 | 1.00 | 0.97  | 0.95  | 1.00 | 0.97 | 0.95  | 1.00 |
| Frt                    | 1.00 | 1.00  | 0.85 | 1.00  | 1.00 | 0.85 | 1.00  | 1.00  | 0.85 | 1.00 | 1.00  | 0.85 |
| Flt Protected          | 0.95 | 1.00  | 1.00 | 0.95  | 1.00 | 1.00 | 0.95  | 1.00  | 1.00 | 0.95 | 1.00  | 1.00 |
| Satd. Flow (prot)      | 3433 | 3539  | 1583 | 3433  | 3539 | 1583 | 3433  | 3539  | 1583 | 3433 | 3539  | 1583 |
| Flt Permitted          | 0.95 | 1.00  | 1.00 | 0.95  | 1.00 | 1.00 | 0.95  | 1.00  | 1.00 | 0.95 | 1.00  | 1.00 |
| Satd. Flow (perm)      | 3433 | 3539  | 1583 | 3433  | 3539 | 1583 | 3433  | 3539  | 1583 | 3433 | 3539  | 1583 |
| Peak-hour factor, PHF  | 0.96 | 0.96  | 0.96 | 0.96  | 0.96 | 0.96 | 0.96  | 0.96  | 0.96 | 0.96 | 0.96  | 0.96 |
| Adj. Flow (vph)        | 260  | 2688  | 979  | 198   | 1135 | 47   | 1151  | 984   | 328  | 78   | 943   | 214  |
| RTOR Reduction (vph)   | 0    | 0     | 161  | 0     | 0    | 18   | 0     | 0     | 57   | 0    | 0     | 98   |
| Lane Group Flow (vph)  | 260  | 2688  | 818  | 198   | 1135 | 29   | 1151  | 984   | 271  | 78   | 943   | 116  |
| Turn Type              | Prot |       | Perm | Prot  |      | Perm | Prot  |       | Perm | Prot |       | Perm |
| Protected Phases       | 1    | 6     |      | 5     | 2    |      | 7     | 4     |      | 3    | 8     |      |
| Permitted Phases       |      |       | 6    |       |      | 2    |       |       | 4    |      |       | 8    |
| Actuated Green, G (s)  | 10.8 | 49.2  | 49.2 | 4.0   | 42.4 | 42.4 | 19.0  | 37.6  | 37.6 | 3.2  | 21.8  | 21.8 |
| Effective Green, g (s) | 10.8 | 49.2  | 49.2 | 4.0   | 42.4 | 42.4 | 19.0  | 37.6  | 37.6 | 3.2  | 21.8  | 21.8 |
| Actuated g/C Ratio     | 0.10 | 0.45  | 0.45 | 0.04  | 0.39 | 0.39 | 0.17  | 0.34  | 0.34 | 0.03 | 0.20  | 0.20 |
| Clearance Time (s)     | 4.0  | 4.0   | 4.0  | 4.0   | 4.0  | 4.0  | 4.0   | 4.0   | 4.0  | 4.0  | 4.0   | 4.0  |
| Vehicle Extension (s)  | 3.0  | 3.0   | 3.0  | 3.0   | 3.0  | 3.0  | 3.0   | 3.0   | 3.0  | 3.0  | 3.0   | 3.0  |
| Lane Grp Cap (vph)     | 337  | 1583  | 708  | 125   | 1364 | 610  | 593   | 1210  | 541  | 100  | 701   | 314  |
| v/s Ratio Prot         | 0.08 | c0.76 |      | c0.06 | 0.32 |      | c0.34 | 0.28  |      | 0.02 | c0.27 |      |
| v/s Ratio Perm         |      |       | 0.52 |       |      | 0.02 |       |       | 0.17 |      |       | 0.07 |
| v/c Ratio              | 0.77 | 1.70  | 1.16 | 1.58  | 0.83 | 0.05 | 1.94  | 0.81  | 0.50 | 0.78 | 1.35  | 0.37 |
| Uniform Delay, d1      | 48.4 | 30.4  | 30.4 | 53.0  | 30.6 | 21.2 | 45.5  | 33.0  | 28.8 | 53.1 | 44.1  | 38.2 |
| Progression Factor     | 1.05 | 0.60  | 0.37 | 1.00  | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 |
| Incremental Delay, d2  | 1.0  | 314.4 | 71.7 | 297.3 | 6.1  | 0.1  | 429.6 | 4.3   | 0.7  | 31.6 | 164.8 | 0.7  |
| Delay (s)              | 51.8 | 332.6 | 83.1 | 350.3 | 36.6 | 21.3 | 475.1 | 37.3  | 29.5 | 84.6 | 208.9 | 38.9 |
| Level of Service       | D    | F     | F    | F     | D    | C    | F     | D     | C    | F    | F     | D    |
| Approach Delay (s)     |      | 251.8 |      |       | 81.1 |      |       | 240.9 |      |      | 171.6 |      |
| Approach LOS           |      | F     |      |       | F    |      |       | F     |      |      | F     |      |

### Intersection Summary

|                                   |        |                      |      |
|-----------------------------------|--------|----------------------|------|
| HCM Average Control Delay         | 211.7  | HCM Level of Service | F    |
| HCM Volume to Capacity ratio      | 1.66   |                      |      |
| Actuated Cycle Length (s)         | 110.0  | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 146.6% | ICU Level of Service | H    |
| Analysis Period (min)             | 15     |                      |      |
| c Critical Lane Group             |        |                      |      |

## **Sugarmill Package A PM Traffic**

# Longmont – Sugar Mill DEIS Commuter Rail Station Evaluation



**Legend**

- XXX/XXX AM/PM Peak Hour Traffic Volumes
- XXXX Daily Traffic Volumes
- X/X AM/PM Peak Hour Signalized Intersection Level Of Service
- x/x AM/PM Peak Hour Unsignalized Intersection Level Of Service
- Traffic Signal
- Stop Sign

**Figure 6b. 2030 Package A Background Traffic Forecasts – County Line Area**

### Park-and-Ride Trip Generation

The number of proposed spaces at the Sugar Mill park-and-ride lot was determined using the methodology outlined in the *North I-25 DEIS Parking Results* report (Carter & Burgess, November 2006). Using the results of this report, trip generation is estimated at each site, by applying the following factors.

- First, a conservative estimate of maximum utilized spaces is determined by multiplying the number of spaces provided by 90 percent (or 0.9). This is referred to as the *number of occupied spaces*.
- Then, the number of occupied spaces is multiplied by the factors shown in Table 4.

**Table 4. Peak Hour Trip Generation for North I-25 EIS Park-and Ride Lots**

|                          | Trip Rate | Entering | Exiting |
|--------------------------|-----------|----------|---------|
| <b>AM Peak Hour</b>      |           |          |         |
| Trips per occupied space | 0.75      | 87%      | 13%     |
| <b>PM Peak Hour</b>      |           |          |         |
| Trips per occupied space | 0.50      | 20%      | 80%     |

Three potential sites for the commuter rail station have been evaluated for the Sugar Mill location. The first, Site A, would be located south of Sugar Mill Road about 1/2 mile west of N. 119th St. with access provided from Sugar Mill Road. The second, Site G, would be located south of Rogers Road at the Weaver Park Road intersection with access provided from Rogers Road. The third, Site E would be located north of Ken Pratt Blvd about 1/2 mile west of County Line Road with access provided from County Line Road. The future peak hour traffic from the proposed station is shown in Table 5.

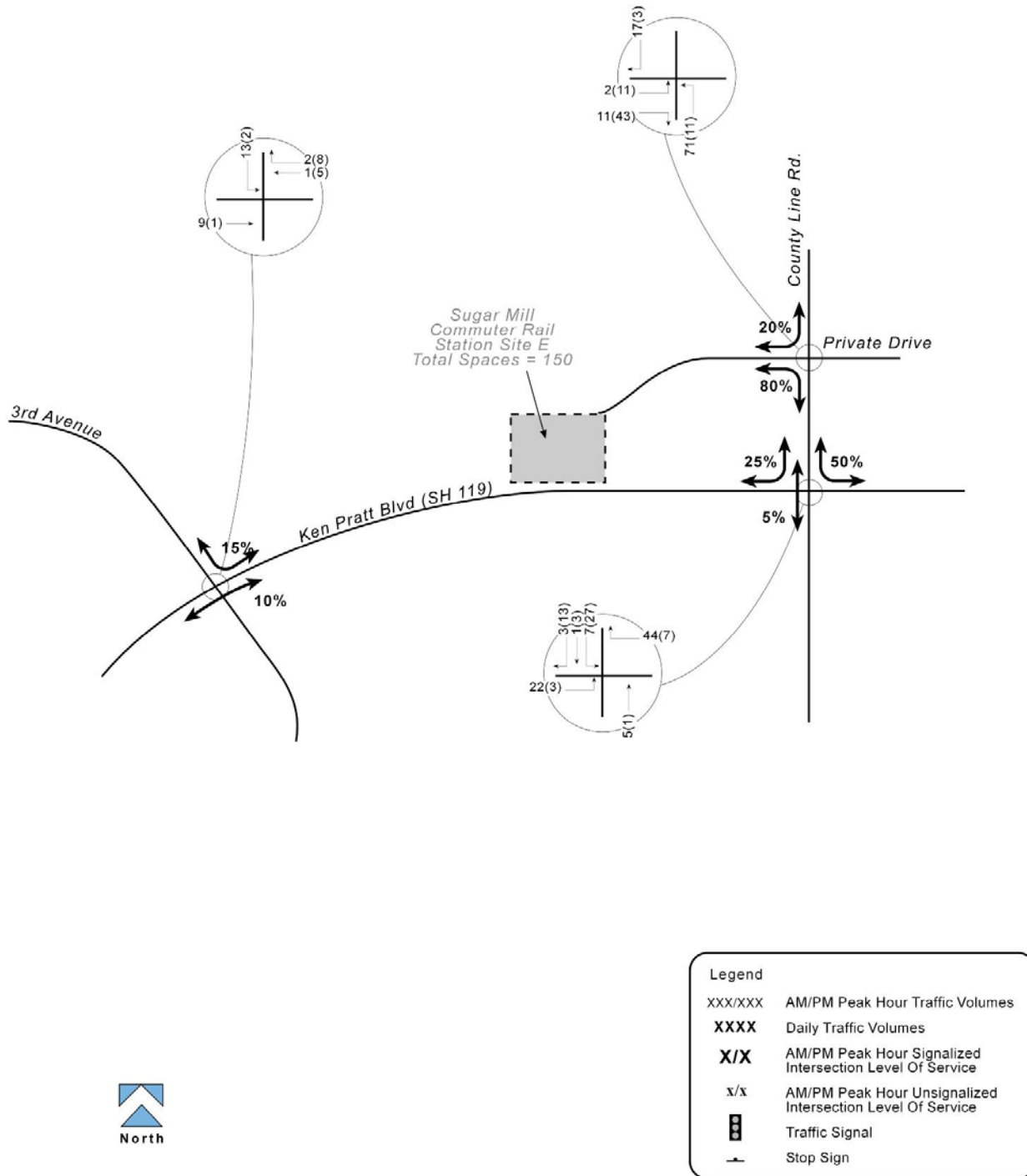
**Table 5. Future Peak Hour Traffic from the Ft. Lupton Park-and-Ride Lot**

| Location           | Daily Trips | AM Peak |     |       | PM Peak |     |       |
|--------------------|-------------|---------|-----|-------|---------|-----|-------|
|                    |             | In      | Out | Total | In      | Out | Total |
| Sugar Mill PNR Lot | 310         | 88      | 13  | 101   | 14      | 54  | 68    |

