North I-25 Operations and Maintenance Facility

ARTICLE 1 - Operational and Maintenance Facility Requirements

I. Requirements Description

This article is a review of the requirements for operation and maintenance facilities (O&M) on the North I-25 Corridor. Transit operations and maintenance facilities are required for the storage, maintenance, and upkeep of transit vehicles regardless of the mode(s) selected for the North I-25 Corridor or any current or future alternative development. These facilities will include vehicle parking, supply storage, a maintenance shop(s), vehicle wash, offices, and employee parking.

II. Operation and Maintenance Facility Site Criteria

General site criteria are delineated below for each of the three modes being considered. Detailed site evaluation criteria will be developed and applied to sites being considered as the DEIS effort progresses and modes and operating plans are further defined.

- Location (proximity to service area)
- Size (acres)
- Configuration (shape)
- Topography
- Zoning/use
- Access
- Availability of utilities
- Minimize environmental impacts and costs

III. Maintenance Facility Requirements

The following table summarizes basic site, building, and infrastructure requirements for any operations and maintenance facility needed for each of the three modes of public transportation under consideration including commuter rail and bus (and/or bus rapid transit). Location of the facility or multiple facilities will be dependent on the operational plan developed. The following table should be used for preliminary development only and will need to be refined as the development alternatives and operational plans have been confirmed.

Operations and Maintenance Facility Requirements

	Commuter Rail	Bus/BRT
Functions		
	• Train storage	• Bus storage
	• Administration	• Administration
	• Operations/Dispatch	• Operations/Dispatch
	• Employee facilities	• Employee facilities
	• Training areas	• Training areas
	• Maintenance (repair and inspections)	• Maintenance (repair and inspections)
	• Fueling	• Fueling
	• Vehicle cleaning	• Vehicle cleaning
	• Maintenance of Way (MOW)	• Stops and zones
	• Toilet dumping	• Toilet dumping
	• Sand (storage and filling)	•
	• Wheel truing	• Tire storage and shop
	• Load testing (engine)	•
	• Paint and body repair (if not located elsewhere)	• Paint and body repair (if not located elsewhere)
	• Parts storage	• Parts storage
Site		
	• 25 - 30 acres	• 3 - 4 acres
	• Lead tracks to main line	• Access to freeways/arterials
	• Track spacing of 15' and 25' with service access aisle	• Enclosed/covered with 12' wide spaces
	• 50 feet of space between the turnouts and trains	• Adequate site circulation for bus movement 60' turning radius
	• Yard run-around/bypass track	• Good vehicle site circulation
	• Paved service aisles	• Paving of entire yard
	• Double end access (preferred)	• Two points of access (one main, one secondary/emergency)
	• Separate public and employee parking areas and site access	• Separate public and employee parking areas and site access
	• RTD vehicle parking	• RTD vehicle parking
	• Secured yard	• Secured yard
	• N/A	• N/A
	• Whistle stop platform for drivers if on corridor	• On bus route
	• Expansion capability	• Expansion capability
	• Limited Environmental Impact	• Limited Environmental Impact
	• Utilities including electricity, water, waste water, storm water, natural gas, telecom	• Utilities including electricity, water, waste water, storm water, natural gas, telecom
	• Yard utilities including water, head-end power, electrical outlets	• Electrical and air outlets in bus parking
	• Fueling and sanding tracks	• Fuel island (could be covered or inside)

Operations and Maintenance Facility Requirements

	Commuter Rail	Bus/BRT
Site (cont.)		
	• Loading dock	• Loading dock
	• Material Storage yard (MOW)	• N/A
	• Rail Maintenance Vehicle storage track (MOW)	• N/A
	• Level yard area	• Relatively flat site
Building		
Administration/ Operations	• Administration offices/ conference areas	• Administration offices/ conference areas
	• Dispatch	• Dispatch
	• Drivers Areas	• Drivers Areas
	• Drivers Lockers	• Drivers Lockers
	• Restrooms and showers	• Restrooms and showers
	• Lobby	• Lobby
	• Quiet Room	• Quiet Room
	• Exercise Room	• Exercise Room
	• Training Room(s)	• Training Room(s)
Maintenance	♦ 2 train-length inspection tracks with pits and access platforms	♦ Lower level work area below inspection bays
	♦ Wheel truing track	♦ Tire Shop/Bay
	♦ Repair bays number dependent of vehicles serviced	♦ Repair bays number dependent of vehicles serviced
	♦ Drive through wash	♦ Drive through wash
	♦ Service bay (component wash bay)	♦ Chassis Wash
	♦ Common work areas	♦ Common work areas
	♦ Portable Equipment Storage	♦ Portable Equipment Storage
	♦ Component Rebuild (if not located elsewhere)	♦ Component Rebuild (if not located elsewhere)
	♦ Paint bay (if not located elsewhere)	♦ Paint bay (if not located elsewhere)
	♦ Body repair bay (if not located elsewhere)	♦ Body repair bay (if not located elsewhere)
	♦ Parts Storage	♦ Parts Storage
	♦ Parts Window	♦ Parts Window
	♦ Loading Dock	♦ Loading Dock
	♦ Sanding Bay	♦ N/A
	♦ Battery Storage	♦ Battery Storage
	♦ Lubrication/Compressor Room	♦ Lubrication/Compressor Room
	♦ Electronics Shop	♦ Electronics Shop
	♦ Vehicle Cleaning Crew Storage	♦ Vehicle Cleaning Crew Storage
	♦ Diesel Fueling	♦ Diesel Fueling