### Trip Distribution

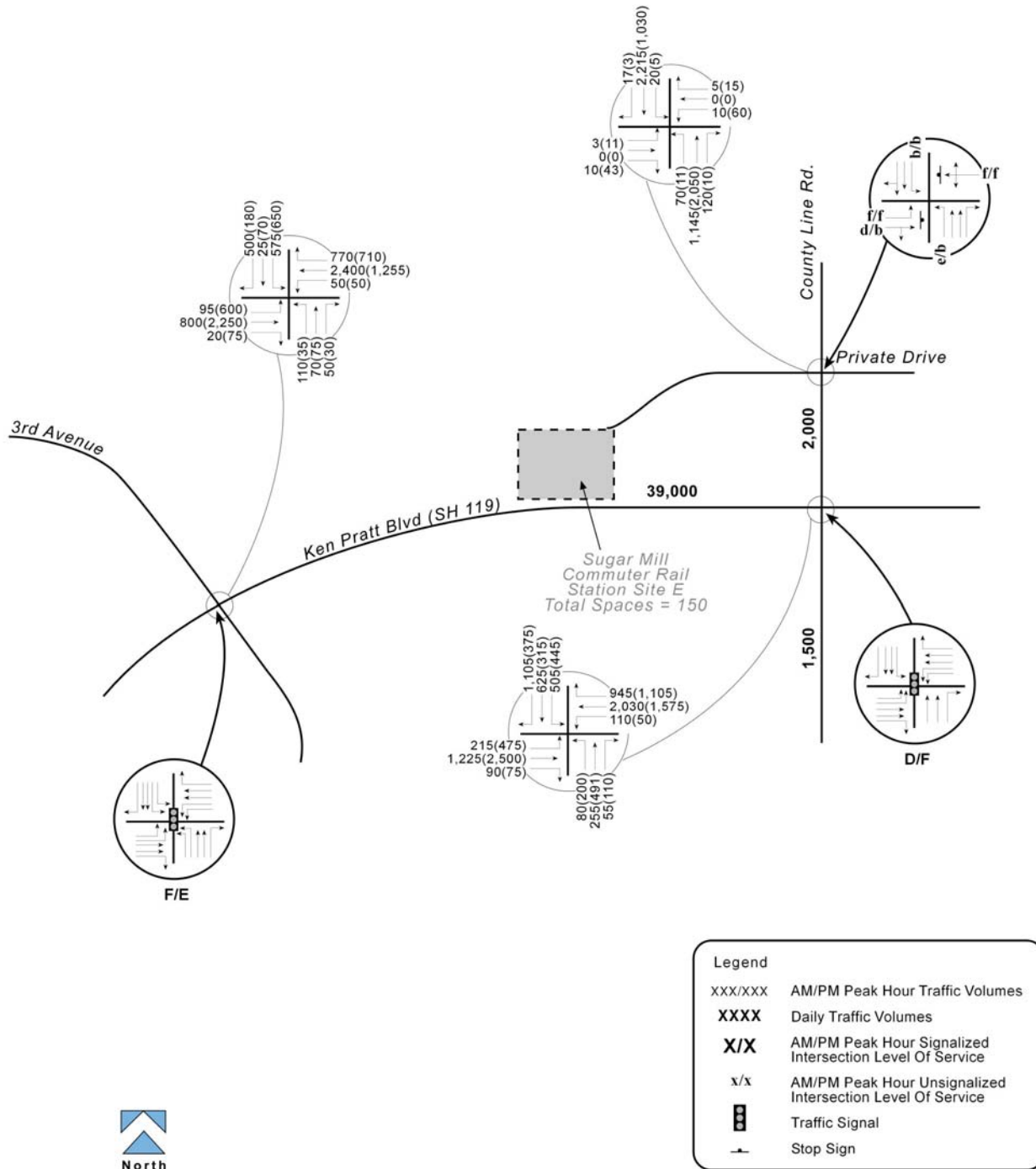
The trip distribution and assignment for each potential station location was determined based on existing and future land use patterns in the vicinity of the site. The peak hour trip generation and distribution estimates for the proposed park-and-ride lot are shown in Figures 7a, 7b, and 7c. These peak hour trip generation estimates were combined with the background traffic projections to arrive at the total 2030 Package A peak hour projections in Figures 8a, 8b, and 8c. In general, daily traffic is projected to be slightly higher on SH 119 in the Package A alternative, as more regional traffic is attracted to the improved I-25 corridor.

# Longmont – Sugar Mill DEIS Commuter Rail Station Evaluation



**Figure 7c. Park and Ride Lot Trip Distribution and Assignment – Site E**

























# Longmont – Sugar Mill DEIS Commuter Rail Station Evaluation



**Figure 8c. 2030 Package A Total Traffic Forecasts and Levels of Service – Site E**

## **Sugarmill Preferred Alternative PM Traffic**

HCM Signalized Intersection Capacity Analysis  
 7: SH 119 (Ken Pratt Blvd.) & County Line Road-2035 Preferred Alternative - Sites A and B 12/21/2011

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |  |  |  |  |  |  |  |
| Volume (vph)                      | 472                                                                               | 2500                                                                              | 75                                                                                | 50                                                                                | 1575                                                                              | 1105                                                                              | 200                                                                                | 490                                                                                 | 110                                                                                 | 436                                                                                 | 312                                                                                 | 368                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                                | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Lane Util. Factor                 | 0.97                                                                              | 0.95                                                                              | 1.00                                                                              | 0.97                                                                              | 0.95                                                                              | 1.00                                                                              | 0.97                                                                               | 0.95                                                                                | 1.00                                                                                | 0.97                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                               | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                               | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 3400                                                                              | 3505                                                                              | 1568                                                                              | 3400                                                                              | 3505                                                                              | 1568                                                                              | 3400                                                                               | 3505                                                                                | 1568                                                                                | 3400                                                                                | 3505                                                                                | 1568                                                                                |
| Flt Permitted                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                               | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 3400                                                                              | 3505                                                                              | 1568                                                                              | 3400                                                                              | 3505                                                                              | 1568                                                                              | 3400                                                                               | 3505                                                                                | 1568                                                                                | 3400                                                                                | 3505                                                                                | 1568                                                                                |
| Peak-hour factor, PHF             | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                               | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Adj. Flow (vph)                   | 513                                                                               | 2717                                                                              | 82                                                                                | 54                                                                                | 1712                                                                              | 1201                                                                              | 217                                                                                | 533                                                                                 | 120                                                                                 | 474                                                                                 | 339                                                                                 | 400                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 28                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 1                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 513                                                                               | 2717                                                                              | 54                                                                                | 54                                                                                | 1712                                                                              | 1201                                                                              | 217                                                                                | 533                                                                                 | 119                                                                                 | 474                                                                                 | 339                                                                                 | 400                                                                                 |
| Turn Type                         | Prot                                                                              |                                                                                   | pm+ov                                                                             | Prot                                                                              |                                                                                   | Free                                                                              | Prot                                                                               |                                                                                     | pm+ov                                                                               | Prot                                                                                |                                                                                     | Free                                                                                |
| Protected Phases                  | 7                                                                                 | 4                                                                                 | 5                                                                                 | 3                                                                                 | 8                                                                                 |                                                                                   | 5                                                                                  | 2                                                                                   | 3                                                                                   | 1                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | Free                                                                              |                                                                                    |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | Free                                                                                |
| Actuated Green, G (s)             | 15.0                                                                              | 46.0                                                                              | 56.3                                                                              | 4.0                                                                               | 35.0                                                                              | 100.0                                                                             | 10.3                                                                               | 17.0                                                                                | 21.0                                                                                | 12.0                                                                                | 18.7                                                                                | 100.0                                                                               |
| Effective Green, g (s)            | 15.0                                                                              | 49.0                                                                              | 56.3                                                                              | 4.0                                                                               | 38.0                                                                              | 100.0                                                                             | 10.3                                                                               | 19.0                                                                                | 21.0                                                                                | 12.0                                                                                | 20.7                                                                                | 100.0                                                                               |
| Actuated g/C Ratio                | 0.15                                                                              | 0.49                                                                              | 0.56                                                                              | 0.04                                                                              | 0.38                                                                              | 1.00                                                                              | 0.10                                                                               | 0.19                                                                                | 0.21                                                                                | 0.12                                                                                | 0.21                                                                                | 1.00                                                                                |
| Clearance Time (s)                | 4.0                                                                               | 7.0                                                                               | 4.0                                                                               | 4.0                                                                               | 7.0                                                                               |                                                                                   | 4.0                                                                                | 6.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 6.0                                                                                 |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                | 510                                                                               | 1717                                                                              | 883                                                                               | 136                                                                               | 1332                                                                              | 1568                                                                              | 350                                                                                | 666                                                                                 | 329                                                                                 | 408                                                                                 | 726                                                                                 | 1568                                                                                |
| v/s Ratio Prot                    | 0.15                                                                              | c0.78                                                                             | 0.01                                                                              | 0.02                                                                              | 0.49                                                                              |                                                                                   | 0.06                                                                               | 0.15                                                                                | 0.01                                                                                | c0.14                                                                               | 0.10                                                                                |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | 0.03                                                                              |                                                                                   |                                                                                   | c0.77                                                                             |                                                                                    |                                                                                     | 0.06                                                                                |                                                                                     |                                                                                     | 0.26                                                                                |
| v/c Ratio                         | 1.01                                                                              | 1.58                                                                              | 0.06                                                                              | 0.40                                                                              | 1.29                                                                              | 0.77                                                                              | 0.62                                                                               | 0.80                                                                                | 0.36                                                                                | 1.16                                                                                | 0.47                                                                                | 0.26                                                                                |
| Uniform Delay, d1                 | 42.5                                                                              | 25.5                                                                              | 9.9                                                                               | 46.8                                                                              | 31.0                                                                              | 0.0                                                                               | 43.0                                                                               | 38.7                                                                                | 33.8                                                                                | 44.0                                                                                | 34.8                                                                                | 0.0                                                                                 |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 41.3                                                                              | 264.9                                                                             | 0.0                                                                               | 1.9                                                                               | 134.2                                                                             | 3.6                                                                               | 3.4                                                                                | 9.8                                                                                 | 0.7                                                                                 | 96.7                                                                                | 2.2                                                                                 | 0.4                                                                                 |
| Delay (s)                         | 83.8                                                                              | 290.4                                                                             | 9.9                                                                               | 48.7                                                                              | 165.2                                                                             | 3.6                                                                               | 46.4                                                                               | 48.5                                                                                | 34.5                                                                                | 140.7                                                                               | 37.0                                                                                | 0.4                                                                                 |
| Level of Service                  | F                                                                                 | F                                                                                 | A                                                                                 | D                                                                                 | F                                                                                 | A                                                                                 | D                                                                                  | D                                                                                   | C                                                                                   | F                                                                                   | D                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 251.5                                                                             |                                                                                   |                                                                                   | 97.7                                                                              |                                                                                   |                                                                                    | 46.0                                                                                |                                                                                     |                                                                                     | 65.4                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                    | D                                                                                   |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM Average Control Delay         |                                                                                   |                                                                                   | 148.5                                                                             |                                                                                   |                                                                                   |                                                                                   | HCM Level of Service                                                               |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |                                                                                     |
| HCM Volume to Capacity ratio      |                                                                                   |                                                                                   | 1.26                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 100.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                               |                                                                                     |                                                                                     | 8.0                                                                                 |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 111.8%                                                                            |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                               |                                                                                     |                                                                                     | H                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c                                 | Critical Lane Group                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |















## **Thornton Parkway Package A PM Traffic**

HCM Signalized Intersection Capacity Analysis  
6: Thornton Pkwy & SB Ramp

2035 Package A - PM Peak






















10/14/2010

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   | ↑↑                                                                                | ↗                                                                                 | ↖↗                                                                                | ↑↑                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     | ↘                                                                                   | ↖                                                                                   | ↗                                                                                   |
| Volume (vph)                      | 0                                                                                 | 1675                                                                              | 250                                                                               | 430                                                                               | 1445                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 460                                                                                 | 0                                                                                   | 300                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               |                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Lane Util. Factor                 |                                                                                   | 0.95                                                                              | 1.00                                                                              | 0.97                                                                              | 0.95                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frbp, ped/bikes                   |                                                                                   | 1.00                                                                              | 0.98                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                |
| Flpb, ped/bikes                   |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               |                                                                                   | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 |                                                                                   | 3539                                                                              | 1559                                                                              | 3433                                                                              | 3539                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1675                                                                                | 1675                                                                                | 1559                                                                                |
| Flt Permitted                     |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 |                                                                                   | 3539                                                                              | 1559                                                                              | 3433                                                                              | 3539                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1675                                                                                | 1675                                                                                | 1559                                                                                |
| Peak-hour factor, PHF             | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                               | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Adj. Flow (vph)                   | 0                                                                                 | 1821                                                                              | 272                                                                               | 467                                                                               | 1571                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 500                                                                                 | 0                                                                                   | 326                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 112                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 14                                                                                  |
| Lane Group Flow (vph)             | 0                                                                                 | 1821                                                                              | 160                                                                               | 467                                                                               | 1571                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 250                                                                                 | 250                                                                                 | 312                                                                                 |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   | 2                                                                                 | 2                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 2                                                                                   |                                                                                     | 2                                                                                   |
| Turn Type                         |                                                                                   |                                                                                   | Perm                                                                              | Prot                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | Perm                                                                                |                                                                                     | Perm                                                                                |
| Protected Phases                  |                                                                                   | 2                                                                                 |                                                                                   | 1                                                                                 | 2 1                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 4 12                                                                                |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4 12                                                                                |                                                                                     | 4 12                                                                                |
| Actuated Green, G (s)             |                                                                                   | 43.0                                                                              | 43.0                                                                              | 8.0                                                                               | 55.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 37.0                                                                                | 37.0                                                                                | 37.0                                                                                |
| Effective Green, g (s)            |                                                                                   | 43.0                                                                              | 43.0                                                                              | 8.0                                                                               | 55.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 37.0                                                                                | 37.0                                                                                | 37.0                                                                                |
| Actuated g/C Ratio                |                                                                                   | 0.43                                                                              | 0.43                                                                              | 0.08                                                                              | 0.55                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.37                                                                                | 0.37                                                                                | 0.37                                                                                |
| Clearance Time (s)                |                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)             |                                                                                   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Grp Cap (vph)                |                                                                                   | 1522                                                                              | 670                                                                               | 275                                                                               | 1946                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 620                                                                                 | 620                                                                                 | 577                                                                                 |
| v/s Ratio Prot                    |                                                                                   | c0.51                                                                             |                                                                                   | c0.14                                                                             | 0.44                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | 0.10                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.15                                                                                | 0.15                                                                                | c0.20                                                                               |
| v/c Ratio                         |                                                                                   | 1.20                                                                              | 0.24                                                                              | 1.70                                                                              | 0.81                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.40                                                                                | 0.40                                                                                | 0.54                                                                                |
| Uniform Delay, d1                 |                                                                                   | 28.5                                                                              | 18.1                                                                              | 46.0                                                                              | 18.2                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 23.3                                                                                | 23.3                                                                                | 24.8                                                                                |
| Progression Factor                |                                                                                   | 1.02                                                                              | 1.68                                                                              | 0.60                                                                              | 0.27                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             |                                                                                   | 94.3                                                                              | 0.7                                                                               | 315.6                                                                             | 0.2                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.4                                                                                 | 0.4                                                                                 | 1.0                                                                                 |
| Delay (s)                         |                                                                                   | 123.4                                                                             | 31.1                                                                              | 343.0                                                                             | 5.2                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 23.8                                                                                | 23.8                                                                                | 25.9                                                                                |
| Level of Service                  |                                                                                   | F                                                                                 | C                                                                                 | F                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     | C                                                                                   | C                                                                                   | C                                                                                   |
| Approach Delay (s)                |                                                                                   | 111.4                                                                             |                                                                                   |                                                                                   | 82.6                                                                              |                                                                                   |                                                                                    | 0.0                                                                                 |                                                                                     |                                                                                     | 24.6                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | F                                                                                 |                                                                                   |                                                                                    | A                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM Average Control Delay         |                                                                                   |                                                                                   | 85.1                                                                              |                                                                                   | HCM Level of Service                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |                                                                                     |
| HCM Volume to Capacity ratio      |                                                                                   |                                                                                   | 0.97                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 100.0                                                                             |                                                                                   | Sum of lost time (s)                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 95.6%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

HCM Signalized Intersection Capacity Analysis  
9: Thornton Pkwy & NB Ramp

2035 Package A - PM Peak

10/14/2010

|                                   |  |                                                                                       |  |  |                                                                                       |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                                                                                                                    | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                    | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  | <br> |                                                                                   |                                                                                   | <br> |  |  |  |  |                                                                                     |                                                                                     |                                                                                     |
| Volume (vph)                      | 350                                                                               | 1785                                                                                                                                                                   | 0                                                                                 | 0                                                                                 | 1725                                                                                                                                                                   | 425                                                                               | 150                                                                                 | 0                                                                                   | 640                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                                                                                                                   | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                   | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               | 4.0                                                                               | 4.0                                                                                                                                                                    |                                                                                   |                                                                                   | 4.0                                                                                                                                                                    | 4.0                                                                               | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Lane Util. Factor                 | 1.00                                                                              | 0.95                                                                                                                                                                   |                                                                                   |                                                                                   | 0.95                                                                                                                                                                   | 1.00                                                                              | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Frpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                                                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                                                                                                   | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Flpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                                                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                                                                                                   | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Frt                               | 1.00                                                                              | 1.00                                                                                                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                                                                                                   | 0.85                                                                              | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                                                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                                                                                                   | 1.00                                                                              | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (prot)                 | 1770                                                                              | 3539                                                                                                                                                                   |                                                                                   |                                                                                   | 3539                                                                                                                                                                   | 1583                                                                              | 1675                                                                                | 1675                                                                                | 1583                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Flt Permitted                     | 0.95                                                                              | 1.00                                                                                                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                                                                                                   | 1.00                                                                              | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)                 | 1770                                                                              | 3539                                                                                                                                                                   |                                                                                   |                                                                                   | 3539                                                                                                                                                                   | 1583                                                                              | 1675                                                                                | 1675                                                                                | 1583                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Peak-hour factor, PHF             | 0.92                                                                              | 0.92                                                                                                                                                                   | 0.92                                                                              | 0.92                                                                              | 0.92                                                                                                                                                                   | 0.92                                                                              | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Adj. Flow (vph)                   | 380                                                                               | 1940                                                                                                                                                                   | 0                                                                                 | 0                                                                                 | 1875                                                                                                                                                                   | 462                                                                               | 163                                                                                 | 0                                                                                   | 696                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                                                                                                      | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                      | 185                                                                               | 0                                                                                   | 0                                                                                   | 5                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 380                                                                               | 1940                                                                                                                                                                   | 0                                                                                 | 0                                                                                 | 1875                                                                                                                                                                   | 277                                                                               | 81                                                                                  | 82                                                                                  | 691                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Confl. Peds. (#/hr)               | 2                                                                                 |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Turn Type                         | Prot                                                                              |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        | Perm                                                                              | Perm                                                                                |                                                                                     | Perm                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Protected Phases                  | 5                                                                                 | 5 6                                                                                                                                                                    |                                                                                   |                                                                                   | 6                                                                                                                                                                      |                                                                                   |                                                                                     | 8 16                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        | 6                                                                                 | 8 16                                                                                |                                                                                     | 8 16                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Actuated Green, G (s)             | 14.0                                                                              | 55.0                                                                                                                                                                   |                                                                                   |                                                                                   | 37.0                                                                                                                                                                   | 37.0                                                                              | 37.0                                                                                | 37.0                                                                                | 37.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Effective Green, g (s)            | 14.0                                                                              | 55.0                                                                                                                                                                   |                                                                                   |                                                                                   | 37.0                                                                                                                                                                   | 37.0                                                                              | 37.0                                                                                | 37.0                                                                                | 37.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Actuated g/C Ratio                | 0.14                                                                              | 0.55                                                                                                                                                                   |                                                                                   |                                                                                   | 0.37                                                                                                                                                                   | 0.37                                                                              | 0.37                                                                                | 0.37                                                                                | 0.37                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Clearance Time (s)                | 4.0                                                                               |                                                                                                                                                                        |                                                                                   |                                                                                   | 4.0                                                                                                                                                                    | 4.0                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                                                                                                        |                                                                                   |                                                                                   | 3.0                                                                                                                                                                    | 3.0                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Grp Cap (vph)                | 248                                                                               | 1946                                                                                                                                                                   |                                                                                   |                                                                                   | 1309                                                                                                                                                                   | 586                                                                               | 620                                                                                 | 620                                                                                 | 586                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Prot                    | c0.21                                                                             | c0.55                                                                                                                                                                  |                                                                                   |                                                                                   | c0.53                                                                                                                                                                  |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        | 0.17                                                                              | 0.05                                                                                | 0.05                                                                                | c0.44                                                                               |                                                                                     |                                                                                     |                                                                                     |
| v/c Ratio                         | 1.53                                                                              | 1.00                                                                                                                                                                   |                                                                                   |                                                                                   | 1.43                                                                                                                                                                   | 0.47                                                                              | 0.13                                                                                | 0.13                                                                                | 1.18                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Uniform Delay, d1                 | 43.0                                                                              | 22.4                                                                                                                                                                   |                                                                                   |                                                                                   | 31.5                                                                                                                                                                   | 24.0                                                                              | 20.9                                                                                | 20.9                                                                                | 31.5                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Progression Factor                | 0.66                                                                              | 0.34                                                                                                                                                                   |                                                                                   |                                                                                   | 0.70                                                                                                                                                                   | 0.35                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Incremental Delay, d2             | 241.4                                                                             | 5.4                                                                                                                                                                    |                                                                                   |                                                                                   | 197.9                                                                                                                                                                  | 0.4                                                                               | 0.1                                                                                 | 0.1                                                                                 | 97.3                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Delay (s)                         | 269.9                                                                             | 13.0                                                                                                                                                                   |                                                                                   |                                                                                   | 219.9                                                                                                                                                                  | 9.0                                                                               | 20.9                                                                                | 21.0                                                                                | 128.8                                                                               |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  | F                                                                                 | B                                                                                                                                                                      |                                                                                   |                                                                                   | F                                                                                                                                                                      | A                                                                                 | C                                                                                   | C                                                                                   | F                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                |                                                                                   | 55.1                                                                                                                                                                   |                                                                                   |                                                                                   | 178.2                                                                                                                                                                  |                                                                                   |                                                                                     | 108.4                                                                               |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | E                                                                                                                                                                      |                                                                                   |                                                                                   | F                                                                                                                                                                      |                                                                                   |                                                                                     | F                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM Average Control Delay         |                                                                                   |                                                                                                                                                                        | 115.5                                                                             |                                                                                   |                                                                                                                                                                        | HCM Level of Service                                                              |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| HCM Volume to Capacity ratio      |                                                                                   |                                                                                                                                                                        | 1.29                                                                              |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                                                                                                        | 100.0                                                                             |                                                                                   |                                                                                                                                                                        | Sum of lost time (s)                                                              |                                                                                     |                                                                                     | 8.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                                                                                                        | 95.6%                                                                             |                                                                                   |                                                                                                                                                                        | ICU Level of Service                                                              |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                                                                                                        | 15                                                                                |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |













c Critical Lane Group

## **Thornton Parkway Package B PM Traffic**

HCM Signalized Intersection Capacity Analysis  
6: Thornton Pkwy & SB Ramp

2035 Package B - PM Peak

10/14/2010






















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|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   | ↑↑                                                                                | ↗                                                                                 | ↖↗                                                                                | ↑↑                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     | ↖                                                                                   | ↗                                                                                   | ↗                                                                                   |
| Volume (vph)                      | 0                                                                                 | 1750                                                                              | 230                                                                               | 400                                                                               | 1600                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 520                                                                                 | 0                                                                                   | 420                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               |                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |
| Lane Util. Factor                 |                                                                                   | 0.95                                                                              | 1.00                                                                              | 0.97                                                                              | 0.95                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frbp, ped/bikes                   |                                                                                   | 1.00                                                                              | 0.98                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                |
| Flpb, ped/bikes                   |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               |                                                                                   | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 |                                                                                   | 3539                                                                              | 1559                                                                              | 3433                                                                              | 3539                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1675                                                                                | 1675                                                                                | 1559                                                                                |
| Flt Permitted                     |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 |                                                                                   | 3539                                                                              | 1559                                                                              | 3433                                                                              | 3539                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1675                                                                                | 1675                                                                                | 1559                                                                                |
| Peak-hour factor, PHF             | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                               | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Adj. Flow (vph)                   | 0                                                                                 | 1902                                                                              | 250                                                                               | 435                                                                               | 1739                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 565                                                                                 | 0                                                                                   | 457                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 99                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 9                                                                                   |
| Lane Group Flow (vph)             | 0                                                                                 | 1902                                                                              | 151                                                                               | 435                                                                               | 1739                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 282                                                                                 | 283                                                                                 | 448                                                                                 |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   | 2                                                                                 | 2                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 2                                                                                   |                                                                                     | 2                                                                                   |
| Turn Type                         |                                                                                   |                                                                                   | Perm                                                                              | Prot                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | Perm                                                                                |                                                                                     | Perm                                                                                |
| Protected Phases                  |                                                                                   | 2                                                                                 |                                                                                   | 1                                                                                 | 2 1                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 4 12                                                                                |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4 12                                                                                |                                                                                     | 4 12                                                                                |
| Actuated Green, G (s)             |                                                                                   | 43.0                                                                              | 43.0                                                                              | 8.0                                                                               | 55.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 37.0                                                                                | 37.0                                                                                | 37.0                                                                                |
| Effective Green, g (s)            |                                                                                   | 43.0                                                                              | 43.0                                                                              | 8.0                                                                               | 55.0                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 37.0                                                                                | 37.0                                                                                | 37.0                                                                                |
| Actuated g/C Ratio                |                                                                                   | 0.43                                                                              | 0.43                                                                              | 0.08                                                                              | 0.55                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.37                                                                                | 0.37                                                                                | 0.37                                                                                |
| Clearance Time (s)                |                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)             |                                                                                   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Grp Cap (vph)                |                                                                                   | 1522                                                                              | 670                                                                               | 275                                                                               | 1946                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 620                                                                                 | 620                                                                                 | 577                                                                                 |
| v/s Ratio Prot                    |                                                                                   | c0.54                                                                             |                                                                                   | c0.13                                                                             | 0.49                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | 0.10                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.17                                                                                | 0.17                                                                                | c0.29                                                                               |
| v/c Ratio                         |                                                                                   | 1.25                                                                              | 0.23                                                                              | 1.58                                                                              | 0.89                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.45                                                                                | 0.46                                                                                | 0.78                                                                                |
| Uniform Delay, d1                 |                                                                                   | 28.5                                                                              | 18.0                                                                              | 46.0                                                                              | 19.9                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 23.9                                                                                | 23.9                                                                                | 27.8                                                                                |
| Progression Factor                |                                                                                   | 1.02                                                                              | 1.58                                                                              | 0.63                                                                              | 0.37                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             |                                                                                   | 117.3                                                                             | 0.7                                                                               | 263.4                                                                             | 0.6                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.5                                                                                 | 0.5                                                                                 | 6.5                                                                                 |
| Delay (s)                         |                                                                                   | 146.4                                                                             | 29.0                                                                              | 292.3                                                                             | 7.9                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 24.4                                                                                | 24.4                                                                                | 34.4                                                                                |
| Level of Service                  |                                                                                   | F                                                                                 | C                                                                                 | F                                                                                 | A                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     | C                                                                                   | C                                                                                   | C                                                                                   |
| Approach Delay (s)                |                                                                                   | 132.8                                                                             |                                                                                   |                                                                                   | 64.8                                                                              |                                                                                   |                                                                                    | 0.0                                                                                 |                                                                                     |                                                                                     | 28.9                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | F                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                    | A                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM Average Control Delay         |                                                                                   |                                                                                   | 85.3                                                                              |                                                                                   |                                                                                   | HCM Level of Service                                                              |                                                                                    |                                                                                     |                                                                                     | F                                                                                   |                                                                                     |                                                                                     |
| HCM Volume to Capacity ratio      |                                                                                   |                                                                                   | 1.08                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 100.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                    |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 92.5%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                    |                                                                                     | F                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 9: Thornton Pkwy & NB Ramp

2035 Package B - PM Peak

10/14/2010

|                                   |  |                                                                                       |  |  |                                                                                       |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                                                                                                                    | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                    | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  | <br> |                                                                                   |                                                                                   | <br> |  |  |  |  |                                                                                     |                                                                                     |                                                                                     |
| Volume (vph)                      | 475                                                                               | 1795                                                                                                                                                                   | 0                                                                                 | 0                                                                                 | 1800                                                                                                                                                                   | 550                                                                               | 200                                                                                 | 0                                                                                   | 585                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                                                                                                                   | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                   | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               | 4.0                                                                               | 4.0                                                                                                                                                                    |                                                                                   |                                                                                   | 4.0                                                                                                                                                                    | 4.0                                                                               | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Lane Util. Factor                 | 1.00                                                                              | 0.95                                                                                                                                                                   |                                                                                   |                                                                                   | 0.95                                                                                                                                                                   | 1.00                                                                              | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Frbp, ped/bikes                   | 1.00                                                                              | 1.00                                                                                                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                                                                                                   | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Flpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                                                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                                                                                                   | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Frt                               | 1.00                                                                              | 1.00                                                                                                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                                                                                                   | 0.85                                                                              | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                                                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                                                                                                   | 1.00                                                                              | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (prot)                 | 1770                                                                              | 3539                                                                                                                                                                   |                                                                                   |                                                                                   | 3539                                                                                                                                                                   | 1583                                                                              | 1675                                                                                | 1675                                                                                | 1583                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Flt Permitted                     | 0.95                                                                              | 1.00                                                                                                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                                                                                                   | 1.00                                                                              | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)                 | 1770                                                                              | 3539                                                                                                                                                                   |                                                                                   |                                                                                   | 3539                                                                                                                                                                   | 1583                                                                              | 1675                                                                                | 1675                                                                                | 1583                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Peak-hour factor, PHF             | 0.92                                                                              | 0.92                                                                                                                                                                   | 0.92                                                                              | 0.92                                                                              | 0.92                                                                                                                                                                   | 0.92                                                                              | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Adj. Flow (vph)                   | 516                                                                               | 1951                                                                                                                                                                   | 0                                                                                 | 0                                                                                 | 1957                                                                                                                                                                   | 598                                                                               | 217                                                                                 | 0                                                                                   | 636                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                                                                                                      | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                      | 230                                                                               | 0                                                                                   | 0                                                                                   | 5                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 516                                                                               | 1951                                                                                                                                                                   | 0                                                                                 | 0                                                                                 | 1957                                                                                                                                                                   | 368                                                                               | 108                                                                                 | 109                                                                                 | 631                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Confl. Peds. (#/hr)               | 2                                                                                 |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Turn Type                         | Prot                                                                              |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        | Perm                                                                              | Perm                                                                                |                                                                                     | Perm                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Protected Phases                  | 5                                                                                 | 5 6                                                                                                                                                                    |                                                                                   |                                                                                   | 6                                                                                                                                                                      |                                                                                   |                                                                                     | 8 16                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        | 6                                                                                 | 8 16                                                                                |                                                                                     | 8 16                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Actuated Green, G (s)             | 15.0                                                                              | 55.0                                                                                                                                                                   |                                                                                   |                                                                                   | 36.0                                                                                                                                                                   | 36.0                                                                              | 37.0                                                                                | 37.0                                                                                | 37.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Effective Green, g (s)            | 15.0                                                                              | 55.0                                                                                                                                                                   |                                                                                   |                                                                                   | 36.0                                                                                                                                                                   | 36.0                                                                              | 37.0                                                                                | 37.0                                                                                | 37.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Actuated g/C Ratio                | 0.15                                                                              | 0.55                                                                                                                                                                   |                                                                                   |                                                                                   | 0.36                                                                                                                                                                   | 0.36                                                                              | 0.37                                                                                | 0.37                                                                                | 0.37                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Clearance Time (s)                | 4.0                                                                               |                                                                                                                                                                        |                                                                                   |                                                                                   | 4.0                                                                                                                                                                    | 4.0                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                                                                                                        |                                                                                   |                                                                                   | 3.0                                                                                                                                                                    | 3.0                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Grp Cap (vph)                | 266                                                                               | 1946                                                                                                                                                                   |                                                                                   |                                                                                   | 1274                                                                                                                                                                   | 570                                                                               | 620                                                                                 | 620                                                                                 | 586                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Prot                    | c0.29                                                                             | 0.55                                                                                                                                                                   |                                                                                   |                                                                                   | c0.55                                                                                                                                                                  |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        | 0.23                                                                              | 0.06                                                                                | 0.07                                                                                | c0.40                                                                               |                                                                                     |                                                                                     |                                                                                     |
| v/c Ratio                         | 1.94                                                                              | 1.00                                                                                                                                                                   |                                                                                   |                                                                                   | 1.54                                                                                                                                                                   | 0.65                                                                              | 0.17                                                                                | 0.18                                                                                | 1.08                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Uniform Delay, d1                 | 42.5                                                                              | 22.5                                                                                                                                                                   |                                                                                   |                                                                                   | 32.0                                                                                                                                                                   | 26.7                                                                              | 21.2                                                                                | 21.2                                                                                | 31.5                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Progression Factor                | 0.67                                                                              | 0.36                                                                                                                                                                   |                                                                                   |                                                                                   | 0.73                                                                                                                                                                   | 0.41                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Incremental Delay, d2             | 424.2                                                                             | 6.7                                                                                                                                                                    |                                                                                   |                                                                                   | 244.4                                                                                                                                                                  | 2.0                                                                               | 0.1                                                                                 | 0.1                                                                                 | 59.5                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Delay (s)                         | 452.8                                                                             | 14.9                                                                                                                                                                   |                                                                                   |                                                                                   | 267.9                                                                                                                                                                  | 13.0                                                                              | 21.3                                                                                | 21.4                                                                                | 91.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  | F                                                                                 | B                                                                                                                                                                      |                                                                                   |                                                                                   | F                                                                                                                                                                      | B                                                                                 | C                                                                                   | C                                                                                   | F                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                |                                                                                   | 106.5                                                                                                                                                                  |                                                                                   |                                                                                   | 208.3                                                                                                                                                                  |                                                                                   |                                                                                     | 73.3                                                                                |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | F                                                                                                                                                                      |                                                                                   |                                                                                   | F                                                                                                                                                                      |                                                                                   |                                                                                     | E                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM Average Control Delay         |                                                                                   |                                                                                                                                                                        | 145.9                                                                             |                                                                                   |                                                                                                                                                                        |                                                                                   | HCM Level of Service                                                                |                                                                                     | F                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| HCM Volume to Capacity ratio      |                                                                                   |                                                                                                                                                                        | 1.41                                                                              |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                                                                                                        | 100.0                                                                             |                                                                                   |                                                                                                                                                                        |                                                                                   | Sum of lost time (s)                                                                |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                                                                                                        | 92.5%                                                                             |                                                                                   |                                                                                                                                                                        |                                                                                   | ICU Level of Service                                                                |                                                                                     | F                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                                                                                                        | 15                                                                                |                                                                                   |                                                                                                                                                                        |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