Maintenance (Cont.)		
	• Maintenance Supervisors offices	• Maintenance Supervisors offices
	• Maintenance Library	• Maintenance Library
	• Maintenance lockers, restrooms, and showers	• Maintenance lockers, restrooms, and showers
	• Maintenance Lunchroom	• Maintenance Lunchroom
	• Exercise Room	• Exercise Room
Maintenance of Way	• Supervisor offices	• N/A
	• Shop area	• N/A
	• Inside rail bay	• N/A
	• Equipment parts storage	• N/A
	• Could be remote from maintenance facility	• N/A
	• Material storage yard	• N/A
Facilities Maintenance	• Supervisor offices	• Supervisor offices
	• Shop area	• Shop area
	• Equipment/parts storage	• Equipment/parts storage
	• FM rooms located throughout buildings near restrooms	• FM rooms located throughout buildings near restrooms
	• Satellite shop near vehicle washer	• Satellite shop near vehicle washer

ARTICLE 2 - Site Sizing and Location Issues

I. General Review of Size and Location Issues

This article is a preliminary review of the size and operational location issues related the site needed for operational and maintenance facilities on the North I-25 Corridor. This information is essential in evaluating potential locations. Transit operations and maintenance facilities are required for the storage, maintenance, and upkeep of transit vehicles regardless of the mode(s) selected or any current or future alternative development. The North I-25 Corridor operations and maintenance facilities will be evaluated for each transit technology under consideration in the Draft Environmental Impact Statement (DEIS) (i.e., commuter rail, limited bus/bus rapid transit).

There are other corridors that can potentially impact North I-25 operations. US 36, North Metro, and I-70 are part of Fast Tracks Program and will be run by RTD. The US 36 Corridor will be commuter rail and have a operations and maintenance facility associated with it. The North Metro Corridor and the I-70 East Corridor modes have not yet been selected. Another uncertainty is who will run the North I-25 Corridor transit operations. It could be run by RTD, a new Transit District (independent of Denver RTD), or a private operator. Potential connections and shared maintenance or layover for vehicles is anticipated with these other Denver Metro Corridors currently under development.

II. Operational Effect on Operations and Maintenance Size and Location

For the both commuter rail and bus service on the North I-25 Corridor, the operator is assumed to be unknown. Regardless of the operator, however, the corridor will require at least one major operational and maintenance facility. A shared facility between two different operators is also an option provided they meet both entities' operational needs and a cooperative agreement can be reached.

The North I-25 Corridor is approximately 30 miles wide and 45 miles long. The width and breath of this corridor has the potential to generate a major problem for a single operations and maintenance facility. To keep operating cost down, limiting non-revenue service is essential. Non-revenue service is defined as the time bus or rail vehicles must travel from first or last public stop to a storage yard, employee parking, operations, and maintenance facility. Fuel, vehicle mileage, and employee costs are increased as non-revenue time increases.

An optimum location for a operations and maintenance facility should minimize non-revenue service. In general, the location should be nearest to point of origin for the fleet each morning and at the end of a route each night. Besides the main north-south transit travel in the corridor, preliminary operational analysis has suggested several feeder routes in the east-west direction are needed to serve major communities, either east or west of the main transit path (Longmont, Loveland, Greeley, and Berthoud).

From ridership information, the main flow of travel will be in the north to south in the morning and south to north in the afternoon and evening. However, this directional flow will not meet the needs of all riders and there will be a significant need for transit in both directions throughout the day. Servicing the feeder routes will be difficult to serve from an end-of-route facility. There is no optimum single facility location that will accommodate all these operational needs and keep

non-revenue service reasonable. To solve this optimization issue, it is suggested that layover facilities be integrated into the corridor once a transit mode and routes have been determined.

Layover facilities would consist of a small secured storage area for one to three transit vehicles or train sets and one to two parking spaces for employees and operational vehicles. These site(s) could be located at park-and-rides, at the end of line, or incorporated into other RTD or local transit sites along the corridor. Operationally, buses normally residing at these layover facilities would be serviced at the main O&M facility by rotating them through the network of routes to limit non-revenue service and provide regular preventive maintenance.

Given the assumption there will be multiple layover sites on the corridor, the O&M facility would be best located at or near the end of corridor, at the location where a maximum of vehicles would have normal access to maintenance facilities and the largest concentration of drivers and operational staff would be located. This would reduce non-revenue service and provide management and operational efficiencies for transit operations within the corridor. Based on these assumptions, potential site locations would be at Longmont, Greeley or Fort Collins.

III. Rail Operations and Maintenance Facility

Based on the "*North I-25 EIS Rail Fleet Requirements"* attached to the end of this article, the maximum fleet size could range from 19 to 22 including locomotive engines. An operations and maintenance facility site will require the following elements:

- Rail vehicle storage yard
- Storm water / sanitary industrial treatment facilities
- Fueling facility (in yard or inside building)
- Maintenance of way storage yard and rail spur
- Employee and visitor parking
- Sanding facility (storage and dispenser positions)
- Maintenance building (including wash bay, PM bays, parts storage, shops and maintenance staff areas)
- Operations (includes administration offices, driver/engineer spaces and support areas)
- Maintenance of way shop and offices (could be independent of main maintenance facility)

Based on these elements, it is anticipated that the site will need to be approximately 25 to 30 acres. The operations and maintenance / operation building will need to be approximately 48,800 square feet.

A layover area would include a siding track that would accommodate at least two train sets. The layover site will need to be secure, have employee and operational vehicle parking spaces, and allow switching train set direction. The site would require approximately three acres on a long, narrow site adjacent to the main alignment assuming it is not integrated into a larger existing yard for the US 36 or other corridor facility.

IV. Bus Operations and Maintenance Facility

Based on the "*North I-25 EIS Summary of Bus Fleet Requirements"* attached at the end of this article, the maximum fleet size could range from 40 to 60 buses including feeder and local modified route connections.. A bus operations and maintenance site will require the following elements:

- Covered bus parking
- Fueling facility (in yard or inside building)
- Employee and visitor parking
- Maintenance building (including wash bay, PM bays, parts storage, shops, and maintenance staff areas)
- Operations (includes administration offices, driver spaces, and support areas)
- Storm water detention area

Based on these elements, it is anticipated that the site will need to be approximately three to four acres. The operations and maintenance building will need to be approximately 20,000 square feet.

Due to the length and breath of the corridor and the additional feeder routes identified, it is anticipated that several layover faculties will need to be established. These layover facilities will allow for parking and cleaning of buses that will not return to the main facility to reduce operating cost related to non-revenue service and early morning startup and end-of-day service routes. Layover facilities would include the following:

- Bus parking
- Vehicle maintenance
- Fueling island
- Cleaning station
- Bus wash
- Fair box retrieval and maintenance area
- Operations area for drivers and dispatchers
- Administration offices.

The layover site would require, at most, an acre, depending on the lot shape, vehicle access, and easements. It is assumed that some of these facilities may be accommodated at existing RTD facilities or local bus operations in Longmont, Loveland, Fort Collins, or Greeley.

V. Preliminary Space Needs Program and Fleet Sizes

The following pages show the preliminary estimates of space needs for both bus and commuter rail operations and maintenance facilities. These figures are based on fleet sizes established for the corridor, similar facilities, and industry standards.

SPACE NEEDS FOR COMMUTER RAIL MAINTENANCE FACILITY	
Building Areas *(gross building area)*	
Administration	3,000
Operations	3,400
Maintenance Office area	700
Maintenance Shops and Storage	35,000
Maintenance Support	1,800
Material Handling (Parts)	3,000
Maintenance of Way	1,500
Facility Maintenance	400
Subtotal Building	*48,800*
Site Areas	
Employee Visitor Parking	17,500
Internal Parking	5,000
Yard Storage	65,340
Ladder and Lead Track	160,000
Rail Vehicle Storage	348,480
Storm Water and Water Treatment	43,560
Fueling area and Storage	21,800
Subtotal Exterior Areas	*661,680*
Summary	
Total Building and Exterior Areas	710,500
Site Circulation and Landscaping	532,900
Total Site Requirement - S.F.	***1,243,400***
Total Site Requirement - Acres	***29***

SPACE NEEDS FOR BUS OPERATIONS AND MAINTENANCE FACILITY	
Building Areas *(gross building area)*	
Administration	2,200
Operations	3,500
Maintenance Office area	700
Maintenance Shops and Storage	3,750
Maintenance Support	1,800
Material Handling (Parts)	3,000
Wash and Fueling Bay	4,900
Facility Maintenance	200
Subtotal Building	*20,050*
Site Areas	
Employee Visitor Parking	12,250
Internal Parking	3,750
General Yard Storage	21,780
Bus Parking	22,500
Subtotal Exterior Areas	*60,280*
Summary	
Total Building and Exterior Areas	80,300
Site Circulation and Landscaping	80,300
Total Site Requirement - S.F.	***160,600***
Total Site Requirement - Acres	***3.7***