c Critical Lane Group

## **Thornton Parkway Preferred Alternative PM Traffic**

Lanes, Volumes, Timings  
1: Thornton Pkwy & Civic Dr

5/27/2010



| Lane Group                 | EBL   | EBT   | WBT   | WBR   | SBL   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |
| Volume (vph)               | 40    | 2090  | 1730  | 35    | 150   | 140   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Storage Length (ft)        | 200   |       |       | 0     | 275   | 0     |
| Storage Lanes              | 1     |       |       | 1     | 1     | 1     |
| Taper Length (ft)          | 25    |       |       | 25    | 25    | 25    |
| Lane Util. Factor          | 1.00  | 0.91  | 0.95  | 1.00  | 1.00  | 1.00  |
| Ped Bike Factor            | 1.00  |       |       | 0.97  | 1.00  |       |
| Frt                        |       |       |       | 0.850 |       | 0.850 |
| Flt Protected              | 0.950 |       |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1770  | 5085  | 3539  | 1583  | 1770  | 1583  |
| Flt Permitted              | 0.950 |       |       |       | 0.950 |       |
| Satd. Flow (perm)          | 1769  | 5085  | 3539  | 1542  | 1763  | 1583  |
| Right Turn on Red          |       |       |       | Yes   |       | Yes   |
| Satd. Flow (RTOR)          |       |       |       | 38    |       | 112   |
| Link Speed (mph)           |       | 35    | 35    |       | 15    |       |
| Link Distance (ft)         |       | 831   | 962   |       | 584   |       |
| Travel Time (s)            |       | 16.2  | 18.7  |       | 26.5  |       |
| Confl. Peds. (#/hr)        | 2     |       |       | 2     | 2     |       |
| Peak Hour Factor           | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  |
| Adj. Flow (vph)            | 43    | 2272  | 1880  | 38    | 163   | 152   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 43    | 2272  | 1880  | 38    | 163   | 152   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Left  | Right | Left  | Right |
| Median Width(ft)           |       | 24    | 24    |       | 12    |       |
| Link Offset(ft)            |       | 0     | 0     |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    | 16    |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    |       |       | 9     | 15    | 9     |
| Number of Detectors        | 1     | 1     | 1     | 1     | 1     | 1     |
| Detector Template          |       |       |       |       |       |       |
| Leading Detector (ft)      | 50    | 50    | 50    | 50    | 50    | 50    |
| Trailing Detector (ft)     | 0     | 0     | 0     | 0     | 0     | 0     |
| Detector 1 Position(ft)    | 0     | 0     | 0     | 0     | 0     | 0     |
| Detector 1 Size(ft)        | 50    | 50    | 50    | 50    | 50    | 50    |
| Detector 1 Type            | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel         |       |       |       |       |       |       |
| Detector 1 Extend (s)      | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Detector 1 Queue (s)       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Detector 1 Delay (s)       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Turn Type                  | Prot  |       |       | Perm  |       | Perm  |
| Protected Phases           | 1     | 6     | 2     |       | 3     |       |
| Permitted Phases           |       |       |       | 2     |       | 3     |
| Detector Phase             | 1     | 6     | 2     | 2     | 3     | 3     |
| Switch Phase               |       |       |       |       |       |       |
| Minimum Initial (s)        | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   |
| Minimum Split (s)          | 8.0   | 21.0  | 21.0  | 21.0  | 21.0  | 21.0  |



Lanes, Volumes, Timings  
 1: Thornton Pkwy & Civic Dr

5/27/2010



| Lane Group              | EBL   | EBT   | WBT   | WBR   | SBL   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|
| Total Split (s)         | 10.0  | 79.0  | 69.0  | 69.0  | 21.0  | 21.0  |
| Total Split (%)         | 10.0% | 79.0% | 69.0% | 69.0% | 21.0% | 21.0% |
| Maximum Green (s)       | 6.0   | 75.0  | 65.0  | 65.0  | 17.0  | 17.0  |
| Yellow Time (s)         | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| All-Red Time (s)        | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   |
| Lead/Lag                | Lag   |       | Lead  | Lead  |       |       |
| Lead-Lag Optimize?      | Yes   |       | Yes   | Yes   |       |       |
| Vehicle Extension (s)   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| Recall Mode             | None  | C-Max | None  | None  | Max   | Max   |
| Walk Time (s)           | 5.0   |       | 5.0   | 5.0   | 5.0   | 5.0   |
| Flash Dont Walk (s)     | 11.0  |       | 11.0  | 11.0  | 11.0  | 11.0  |
| Pedestrian Calls (#/hr) | 0     |       | 0     | 0     | 0     | 0     |
| Act Effect Green (s)    | 6.0   | 75.0  | 69.0  | 69.0  | 17.0  | 17.0  |
| Actuated g/C Ratio      | 0.06  | 0.75  | 0.69  | 0.69  | 0.17  | 0.17  |
| v/c Ratio               | 0.40  | 0.60  | 0.77  | 0.04  | 0.54  | 0.42  |
| Control Delay           | 50.9  | 8.1   | 13.3  | 0.9   | 45.5  | 16.0  |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 50.9  | 8.1   | 13.3  | 0.9   | 45.5  | 16.0  |
| LOS                     | D     | A     | B     | A     | D     | B     |
| Approach Delay          | 8.9   |       | 13.1  | 31.2  |       |       |
| Approach LOS            | A     |       | B     | C     |       |       |

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 72 (72%), Referenced to phase 6:EBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 12.2  
 Intersection LOS: B  
 Intersection Capacity Utilization 63.2%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 1: Thornton Pkwy & Civic Dr



Lanes, Volumes, Timings  
4: Thornton Pkwy & Grant St

5/27/2010















| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Volume (vph)               | 650   | 1415  | 175   | 60    | 965   | 175   | 275   | 500   | 125   | 225   | 250   | 525   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Storage Length (ft)        | 350   |       | 0     | 375   |       | 0     | 200   |       | 200   | 225   |       | 0     |
| Storage Lanes              | 2     |       | 0     | 2     |       | 1     | 1     |       | 1     | 1     |       | 1     |
| Taper Length (ft)          | 25    |       | 25    | 25    |       | 25    | 25    |       | 25    | 25    |       | 25    |
| Lane Util. Factor          | 0.97  | 0.91  | 0.91  | 0.97  | 0.95  | 1.00  | 1.00  | 0.95  | 1.00  | 1.00  | 0.95  | 1.00  |
| Ped Bike Factor            | 1.00  |       |       | 1.00  |       |       | 1.00  |       |       | 1.00  |       |       |
| Frt                        |       | 0.984 |       |       |       | 0.850 |       |       | 0.850 |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 3433  | 5004  | 0     | 3433  | 3539  | 1583  | 1770  | 3539  | 1583  | 1770  | 3539  | 1583  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (perm)          | 3428  | 5004  | 0     | 3431  | 3539  | 1583  | 1765  | 3539  | 1583  | 1766  | 3539  | 1583  |
| Right Turn on Red          |       |       | Yes   |       |       | Yes   |       |       | Yes   |       |       | Yes   |
| Satd. Flow (RTOR)          |       | 27    |       |       |       | 22    |       |       | 34    |       |       | 40    |
| Link Speed (mph)           |       | 35    |       |       | 35    |       |       | 35    |       |       |       | 35    |
| Link Distance (ft)         |       | 962   |       |       | 540   |       |       | 544   |       |       |       | 593   |
| Travel Time (s)            |       | 18.7  |       |       | 10.5  |       |       | 10.6  |       |       |       | 11.6  |
| Confl. Peds. (#/hr)        | 2     |       |       | 2     |       |       | 2     |       |       | 2     |       |       |
| Peak Hour Factor           | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  |
| Adj. Flow (vph)            | 707   | 1538  | 190   | 65    | 1049  | 190   | 299   | 543   | 136   | 245   | 272   | 571   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 707   | 1728  | 0     | 65    | 1049  | 190   | 299   | 543   | 136   | 245   | 272   | 571   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 24    |       |       | 24    |       |       | 12    |       |       |       | 12    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Number of Detectors        | 1     | 1     |       | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     |
| Detector Template          |       |       |       |       |       |       |       |       |       |       |       |       |
| Leading Detector (ft)      | 50    | 50    |       | 50    | 50    | 50    | 50    | 50    | 50    | 50    | 50    | 50    |
| Trailing Detector (ft)     | 0     | 0     |       | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Detector 1 Position(ft)    | 0     | 0     |       | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Detector 1 Size(ft)        | 50    | 50    |       | 50    | 50    | 50    | 50    | 50    | 50    | 50    | 50    | 50    |
| Detector 1 Type            | Cl+Ex | Cl+Ex |       | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel         |       |       |       |       |       |       |       |       |       |       |       |       |
| Detector 1 Extend (s)      | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Detector 1 Queue (s)       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Detector 1 Delay (s)       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Turn Type                  | Prot  |       |       | Prot  |       | pm+ov | Prot  |       | pm+ov | Prot  |       | pm+ov |
| Protected Phases           | 7     | 4     |       | 3     | 8     | 1     | 5     | 2     | 3     | 1     | 6     | 7     |
| Permitted Phases           |       |       |       |       |       | 8     |       |       | 2     |       |       | 6     |
| Detector Phase             | 7     | 4     |       | 3     | 8     | 1     | 5     | 2     | 3     | 1     | 6     | 7     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 4.0   | 4.0   |       | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   |
| Minimum Split (s)          | 8.0   | 21.0  |       | 8.0   | 21.0  | 8.0   | 8.0   | 21.0  | 8.0   | 8.0   | 21.0  | 8.0   |