NORTH I-25 EIS
SUMMARY OF BUS FLEET REQUIREMENTS
(incremental to No Action)

Bus Route	MODEL ID	Pkg 1	Pkg 2	Pkg 3	Pkg 4	Pkg 5	Pkg 6	Pkg 7	Pkg 8
TRANSIT CORRIDOR BUS ROUTES									
Bus on I-25: Ft Collins North TC - DUS	FCDUS	8	8	8	8	8	0	0	8
Bus on I-25: Ft Collins North TC - DIA	FCDIA	0	0	0	5	0	0	0	0
Commuter bus on US 287, Ft Collins North TC - Longmont	FCLM	0	6	6	0	6	0	0	0
Commuter bus on US 85, Greeley TC - DUS	GRLYDUS	0	5	5	0	5	0	5	5
Commuter bus on US 85, Greeley TC - DIA	GRLYDIA	0	2	0	0	0	0	2	2
Subtotal Transit Corridor Vehicles		**8**	**21**	**19**	**13**	**19**	**0**	**7**	**15**
MODIFIED LOCAL ROUTES									
Foxtrot	Fox Trot	0	0	0	0	0	0	0	0
Fort Collins Rte 5	FC5	0	0	0	0	0	0	0	0
Fort Collins Rte 6	FC6	0	0	0	0	0	0	0	0
Fort Collins Rte 7	FC7	2	2	2	2	2	2	0	0
Jitterbus	Jitter	1	1	3	1	3	3	1	3
Subtotal Midified Local Route Vehicles		**3**	**3**	**5**	**3**	**5**	**5**	**1**	**3**
FEEDER ROUTES									
Greeley - Windsor - Ft Collins	GLYFC	7	7	8	7	8	8	8	8
Greeley - Loveland (US-34)	US34	11	11	11	11	11	11	11	11
Platteville - Milliken - Johnstown - Berthoud	PVBT	0	0	2	0	2	2	2	2
Firestone - Frederick - Longmont	FFLGMT	0	0	2	0	2	2	4	2
Ft Lupton - Longmont	FTLLGMT	2	2	0	2	0	0	0	0
Ft Lupton - Boulder (SH 52)	FLBDR	0	0	7	0	7	7	7	7
Subtotal New Feeder Route Vehicles		**20**	**20**	**30**	**20**	**30**	**30**	**32**	**30**
TOTAL BUS VEHICLES		**31**	**44**	**54**	**36**	**54**	**35**	**40**	**48**

Notes:
Bus fleet requirements include 20% spares.
While transportation model extended Fort Collins Rte 5, 6 and 7 to Harmony station for all three routes, costs reflect extending Route 7 only.

NORTH I-25 EIS
RAIL FLEET REQUIREMENTS

		Peak Vehicles	Total Vehicles	Peak Trainsets	Peak Headway	Peak Consist
NO ACTION						
US 36	DUS to Longmont (Diagonal/Hover)	8	10	4	30	2
US 36	DUS to Boulder (Pearl/30th)	8	10	4	30	2
	Total US 36	***16***	***20***	***8***		
North Metro	DUS to SH-7/160th	9	11	3	30	3
North Metro	DUS to 124th	6	7	2	30	3
	Total North Metro	***15***	***18***	***5***		
	TOTAL US 36 AND NORTH METRO	**31**	**38**	**13**		
PACKAGE 6						
US 36	DUS to I-25/SH 119	10	12	5	30	2
US 36	DUS to Longmont (Diagonal/Hover)	0	0	0	n/a	n/a
US 36	DUS to Boulder (Pearl/30th)	8	10	4	30	2
	Total US 36	***18***	***22***	***9***		
	Incremental US 36 to No Action	***2***	***2***	***1***		
North Metro	DUS to Fort Collins (Harmony Rd/I-25)	18	**22**	6	30	3
North Metro	DUS to SH-7/160th	0	0	0	n/a	n/a
North Metro	DUS to 124th	6	7	2	30	3
	Total North Metro	***24***	***29***	***8***		
	Incremental North Metro to No Action	***9***	***11***	***3***		
	TOTAL US 36 AND NORTH METRO	**42**	**51**	**17**		
	INCREMENTAL TO NO ACTION	**11**	**13**	**4**		
PACKAGE 7						
US 36	DUS to Fort Collins (North Transit Ctr)	16	**19**	8	30	2
US 36	DUS to Longmont (Diagonal/Hover)	0	0	0	n/a	n/a
US 36	DUS to Boulder (Pearl/30th)	8	10	4	30	2
	Total US 36	***24***	***29***	***12***		
	Incremental US 36 to No Action	***8***	***9***	***4***		
North Metro	DUS to SH-7/160th	9	11	3	30	3
North Metro	DUS to 124th	6	7	2	30	3
	Total North Metro	***15***	***18***	***5***		
	Incremental North Metro to No Action	***0***	***0***	***0***		
	TOTAL US 36 AND NORTH METRO	**39**	**47**	**17**		
	INCREMENTAL TO NO ACTION	**8**	**9**	**4**		
PACKAGE 8						
US 36	DUS to Fort Collins (North Transit Ctr)	16	**19**	8	30	2
US 36	DUS to Longmont (Diagonal/Hover)	0	0	0	n/a	n/a
US 36	DUS to Boulder (Pearl/30th)	8	10	4	30	2
	Total US 36	***24***	***29***	***12***		
	Incremental US 36 to No Action	***8***	***9***	***4***		
North Metro	DUS to Longmont (1st/Terry)	15	18	5	30	3
North Metro	DUS to SH-7/160th	0	0	0	n/a	n/a
North Metro	DUS to 124th	6	7	2	30	3
	Total North Metro	***21***	***25***	***7***		
	Incremental North Metro to No Action	***6***	***7***	***2***		
	TOTAL US 36 AND NORTH METRO	**45**	**54**	**19**		
	INCREMENTAL TO NO ACTION	**14**	**16**	**6**		