Lanes, Volumes, Timings  
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|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group                 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations        |                                                                                   | ↑↑                                                                                | ↗                                                                                 | ↘↗                                                                                | ↑↑                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     | ↘                                                                                   | ↖                                                                                   | ↗                                                                                   |
| Volume (vph)               | 0                                                                                 | 1690                                                                              | 295                                                                               | 355                                                                               | 1340                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 410                                                                                 | 0                                                                                   | 500                                                                                 |
| Ideal Flow (vphpl)         | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Storage Length (ft)        | 0                                                                                 |                                                                                   | 0                                                                                 | 450                                                                               |                                                                                   | 0                                                                                 | 0                                                                                  |                                                                                     | 0                                                                                   | 250                                                                                 |                                                                                     | 250                                                                                 |
| Storage Lanes              | 0                                                                                 |                                                                                   | 1                                                                                 | 2                                                                                 |                                                                                   | 0                                                                                 | 0                                                                                  |                                                                                     | 0                                                                                   | 1                                                                                   |                                                                                     | 1                                                                                   |
| Taper Length (ft)          | 25                                                                                |                                                                                   | 25                                                                                | 25                                                                                |                                                                                   | 25                                                                                | 25                                                                                 |                                                                                     | 25                                                                                  | 25                                                                                  |                                                                                     | 25                                                                                  |
| Lane Util. Factor          | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 0.97                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |
| Ped Bike Factor            |                                                                                   |                                                                                   | 0.98                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                |
| Frt                        |                                                                                   |                                                                                   | 0.850                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.850                                                                               |
| Flt Protected              |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.950                                                                               | 0.950                                                                               |                                                                                     |
| Satd. Flow (prot)          | 0                                                                                 | 3539                                                                              | 1583                                                                              | 3433                                                                              | 3539                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 1681                                                                                | 1681                                                                                | 1583                                                                                |
| Flt Permitted              |                                                                                   |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.950                                                                               | 0.950                                                                               |                                                                                     |
| Satd. Flow (perm)          | 0                                                                                 | 3539                                                                              | 1559                                                                              | 3431                                                                              | 3539                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 1675                                                                                | 1675                                                                                | 1559                                                                                |
| Right Turn on Red          |                                                                                   |                                                                                   | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               |                                                                                    |                                                                                     | Yes                                                                                 |                                                                                     |                                                                                     | Yes                                                                                 |
| Satd. Flow (RTOR)          |                                                                                   |                                                                                   | 235                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 30                                                                                  |
| Link Speed (mph)           |                                                                                   | 35                                                                                |                                                                                   |                                                                                   | 35                                                                                |                                                                                   |                                                                                    | 35                                                                                  |                                                                                     |                                                                                     | 35                                                                                  |                                                                                     |
| Link Distance (ft)         |                                                                                   | 1517                                                                              |                                                                                   |                                                                                   | 470                                                                               |                                                                                   |                                                                                    | 606                                                                                 |                                                                                     |                                                                                     | 534                                                                                 |                                                                                     |
| Travel Time (s)            |                                                                                   | 29.6                                                                              |                                                                                   |                                                                                   | 9.2                                                                               |                                                                                   |                                                                                    | 11.8                                                                                |                                                                                     |                                                                                     | 10.4                                                                                |                                                                                     |
| Confl. Peds. (#/hr)        |                                                                                   |                                                                                   | 2                                                                                 | 2                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 2                                                                                   |                                                                                     | 2                                                                                   |
| Peak Hour Factor           | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                               | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Adj. Flow (vph)            | 0                                                                                 | 1837                                                                              | 321                                                                               | 386                                                                               | 1457                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 446                                                                                 | 0                                                                                   | 543                                                                                 |
| Shared Lane Traffic (%)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 50%                                                                                 |                                                                                     |                                                                                     |
| Lane Group Flow (vph)      | 0                                                                                 | 1837                                                                              | 321                                                                               | 386                                                                               | 1457                                                                              | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 223                                                                                 | 223                                                                                 | 543                                                                                 |
| Enter Blocked Intersection | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  | No                                                                                  |
| Lane Alignment             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                              | Left                                                                              | Right                                                                             | Left                                                                               | Left                                                                                | Right                                                                               | Left                                                                                | Left                                                                                | Right                                                                               |
| Median Width(ft)           |                                                                                   | 24                                                                                |                                                                                   |                                                                                   | 24                                                                                |                                                                                   |                                                                                    | 12                                                                                  |                                                                                     |                                                                                     | 12                                                                                  |                                                                                     |
| Link Offset(ft)            |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                    | 0                                                                                   |                                                                                     |                                                                                     | 0                                                                                   |                                                                                     |
| Crosswalk Width(ft)        |                                                                                   | 16                                                                                |                                                                                   |                                                                                   | 16                                                                                |                                                                                   |                                                                                    | 16                                                                                  |                                                                                     |                                                                                     | 16                                                                                  |                                                                                     |
| Two way Left Turn Lane     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Headway Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Turning Speed (mph)        | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                |                                                                                   | 9                                                                                 | 15                                                                                 |                                                                                     | 9                                                                                   | 15                                                                                  |                                                                                     | 9                                                                                   |
| Number of Detectors        |                                                                                   | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 1                                                                                   | 1                                                                                   | 1                                                                                   |
| Detector Template          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Leading Detector (ft)      |                                                                                   | 50                                                                                | 50                                                                                | 50                                                                                | 50                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 50                                                                                  | 50                                                                                  | 50                                                                                  |
| Trailing Detector (ft)     |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Detector 1 Position(ft)    |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Detector 1 Size(ft)        |                                                                                   | 50                                                                                | 50                                                                                | 50                                                                                | 50                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 50                                                                                  | 50                                                                                  | 50                                                                                  |
| Detector 1 Type            |                                                                                   | Cl+Ex                                                                             | Cl+Ex                                                                             | Cl+Ex                                                                             | Cl+Ex                                                                             |                                                                                   |                                                                                    |                                                                                     |                                                                                     | Cl+Ex                                                                               | Cl+Ex                                                                               | Cl+Ex                                                                               |
| Detector 1 Channel         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Detector 1 Extend (s)      |                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Detector 1 Queue (s)       |                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Detector 1 Delay (s)       |                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Turn Type                  |                                                                                   |                                                                                   | Perm                                                                              | Prot                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | Perm                                                                                |                                                                                     | Perm                                                                                |
| Protected Phases           |                                                                                   | 2                                                                                 |                                                                                   | 1                                                                                 | 2 1                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 4 12                                                                                |                                                                                     |
| Permitted Phases           |                                                                                   |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4 12                                                                                |                                                                                     | 4 12                                                                                |
| Detector Phase             |                                                                                   | 2                                                                                 | 2                                                                                 | 1                                                                                 | 2 1                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 4 12                                                                                | 4 12                                                                                | 4 12                                                                                |
| Switch Phase               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)        |                                                                                   | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Split (s)          |                                                                                   | 21.0                                                                              | 21.0                                                                              | 8.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Lanes, Volumes, Timings  
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| Lane Group                 | ø4   | ø5  | ø6   | ø8   | ø12  | ø16  |
|----------------------------|------|-----|------|------|------|------|
| Lane Configurations        |      |     |      |      |      |      |
| Volume (vph)               |      |     |      |      |      |      |
| Ideal Flow (vphpl)         |      |     |      |      |      |      |
| Storage Length (ft)        |      |     |      |      |      |      |
| Storage Lanes              |      |     |      |      |      |      |
| Taper Length (ft)          |      |     |      |      |      |      |
| Lane Util. Factor          |      |     |      |      |      |      |
| Ped Bike Factor            |      |     |      |      |      |      |
| Frt                        |      |     |      |      |      |      |
| Flt Protected              |      |     |      |      |      |      |
| Satd. Flow (prot)          |      |     |      |      |      |      |
| Flt Permitted              |      |     |      |      |      |      |
| Satd. Flow (perm)          |      |     |      |      |      |      |
| Right Turn on Red          |      |     |      |      |      |      |
| Satd. Flow (RTOR)          |      |     |      |      |      |      |
| Link Speed (mph)           |      |     |      |      |      |      |
| Link Distance (ft)         |      |     |      |      |      |      |
| Travel Time (s)            |      |     |      |      |      |      |
| Confl. Peds. (#/hr)        |      |     |      |      |      |      |
| Peak Hour Factor           |      |     |      |      |      |      |
| Adj. Flow (vph)            |      |     |      |      |      |      |
| Shared Lane Traffic (%)    |      |     |      |      |      |      |
| Lane Group Flow (vph)      |      |     |      |      |      |      |
| Enter Blocked Intersection |      |     |      |      |      |      |
| Lane Alignment             |      |     |      |      |      |      |
| Median Width(ft)           |      |     |      |      |      |      |
| Link Offset(ft)            |      |     |      |      |      |      |
| Crosswalk Width(ft)        |      |     |      |      |      |      |
| Two way Left Turn Lane     |      |     |      |      |      |      |
| Headway Factor             |      |     |      |      |      |      |
| Turning Speed (mph)        |      |     |      |      |      |      |
| Number of Detectors        |      |     |      |      |      |      |
| Detector Template          |      |     |      |      |      |      |
| Leading Detector (ft)      |      |     |      |      |      |      |
| Trailing Detector (ft)     |      |     |      |      |      |      |
| Detector 1 Position(ft)    |      |     |      |      |      |      |
| Detector 1 Size(ft)        |      |     |      |      |      |      |
| Detector 1 Type            |      |     |      |      |      |      |
| Detector 1 Channel         |      |     |      |      |      |      |
| Detector 1 Extend (s)      |      |     |      |      |      |      |
| Detector 1 Queue (s)       |      |     |      |      |      |      |
| Detector 1 Delay (s)       |      |     |      |      |      |      |
| Turn Type                  |      |     |      |      |      |      |
| Protected Phases           | 4    | 5   | 6    | 8    | 12   | 16   |
| Permitted Phases           |      |     |      |      |      |      |
| Detector Phase             |      |     |      |      |      |      |
| Switch Phase               |      |     |      |      |      |      |
| Minimum Initial (s)        | 4.0  | 4.0 | 4.0  | 4.0  | 4.0  | 4.0  |
| Minimum Split (s)          | 21.0 | 8.0 | 20.0 | 21.0 | 20.0 | 20.0 |

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| Lane Group              | EBL  | EBT   | EBR   | WBL   | WBT   | WBR  | NBL  | NBT  | NBR  | SBL   | SBT   | SBR   |
|-------------------------|------|-------|-------|-------|-------|------|------|------|------|-------|-------|-------|
| Total Split (s)         | 0.0  | 48.0  | 48.0  | 11.0  | 59.0  | 0.0  | 0.0  | 0.0  | 0.0  | 41.0  | 41.0  | 41.0  |
| Total Split (%)         | 0.0% | 48.0% | 48.0% | 11.0% | 59.0% | 0.0% | 0.0% | 0.0% | 0.0% | 41.0% | 41.0% | 41.0% |
| Maximum Green (s)       |      | 44.0  | 44.0  | 7.0   |       |      |      |      |      |       |       |       |
| Yellow Time (s)         |      | 3.0   | 3.0   | 3.0   |       |      |      |      |      |       |       |       |
| All-Red Time (s)        |      | 1.0   | 1.0   | 1.0   |       |      |      |      |      |       |       |       |
| Lost Time Adjust (s)    | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 4.0  | 4.0   | 4.0   | 4.0   | 4.0   | 4.0  | 4.0  | 4.0  | 4.0  | 4.0   | 4.0   | 4.0   |
| Lead/Lag                |      | Lead  | Lead  | Lag   |       |      |      |      |      |       |       |       |
| Lead-Lag Optimize?      |      | Yes   | Yes   | Yes   |       |      |      |      |      |       |       |       |
| Vehicle Extension (s)   |      | 3.0   | 3.0   | 3.0   |       |      |      |      |      |       |       |       |
| Recall Mode             |      | C-Max | C-Max | None  |       |      |      |      |      |       |       |       |
| Walk Time (s)           |      | 5.0   | 5.0   |       |       |      |      |      |      |       |       |       |
| Flash Dont Walk (s)     |      | 11.0  | 11.0  |       |       |      |      |      |      |       |       |       |
| Pedestrian Calls (#/hr) |      | 0     | 0     |       |       |      |      |      |      |       |       |       |
| Act Effect Green (s)    |      | 44.0  | 44.0  | 7.0   | 55.0  |      |      |      |      | 37.0  | 37.0  | 37.0  |
| Actuated g/C Ratio      |      | 0.44  | 0.44  | 0.07  | 0.55  |      |      |      |      | 0.37  | 0.37  | 0.37  |
| v/c Ratio               |      | 1.18  | 0.39  | 1.61  | 0.75  |      |      |      |      | 0.36  | 0.36  | 0.91  |
| Control Delay           |      | 115.3 | 11.0  | 302.9 | 6.2   |      |      |      |      | 25.0  | 25.0  | 50.1  |
| Queue Delay             |      | 0.0   | 0.0   | 0.0   | 30.3  |      |      |      |      | 0.0   | 0.0   | 0.0   |
| Total Delay             |      | 115.3 | 11.0  | 302.9 | 36.5  |      |      |      |      | 25.0  | 25.0  | 50.1  |
| LOS                     |      | F     | B     | F     | D     |      |      |      |      | C     | C     | D     |
| Approach Delay          |      | 99.8  |       |       | 92.3  |      |      |      |      |       | 38.8  |       |
| Approach LOS            |      | F     |       |       | F     |      |      |      |      |       | D     |       |

Intersection Summary

|                                    |                                                    |
|------------------------------------|----------------------------------------------------|
| Area Type:                         | Other                                              |
| Cycle Length:                      | 100                                                |
| Actuated Cycle Length:             | 100                                                |
| Offset:                            | 4 (4%), Referenced to phase 2:EBWB, Start of Green |
| Natural Cycle:                     | 150                                                |
| Control Type:                      | Actuated-Coordinated                               |
| Maximum v/c Ratio:                 | 1.68                                               |
| Intersection Signal Delay:         | 84.9                                               |
| Intersection LOS:                  | F                                                  |
| Intersection Capacity Utilization: | 85.7%                                              |
| ICU Level of Service:              | E                                                  |
| Analysis Period (min):             | 15                                                 |

Splits and Phases: 6: Thornton Pkwy & SB Ramp

|                    |                    |                    |                     |
|--------------------|--------------------|--------------------|---------------------|
| #6<br>← ρ2<br>48 s | #6<br>↙ ρ1<br>11 s | #6<br>↓ ρ4<br>21 s | #6<br>↓ ρ12<br>20 s |
| #9<br>← ρ6<br>36 s | #9<br>↗ ρ5<br>23 s | #9<br>↑ ρ8<br>21 s | #9<br>↑ ρ16<br>20 s |

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| Lane Group                  | ø4   | ø5   | ø6   | ø8   | ø12  | ø16  |
|-----------------------------|------|------|------|------|------|------|
| Total Split (s)             | 21.0 | 23.0 | 36.0 | 21.0 | 20.0 | 20.0 |
| Total Split (%)             | 21%  | 23%  | 36%  | 21%  | 20%  | 20%  |
| Maximum Green (s)           | 17.0 | 19.0 | 32.0 | 17.0 | 16.0 | 16.0 |
| Yellow Time (s)             | 3.0  | 3.0  | 3.0  | 3.0  | 3.0  | 3.0  |
| All-Red Time (s)            | 1.0  | 1.0  | 1.0  | 1.0  | 1.0  | 1.0  |
| Lost Time Adjust (s)        |      |      |      |      |      |      |
| Total Lost Time (s)         |      |      |      |      |      |      |
| Lead/Lag                    |      | Lag  | Lead |      |      |      |
| Lead-Lag Optimize?          |      | Yes  | Yes  |      |      |      |
| Vehicle Extension (s)       | 3.0  | 3.0  | 3.0  | 3.0  | 3.0  | 3.0  |
| Recall Mode                 | Max  | None | None | None | None | None |
| Walk Time (s)               | 5.0  |      | 5.0  | 5.0  | 5.0  | 5.0  |
| Flash Dont Walk (s)         | 11.0 |      | 11.0 | 11.0 | 11.0 | 11.0 |
| Pedestrian Calls (#/hr)     | 0    |      | 0    | 0    | 0    | 0    |
| Act Effect Green (s)        |      |      |      |      |      |      |
| Actuated g/C Ratio          |      |      |      |      |      |      |
| v/c Ratio                   |      |      |      |      |      |      |
| Control Delay               |      |      |      |      |      |      |
| Queue Delay                 |      |      |      |      |      |      |
| Total Delay                 |      |      |      |      |      |      |
| LOS                         |      |      |      |      |      |      |
| Approach Delay              |      |      |      |      |      |      |
| Approach LOS                |      |      |      |      |      |      |
| <b>Intersection Summary</b> |      |      |      |      |      |      |

Lanes, Volumes, Timings  
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| Lane Group                 | EBL   | EBT   | EBR   | WBL  | WBT   | WBR   | NBL   | NBT   | NBR   | SBL  | SBT  | SBR   |
|----------------------------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|------|-------|
| Lane Configurations        | ↘     | ↑↑    |       |      | ↑↑    | ↗     | ↘     | ↗     | ↗     |      |      |       |
| Volume (vph)               | 520   | 1580  | 0     | 0    | 1415  | 455   | 280   | 0     | 550   | 0    | 0    | 0     |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 | 1900 | 1900  |
| Storage Length (ft)        | 125   |       | 0     | 0    |       | 0     | 500   |       | 0     | 0    |      | 0     |
| Storage Lanes              | 1     |       | 0     | 0    |       | 1     | 1     |       | 1     | 0    |      | 0     |
| Taper Length (ft)          | 25    |       | 25    | 25   |       | 25    | 25    |       | 25    | 25   |      | 25    |
| Lane Util. Factor          | 1.00  | 0.95  | 1.00  | 1.00 | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00 | 1.00 | 1.00  |
| Ped Bike Factor            | 1.00  |       |       |      |       |       | 1.00  | 1.00  |       |      |      |       |
| Frt                        |       |       |       |      |       | 0.850 |       |       | 0.850 |      |      |       |
| Flt Protected              | 0.950 |       |       |      |       |       | 0.950 | 0.950 |       |      |      |       |
| Satd. Flow (prot)          | 1770  | 3539  | 0     | 0    | 3539  | 1583  | 1681  | 1681  | 1583  | 0    | 0    | 0     |
| Flt Permitted              | 0.950 |       |       |      |       |       | 0.950 | 0.950 |       |      |      |       |
| Satd. Flow (perm)          | 1768  | 3539  | 0     | 0    | 3539  | 1583  | 1675  | 1675  | 1583  | 0    | 0    | 0     |
| Right Turn on Red          |       |       | Yes   |      |       | Yes   |       |       | Yes   |      |      | Yes   |
| Satd. Flow (RTOR)          |       |       |       |      |       | 356   |       |       | 15    |      |      |       |
| Link Speed (mph)           |       | 35    |       |      | 35    |       |       | 35    |       |      |      | 35    |
| Link Distance (ft)         |       | 470   |       |      | 831   |       |       | 600   |       |      |      | 540   |
| Travel Time (s)            |       | 9.2   |       |      | 16.2  |       |       | 11.7  |       |      |      | 10.5  |
| Confl. Peds. (#/hr)        | 2     |       |       |      |       |       | 2     |       |       |      |      |       |
| Peak Hour Factor           | 0.92  | 0.92  | 0.92  | 0.92 | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92 | 0.92 | 0.92  |
| Adj. Flow (vph)            | 565   | 1717  | 0     | 0    | 1538  | 495   | 304   | 0     | 598   | 0    | 0    | 0     |
| Shared Lane Traffic (%)    |       |       |       |      |       |       | 50%   |       |       |      |      |       |
| Lane Group Flow (vph)      | 565   | 1717  | 0     | 0    | 1538  | 495   | 152   | 152   | 598   | 0    | 0    | 0     |
| Enter Blocked Intersection | No    | No    | No    | No   | No    | No    | No    | No    | No    | No   | No   | No    |
| Lane Alignment             | Left  | Left  | Right | Left | Left  | Right | Left  | Left  | Right | Left | Left | Right |
| Median Width(ft)           |       | 24    |       |      | 24    |       |       | 12    |       |      |      | 12    |
| Link Offset(ft)            |       | 0     |       |      | 0     |       |       | 0     |       |      |      | 0     |
| Crosswalk Width(ft)        |       | 16    |       |      | 16    |       |       | 16    |       |      |      | 16    |
| Two way Left Turn Lane     |       |       |       |      |       |       |       |       |       |      |      |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        | 15    |       | 9     | 15   |       | 9     | 15    |       | 9     | 15   |      | 9     |
| Number of Detectors        | 1     | 1     |       |      | 1     | 1     | 1     | 1     | 1     |      |      |       |
| Detector Template          |       |       |       |      |       |       |       |       |       |      |      |       |
| Leading Detector (ft)      | 50    | 50    |       |      | 50    | 50    | 50    | 50    | 50    |      |      |       |
| Trailing Detector (ft)     | 0     | 0     |       |      | 0     | 0     | 0     | 0     | 0     |      |      |       |
| Detector 1 Position(ft)    | 0     | 0     |       |      | 0     | 0     | 0     | 0     | 0     |      |      |       |
| Detector 1 Size(ft)        | 50    | 50    |       |      | 50    | 50    | 50    | 50    | 50    |      |      |       |
| Detector 1 Type            | Cl+Ex | Cl+Ex |       |      | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |      |      |       |
| Detector 1 Channel         |       |       |       |      |       |       |       |       |       |      |      |       |
| Detector 1 Extend (s)      | 0.0   | 0.0   |       |      | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |      |       |
| Detector 1 Queue (s)       | 0.0   | 0.0   |       |      | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |      |       |
| Detector 1 Delay (s)       | 0.0   | 0.0   |       |      | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |      |       |
| Turn Type                  | Prot  |       |       |      |       | Perm  | Perm  |       | Perm  |      |      |       |
| Protected Phases           | 5     | 5 6   |       |      | 6     |       |       | 8 16  |       |      |      |       |
| Permitted Phases           |       |       |       |      |       | 6     | 8 16  |       | 8 16  |      |      |       |
| Detector Phase             | 5     | 5 6   |       |      | 6     | 6     | 8 16  | 8 16  | 8 16  |      |      |       |
| Switch Phase               |       |       |       |      |       |       |       |       |       |      |      |       |
| Minimum Initial (s)        | 4.0   |       |       |      | 4.0   | 4.0   |       |       |       |      |      |       |
| Minimum Split (s)          | 8.0   |       |       |      | 20.0  | 20.0  |       |       |       |      |      |       |



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| Lane Group                 | ø1  | ø2   | ø4   | ø8   | ø12  | ø16  |
|----------------------------|-----|------|------|------|------|------|
| Lane Configurations        |     |      |      |      |      |      |
| Volume (vph)               |     |      |      |      |      |      |
| Ideal Flow (vphpl)         |     |      |      |      |      |      |
| Storage Length (ft)        |     |      |      |      |      |      |
| Storage Lanes              |     |      |      |      |      |      |
| Taper Length (ft)          |     |      |      |      |      |      |
| Lane Util. Factor          |     |      |      |      |      |      |
| Ped Bike Factor            |     |      |      |      |      |      |
| Frt                        |     |      |      |      |      |      |
| Flt Protected              |     |      |      |      |      |      |
| Satd. Flow (prot)          |     |      |      |      |      |      |
| Flt Permitted              |     |      |      |      |      |      |
| Satd. Flow (perm)          |     |      |      |      |      |      |
| Right Turn on Red          |     |      |      |      |      |      |
| Satd. Flow (RTOR)          |     |      |      |      |      |      |
| Link Speed (mph)           |     |      |      |      |      |      |
| Link Distance (ft)         |     |      |      |      |      |      |
| Travel Time (s)            |     |      |      |      |      |      |
| Confl. Peds. (#/hr)        |     |      |      |      |      |      |
| Peak Hour Factor           |     |      |      |      |      |      |
| Adj. Flow (vph)            |     |      |      |      |      |      |
| Shared Lane Traffic (%)    |     |      |      |      |      |      |
| Lane Group Flow (vph)      |     |      |      |      |      |      |
| Enter Blocked Intersection |     |      |      |      |      |      |
| Lane Alignment             |     |      |      |      |      |      |
| Median Width(ft)           |     |      |      |      |      |      |
| Link Offset(ft)            |     |      |      |      |      |      |
| Crosswalk Width(ft)        |     |      |      |      |      |      |
| Two way Left Turn Lane     |     |      |      |      |      |      |
| Headway Factor             |     |      |      |      |      |      |
| Turning Speed (mph)        |     |      |      |      |      |      |
| Number of Detectors        |     |      |      |      |      |      |
| Detector Template          |     |      |      |      |      |      |
| Leading Detector (ft)      |     |      |      |      |      |      |
| Trailing Detector (ft)     |     |      |      |      |      |      |
| Detector 1 Position(ft)    |     |      |      |      |      |      |
| Detector 1 Size(ft)        |     |      |      |      |      |      |
| Detector 1 Type            |     |      |      |      |      |      |
| Detector 1 Channel         |     |      |      |      |      |      |
| Detector 1 Extend (s)      |     |      |      |      |      |      |
| Detector 1 Queue (s)       |     |      |      |      |      |      |
| Detector 1 Delay (s)       |     |      |      |      |      |      |
| Turn Type                  |     |      |      |      |      |      |
| Protected Phases           | 1   | 2    | 4    | 8    | 12   | 16   |
| Permitted Phases           |     |      |      |      |      |      |
| Detector Phase             |     |      |      |      |      |      |
| Switch Phase               |     |      |      |      |      |      |
| Minimum Initial (s)        | 4.0 | 4.0  | 4.0  | 4.0  | 4.0  | 4.0  |
| Minimum Split (s)          | 8.0 | 21.0 | 21.0 | 21.0 | 20.0 | 20.0 |