Notes:

Total Vehicles: Peak vehicles plus 20 percent spare ratio.

Blue values (Total Vehicles of rail line to Fort Collins): Use as minimum capacity for sizing yard in Fort Collins.

Green values (Total Vehicles, Incremental to No Action for applicable rail line): Use to assess expansion impacts to existing Fastracks yard.

Red values (Total Vehicles, Incremental to No Action): Use to calculate capital cost of additional vehicles related to project.

Vehicle Type: Fastracks operating plan assumes 1 power/1trailer car for the US 36 line, 2 power/1trailer car for North Metro line:

Package 6 (13 new vehicles): 8 power cars, 5 trailer cars

Package 7 (9 new vehicles): 4 power cars, 5 trailer cars DMU

Package 8 (16 new vehicles): 9 power cars, 7 trailer cars

ARTICLE 3 - Site Selection Criteria

This article is a preliminary review criterion for site selection for an operations and maintenance facility on the North I-25 Corridor. This information is needed prior to listing or investigating potential sites. Criteria discussed in this section will be reviewed with public prior to selection and at each level of the screening process of potential sites. This discussion is preliminary in nature and more detailed criteria descriptions and analysis will be included at each level of the site screening process.

Both Rail and Bus operations and maintenance facilities have some common requirements described in Article I.(Facility Requirements). These facility requirements along with common site constraints correlate into common criteria for site selection screening. The common site selection criteria will include the following:

- Is the on or near transit corridor right of way?
- Is the site at end of line or major intersection of routes?
- Is the site zoned or potential for zoning as industrial (or similarly acceptable community use)?
- Can the site meet facility size and configuration requirements?
- Does the site have good motor vehicle access?
- Does the site limit non-revenue service?
- Is the site flexible of all alternative transit packages under consideration?
- Can site limit environmental impacts on?
  - Noise
  - Hazardous materials
  - Historic resources
  - Surrounding use
  - Wildlife
  - Wetlands
- Can the site limit the number of additional layover sites?
- How well does the site minimize the number of property acquisitions?
- Are utilities available?
- Is current and future land use compatable
- Committee support?
- Stakeholder support?

The following criteria are unique to a commuter rail facility:

- Can the site avoid public road impacts?
- Can the site limit flyovers to avoid public road or freight rail impact?
- How well does the site minimize access track (i.e. lead track) length?
- How well does the site minimize access track (i.e. lead track) grade crossings?

The following criteria are unique to a bus facility:

- Does the site service feeder routes?
- Does the site provide potential integration into local transit systems?

ARTICLE 4 - Site Selection

I. General

The Criteria established in the previous Article were used to select potential sites throughout the corridor based on the final two Packages (A & B). Due to operational differences for a maintenance and rail facility, potential for separate operating agencies, required site size, and routes no joint bus rail sites was identified. Therefore a separate list was developed for both modes of transportation. The list of site is followed by a map of the sites as they are distributed through the corridor. The Map on the preceding page shows the sites examined.

Commuter Rail Operations and Maintenance Facility Sites

- E. Vine Drive & west of N. Lemay Ave. - ***Fort Collins***
- East Vine Drive & LCR 9E - ***Fort Collins***
- E. Vine Drive & N. Timberline - ***Fort Collins***
- W. 71st Street & S. Shields Street - ***Fort Collins/Loveland***
- SW corner of US 287 and LCR-46 - ***Berthoud***
- Alpine & Sugar Lane Rd - ***Longmont***
- Adjacent or combined with FasTrack US 36 Facilities - ***Denver***

Bus Operations and Maintenance Facility Sites

- Portner Road & Trilby Road (LCR 34) - ***Fort Collins***
- Harmony Road & I-25 - ***Fort Collins***
- Airport Business Park - ***Fort Collins***
- SH Hwy 119th & I-25
- Us Hwy 34 & US Hwy 85 - ***Greeley***
- 27th St. & 1st Ave. - ***Greeley***
- Us Hwy 34 & SH 257 - ***Greeley***
- 14th & A Street - ***Greeley***
- US Hwy 85 & E470 - ***Commerce City***
- US Hwy 34 & I-25 - ***Loveland***
- Adjacent To RTD Central Facility - ***Denver***

II. Environmental Review

The following is a summary of field reconnaissance done for maintenance facility sites under consideration. On April 14th, 2006 a site visit was made to each of the sites below in order to identify any environmental issues that could potentially affect locating a maintenance facility at these locations.

GREELEY - 27th and 1st Avenue
The site under consideration is located in the northeast quadrant of the intersection of 27th and 1st Avenue near the intersection of US 85 and 34. It is directly west of a school bus maintenance facility. This site has a number of small, poor quality ditch wetlands along the southern edge. There is also a nearby potential low income and/or minority area on the other side of the school bus facility and a residence in the SW quadrant which may be low income and/or minority. This site is also located next door to a home which may present some visual and/or noise concerns.
As a part of the reconnaissance, we also looked at vacant areas within a half mile of this site. There are 3 sites in the SW quadrant of this intersection which could be considered. The oblong site located directly south of 27th appears optimal due to the proximity to the intersection and the absence of any recognized environmental concerns. There is an additional parcel south of this in the SW parcel which also looks promising, it is currently vacant and zoned "industrial" and appears to be absent of any recognizable environmental concerns.

GREELEY - 31st and 1st Avenue
The site under consideration is located in the SW quadrant of 31st and 1st Avenue. The following environmental concerns were present at the site: There was drainage bisecting the site which could have associated wetlands, there were also prairie dogs present on this site and adjacent to the site which could be extremely difficult to relocate. Moving southward, there were several neighborhoods that appeared to be predominantly low income and/or minority. North of 31st, the land use becomes more industrial and congruent with a maintenance facility. There are ditch wetlands directly north of 31st which appear to be low quality. There are 2 vacant lots north of 31st which appear to be absent of any recognizable environmental concerns.

GREELEY - HIGHWAY 34 AND HIGHWAY 257
The proposed site is located in the southwest quadrant of US 34 and 257. The land is currently rural and predominately used for agriculture. There is a new PEPSI distribution plant north of the proposed site which does not show up on the aerial. There are no recognized environmental concerns and the proposed area seems optimal for development.

LOVELAND - US 34 AND I-25
This proposed site is located in the southeast quadrant of I-25 and US 34 near CR 3E. There has been some development in the area since the aerial was flown which includes Poudre Valley Regional Hospital and the beginning of the proposed centerra (spelling?) development. The proposed site is located adjacent to a home which could be potentially historic making it eligible for protection under Section 106. There are no other recognizable environmental concerns at this site. It is advisable if this site is pursued to avoid impacts to the nearby property associated with the potentially eligible historic site.

LOVELAND - 71st and South Shields
This proposed site is located in the northeast quadrant near 57th and Shields. The proposed

site is located approximately 450 feet north of a mobile home community which could raise some public concern about noise, light and vibration impacts and could be a potential EJ issue. Additionally, there is a large ditch which bisects the proposed parcel, approximately 18' across and 20 foot high backs on either side. There was no water in it the day of the site visit but it was well maintained and looked like it still was used as a conveyance, in which case it would likely be wetlands or Waters of the US issues. I did notice a sign posted at this locale for a public hearing scheduled for the Loveland Planning Department for a proposed annexation (Copper Ridge) at this site. I would recommend calling the planning department at 970-962-2523 to find out the status if we continue pursuing this site.

FORT COLLINS - HARMONY ROAD AND I-25
The proposed site is located in the southwest quadrant of Harmony Road and I-25 near a reclaimed gravel pit. The proposed Colorado Front Range Trail is planned to go through this parcel. There is a plan for this and some funding has already been allocated towards the trail which means it is considered 4(f) and all impacts to the trail should be avoided. There were also burrows indicative of prairie dogs located on this site; however no prairie dogs were present. They may have been relocated or have died from the plague.