Lanes, Volumes, Timings  
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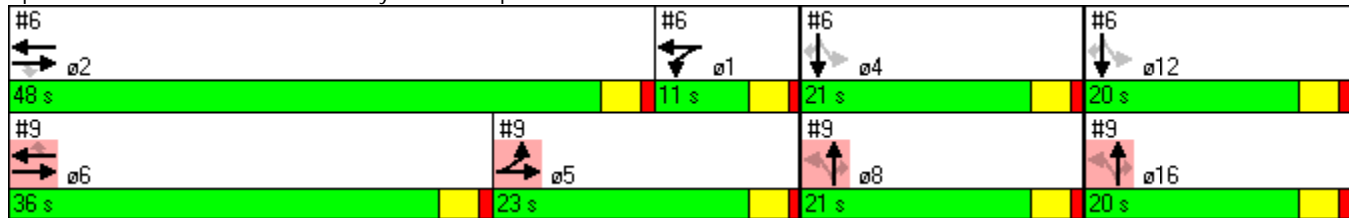


| Lane Group              | EBL   | EBT   | EBR  | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL  | SBT  | SBR  |
|-------------------------|-------|-------|------|-------|-------|-------|-------|-------|-------|------|------|------|
| Total Split (s)         | 23.0  | 59.0  | 0.0  | 0.0   | 36.0  | 36.0  | 41.0  | 41.0  | 41.0  | 0.0  | 0.0  | 0.0  |
| Total Split (%)         | 23.0% | 59.0% | 0.0% | 0.0%  | 36.0% | 36.0% | 41.0% | 41.0% | 41.0% | 0.0% | 0.0% | 0.0% |
| Maximum Green (s)       | 19.0  |       |      | 32.0  |       |       | 32.0  |       |       |      |      |      |
| Yellow Time (s)         | 3.0   |       |      | 3.0   |       |       | 3.0   |       |       |      |      |      |
| All-Red Time (s)        | 1.0   |       |      | 1.0   |       |       | 1.0   |       |       |      |      |      |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  |
| Total Lost Time (s)     | 4.0   | 4.0   | 4.0  | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0  | 4.0  | 4.0  |
| Lead/Lag                | Lag   |       |      | Lead  |       |       | Lead  |       |       |      |      |      |
| Lead-Lag Optimize?      | Yes   |       |      | Yes   |       |       | Yes   |       |       |      |      |      |
| Vehicle Extension (s)   | 3.0   |       |      | 3.0   |       |       | 3.0   |       |       |      |      |      |
| Recall Mode             | None  |       |      | None  |       |       | None  |       |       |      |      |      |
| Walk Time (s)           |       |       |      | 5.0   |       |       | 5.0   |       |       |      |      |      |
| Flash Dont Walk (s)     |       |       |      | 11.0  |       |       | 11.0  |       |       |      |      |      |
| Pedestrian Calls (#/hr) |       |       |      | 0     |       |       | 0     |       |       |      |      |      |
| Act Effct Green (s)     | 19.0  | 55.0  |      | 32.0  | 32.0  | 37.0  | 37.0  | 37.0  |       |      |      |      |
| Actuated g/C Ratio      | 0.19  | 0.55  |      | 0.32  | 0.32  | 0.37  | 0.37  | 0.37  |       |      |      |      |
| v/c Ratio               | 1.68  | 0.88  |      | 1.36  | 0.66  | 0.25  | 0.25  | 1.01  |       |      |      |      |
| Control Delay           | 331.1 | 6.7   |      | 190.0 | 6.6   | 23.2  | 23.2  | 70.3  |       |      |      |      |
| Queue Delay             | 0.0   | 15.3  |      | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       |      |      |      |
| Total Delay             | 331.1 | 22.0  |      | 190.0 | 6.6   | 23.2  | 23.2  | 70.3  |       |      |      |      |
| LOS                     | F     | C     |      | F     | A     | C     | C     | E     |       |      |      |      |
| Approach Delay          |       | 98.5  |      | 145.4 |       |       | 54.4  |       |       |      |      |      |
| Approach LOS            |       | F     |      | F     |       |       | D     |       |       |      |      |      |

Intersection Summary

|                                    |                                                    |
|------------------------------------|----------------------------------------------------|
| Area Type:                         | Other                                              |
| Cycle Length:                      | 100                                                |
| Actuated Cycle Length:             | 100                                                |
| Offset:                            | 4 (4%), Referenced to phase 2:EBWB, Start of Green |
| Natural Cycle:                     | 150                                                |
| Control Type:                      | Actuated-Coordinated                               |
| Maximum v/c Ratio:                 | 1.68                                               |
| Intersection Signal Delay:         | 109.2                                              |
| Intersection LOS:                  | F                                                  |
| Intersection Capacity Utilization: | 85.7%                                              |
| ICU Level of Service:              | E                                                  |
| Analysis Period (min):             | 15                                                 |

Splits and Phases: 9: Thornton Pkwy & NB Ramp



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| Lane Group                  | ø1   | ø2    | ø4   | ø8   | ø12  | ø16  |
|-----------------------------|------|-------|------|------|------|------|
| Total Split (s)             | 11.0 | 48.0  | 21.0 | 21.0 | 20.0 | 20.0 |
| Total Split (%)             | 11%  | 48%   | 21%  | 21%  | 20%  | 20%  |
| Maximum Green (s)           | 7.0  | 44.0  | 17.0 | 17.0 | 16.0 | 16.0 |
| Yellow Time (s)             | 3.0  | 3.0   | 3.0  | 3.0  | 3.0  | 3.0  |
| All-Red Time (s)            | 1.0  | 1.0   | 1.0  | 1.0  | 1.0  | 1.0  |
| Lost Time Adjust (s)        |      |       |      |      |      |      |
| Total Lost Time (s)         |      |       |      |      |      |      |
| Lead/Lag                    | Lag  | Lead  |      |      |      |      |
| Lead-Lag Optimize?          | Yes  | Yes   |      |      |      |      |
| Vehicle Extension (s)       | 3.0  | 3.0   | 3.0  | 3.0  | 3.0  | 3.0  |
| Recall Mode                 | None | C-Max | Max  | None | None | None |
| Walk Time (s)               |      | 5.0   | 5.0  | 5.0  | 5.0  | 5.0  |
| Flash Dont Walk (s)         |      | 11.0  | 11.0 | 11.0 | 11.0 | 11.0 |
| Pedestrian Calls (#/hr)     |      | 0     | 0    | 0    | 0    | 0    |
| Act Effect Green (s)        |      |       |      |      |      |      |
| Actuated g/C Ratio          |      |       |      |      |      |      |
| v/c Ratio                   |      |       |      |      |      |      |
| Control Delay               |      |       |      |      |      |      |
| Queue Delay                 |      |       |      |      |      |      |
| Total Delay                 |      |       |      |      |      |      |
| LOS                         |      |       |      |      |      |      |
| Approach Delay              |      |       |      |      |      |      |
| Approach LOS                |      |       |      |      |      |      |
| <b>Intersection Summary</b> |      |       |      |      |      |      |

Lanes, Volumes, Timings  
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| Lane Group                 | EBL   | EBT   | WBT   | WBR   | SBL   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        | ↖     | ↑↑↑   | ↑↑    | ↗     | ↘↘    | ↙     |
| Volume (vph)               | 20    | 1785  | 1515  | 325   | 200   | 25    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Storage Length (ft)        | 150   |       |       | 0     | 250   | 0     |
| Storage Lanes              | 1     |       |       | 1     | 2     | 1     |
| Taper Length (ft)          | 25    |       |       | 25    | 25    | 25    |
| Lane Util. Factor          | 1.00  | 0.91  | 0.95  | 1.00  | 0.97  | 1.00  |
| Ped Bike Factor            |       |       |       | 0.97  | 1.00  | 0.98  |
| Frt                        |       |       |       | 0.850 |       | 0.850 |
| Flt Protected              | 0.950 |       |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1770  | 5085  | 3539  | 1583  | 3433  | 1583  |
| Flt Permitted              | 0.106 |       |       |       | 0.950 |       |
| Satd. Flow (perm)          | 197   | 5085  | 3539  | 1542  | 3420  | 1559  |
| Right Turn on Red          |       |       |       | Yes   |       | Yes   |
| Satd. Flow (RTOR)          |       |       |       | 353   |       | 27    |
| Link Speed (mph)           |       | 35    | 35    |       | 35    |       |
| Link Distance (ft)         |       | 580   | 1517  |       | 646   |       |
| Travel Time (s)            |       | 11.3  | 29.6  |       | 12.6  |       |
| Confl. Peds. (#/hr)        | 2     |       |       | 2     | 2     | 2     |
| Peak Hour Factor           | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  | 0.92  |
| Adj. Flow (vph)            | 22    | 1940  | 1647  | 353   | 217   | 27    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 22    | 1940  | 1647  | 353   | 217   | 27    |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Left  | Right | Left  | Right |
| Median Width(ft)           |       | 12    | 12    |       | 24    |       |
| Link Offset(ft)            |       | 0     | 0     |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    | 16    |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    |       |       | 9     | 15    | 9     |
| Number of Detectors        | 1     | 1     | 1     | 1     | 1     | 1     |
| Detector Template          |       |       |       |       |       |       |
| Leading Detector (ft)      | 50    | 50    | 50    | 50    | 50    | 50    |
| Trailing Detector (ft)     | 0     | 0     | 0     | 0     | 0     | 0     |
| Detector 1 Position(ft)    | 0     | 0     | 0     | 0     | 0     | 0     |
| Detector 1 Size(ft)        | 50    | 50    | 50    | 50    | 50    | 50    |
| Detector 1 Type            | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel         |       |       |       |       |       |       |
| Detector 1 Extend (s)      | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Detector 1 Queue (s)       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Detector 1 Delay (s)       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Turn Type                  | Perm  |       |       | Perm  |       | Perm  |
| Protected Phases           |       | 4     | 8     |       | 6     |       |
| Permitted Phases           | 4     |       |       | 8     |       | 6     |
| Detector Phase             | 4     | 4     | 8     | 8     | 6     | 6     |
| Switch Phase               |       |       |       |       |       |       |
| Minimum Initial (s)        | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   |
| Minimum Split (s)          | 21.0  | 21.0  | 21.0  | 21.0  | 21.0  | 21.0  |

Lanes, Volumes, Timings  
 14: Thornton Pkwy & Conifer Rd

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| Lane Group              | EBL   | EBT   | WBT   | WBR   | SBL   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|
| Total Split (s)         | 77.0  | 77.0  | 77.0  | 77.0  | 23.0  | 23.0  |
| Total Split (%)         | 77.0% | 77.0% | 77.0% | 77.0% | 23.0% | 23.0% |
| Maximum Green (s)       | 73.0  | 73.0  | 73.0  | 73.0  | 19.0  | 19.0  |
| Yellow Time (s)         | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| All-Red Time (s)        | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   | 4.0   |
| Lead/Lag                |       |       |       |       |       |       |
| Lead-Lag Optimize?      |       |       |       |       |       |       |
| Vehicle Extension (s)   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| Recall Mode             | C-Max | C-Max | C-Max | C-Max | Max   | Max   |
| Walk Time (s)           | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |
| Flash Dont Walk (s)     | 11.0  | 11.0  | 11.0  | 11.0  | 11.0  | 11.0  |
| Pedestrian Calls (#/hr) | 0     | 0     | 0     | 0     | 0     | 0     |
| Act Effect Green (s)    | 73.0  | 73.0  | 73.0  | 73.0  | 19.0  | 19.0  |
| Actuated g/C Ratio      | 0.73  | 0.73  | 0.73  | 0.73  | 0.19  | 0.19  |
| v/c Ratio               | 0.15  | 0.52  | 0.64  | 0.29  | 0.33  | 0.08  |
| Control Delay           | 7.0   | 6.5   | 6.0   | 0.4   | 36.7  | 13.2  |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 7.0   | 6.5   | 6.0   | 0.4   | 36.7  | 13.2  |
| LOS                     | A     | A     | A     | A     | D     | B     |
| Approach Delay          |       | 6.5   | 5.0   |       | 34.1  |       |
| Approach LOS            |       | A     | A     |       | C     |       |

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 37 (37%), Referenced to phase 4:EBTL and 8:WBT, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.64  
 Intersection Signal Delay: 7.4  
 Intersection LOS: A  
 Intersection Capacity Utilization 61.9%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 14: Thornton Pkwy & Conifer Rd



4) US Hwy 85 & 31st Street (Greeley) freeway/arterial/rural

bk Grnd 2005

8-hr 1.293620025

1-hr 1.795621826

State Hwy 119 & County Line Road

bk Grnd 2005

8-hr 0.927356827

1-hr 2.053432975

3) Harmony Road & I-25 (Ft. Collins) freeway/arterial

bk Grnd 2005

8-hr 0.768509061

1-hr 1.355564593

2) State Hwy 7 & I-25 (Adams/Broomfield County line area) freeway/arterial

bk Grnd 2005

8-hr 2.544327077

1-hr 3.717681797

1) Thornton Parkway & I-25 (Denver) freeway/arterial

bk Grnd 2005

8-hr 3.055436092

1-hr 5.536820555