FORT COLLINS - PORTNER AND TRILBY
I could not locate this in the field. However, according to the site map a portion of the proposed site is within the Prairie Dog Natural Area which may be subject to 4(f) protection. As such, all impacts to the Natural Area should be avoided.

FORT COLLINS - E VINE AND COUNTY ROAD 9E
The proposed site is near the intersection of CR9E/Lindermeier and Vine Drive, in the southeast quadrant. There is a drainage ditch running through the eastern portion of the site which may have associated wetlands and the ditch may be historic. Also, there is a newly developed pre-fabricated housing development just west of the proposed development which could raise some public concern about noise, light and vibration impacts and could be potential EJ issue.

Additionally, the Dry Creek Stormwater wetland is located in the proposed area. This is listed as a Fort Collins Natural Area and may be subject to 4(f). It is advisable to remove this property from consideration due to both 4(f) concerns and the presence of wetlands.

FORT COLLINS - E VINE DRIVE AND NORTH TIMBER LINE ROAD
The proposed site is located near the intersection of Timberline Road and Vine Drive in the southeast quadrant, directly south of Vine. There are poor quality wetlands and possibly a historic ditch on the western side of the site. There is also a mobile home community directly southwest of the site which could raise some public concern about noise, light and vibration impacts and could be a potential low income and/or minority issue. It is recommended if we proceed with this site more investigation is warranted regarding community impacts, wetlands, and the presence of an historic ditch.

LONGMONT - ALPINE AND SUGAR LANE ROAD
The proposed site is located directly north of the railroad near ther intersection of Rodgers Road and Martin Street. It appears that there would be a relocation required as a result there is a large recycling operation in place on this parcel. Also it is adjacent to a "junkyard" which may have hazardous materials present and there are a large number of what appears to be high quality wetlands on this site. It is recommended if we proceed with this site more investigation is warranted regarding relocation impacts, wetlands, and the potential for recognized hazardous materials.

BERTHOUD - US 287 and Bunyan Avenue
The proposed site is located just east of 287 and north of Bunyan Avenue. It is currently agricultural but zoned for industrial and surrounded by industrial uses. There are home on the other side of the railroad along 4th street but while the railroad seemed to provide a barrier effect. There were no other visible environmental resource issues of concern present. There may be some community concern about potential noise, light and vibration issues but I think with a well defined public involvement strategy we could continue to pursue this site.

III. Selection Matrix

The Matrix on the following pages shows the evaluation performed on each of the identified sites. As previously discussed the criteria for Commuter Rail facilities are not the same as those for a Bus Operations and Maintenance Facility, therefore there are two separate list of sites and matrixes for these different operations. Those sites in the gray rows will not be taken forward in the DEIS. Those in the clear white rows will be taken forward for further evaluation. Criteria definitions can be found on the last page of Matrix Tables.

COMMUTER RAIL MAINTENANCE AND OPERATIONAL FACILITY

MAINTENANCE SITE	CRITERIA											COMMENTS
	On or Near Corridor Right of Way	Meets Size and Configuration Requirements	Adequate Utilities	Limits Non-Revenue Travel	Limits Property Acquisitions	Limits Environmental Impacts	Avoids Public Road Impacts	Limits Number of Additional layover sites	Zoning Appropriate for Current And Future Use	Minimize Flyover and Extended Lead Track	Committee & Stakeholder Support	
E. Vine Drive & west of N. Lemay Ave. ***Fort Collins***	X	Will require additional property	X	X	Will require additional property	Will eliminate existing park	X	X		X		• Property publicly owned • Will require relocation of some City and CDOT facilities • Would require demolition of City yard and private waste water plant
East Vine Drive & LCR 9E ***Fort Collins***	X	X	X	X	X		X	X		X		• Will require relocation of existing freight rail yard • Area is a storm water detention for flood control which creates a significant environmental impact.
E. Vine Drive & N. Timberline *Fort Collins*	X	X	X	X	X	X	X	X	X	X	X	• Site size adequate • Alternate parcels are available around the initial site
W. 71st Street & S. Shields Street ***Fort Collins/ Loveland***	X	X	Limited		X	Wetlands and adjacent residential property	X		Agricultural	X		• Existing agricultural area • Not zoned for industrial use • Adjacent to open space & mobile home park • Some environmental impacts • Bisected by irrigation channel and wetlands
SW corner of US 287 and LCR-46 ***Berthoud***	X	X	X		X	X	X		X	X	X	• Proposed City Industrial Site • Adjacent to Main Line • Not at end of line to avoid non-revenue service
Alpine & Sugar Lane Rd ***Longmont***	X	X	X		X	Potential wetlands and hazardous materials on site	X		X	X		• Zoned industrial • Could be shared with US 36 layover or maintenance facility • Will require Fort Collins layover facility
Adjacent or combined with FasTrack US 36 Facilities ***(North Denver)***	X	Restricted site	X		X	Future community impact	X		Future redevelopment potential	Difficult access		• Maximizes need for layover and additional maintenance facilities. • Maximized non-revenue service • May require agreement between transit agencies

Note: **Shaded gray rows indicate site has been dropped and clear rows indicate site will be carried forward in the DEIS process.**

BUS OPERATIONS AND MAINTENANCE FACILITY

MAINTENANCE SITE	CRITERIA										
	On Corridor Package A	On Corridor Package B	Adequate Utilities	Meets Size & Configuration Requirements	Limits Non-Revenue Travel	Integration Into Local Transit Systems?	Limits Substantial Environmental Impacts	Serves Feeder Routes	Zoning Appropriate for Current And Future Use	Committee & Stakeholder Support	COMMENTS
Portner Road & Trilby Road (LCR 34) ***Fort Collins***		X	X	X	X	X	Adjacent to residential property	X	Currently open space	X	• Adjacent to existing transit center for City • Preferred by City staff • Zoning acceptable • Site on corridor DEIS Alternative B
Harmony Road & I-25 ***Fort Collins***		X	X	Restricted due to open space and trail system	X	?	Adjacent to open space and designated trail system	X	X		• Property in School District trust northwest corner • Adjacent to open space • Environmental impacts
Airport Business Park ***Fort Collins***	X	X	X	X	X	X	X		X		• Multiple potential properties in general area • Does not serve local routes
SH Hwy 119th & I-25	X	X	X	X		Limited	X	Limited	X		• Site on DEIS Alternative B • Site not on feeder route connection • Increases non revenue service
Us Hwy 34 & US Hwy 85	X		X	X	X	X	X	X	Potential for future commercial development	X	• Good layover facility for feeder routes • Careful placement to avoid potential historic site • Potentially near future commercial center at intersection
Greeley 27th St. & 1st Ave.	X		X	X	X	X	X	X	X	X	• Multiple potential properties in general area • Site on corridor for DEIS Alternative A
Us Hwy 34 & SH 257 ***Greeley***	X		X	X	X	X	X	X	X	X	• Multiple potential properties in general area • Site on corridor DEIS Alternative A
US Hwy 85 & E470 ***Commerce City***	X		Limited	X			X		Potential for future commercial development		• Good layover facility for feeder routes • Long distance from primary corridor

Note: **Shaded gray rows indicate site has been dropped and clear rows indicate site will be carried forward in the DEIS process.**

MAINTENANCE SITE	CRITERIA										
	On Corridor Package A	On Corridor Package B	Adequate Utilities	Meets Size & Configuration Requirements	Limits Non-Revenue Travel	Integration Into Local Transit Systems?	Limits Substantial Environmental Impacts	Serves Feeder Routes	Zoning Appropriate for Current And Future Use	Committee & Stakeholder Support	COMMENTS
US Hwy 34 & I-25 ***Loveland***	X	X	X	X		Limited	X	X	Potential for future commercial development		• Good layover facility for feeder routes • Long distance from primary corridor
Adjacent To Existing RTD Central Operations Facility ***Denver***	X	X	X	Restricted			X		Potential for future commercial development		• Maximizes layover requirements • maximizes non-revenue time for corridor • May require agreement between transit agencies
14th & A Street ***Greeley***	X		X	Restricted	X	X	Surrounding residential community	X	X		

<u>Note:</u> Shaded gray rows indicate site has been dropped and clear rows indicate site will be carried forward in the DEIS process.

Legend

Operations and Maintenance Facility
An Operations and Maintenance Facility is the location where bus or computer rail vehicles are cleaned and serviced. The facilities are also the base of operations for drivers and will provide administration space for system management. They are listed in the tables after the nearest intersection or in some instances named after an existing transit facility. Where there is no existing or planned transit facility, the team is evaluating potential sites within a mile radius of the identified cross street.

Criteria
The general location elements used to evaluate Maintenance Facility locations. See the **Criteria Definitions** (below) for explanations of the specific criteria used to evaluate the station locations. An **X** in a column indicates that the given station location meets the criteria.

Comments
Various text-based notes for specific sites are included in the comments column. These bullet points convey information.

Maintenance Facilities shown with gray shading were not selected for analysis in screening

Criteria Definitions

Does the Site meet size and configuration requirements?
A quantitative measurement based on available space for maintenance operations 25-30 acres for Commuter Rail and 3 to 5 acres for a bus facility

Does Site limit non revenue service?
A qualitative assessment of the amount of time required for vehicle to reach maintenance facility from the end of service

On Corridor Package “A” or “ B” (Bus only):
A qualitative assessment of the maintenance facilities ability to serve multiple alignment packages

Does the site avoid substantial environmental impacts?
A site’s potential to avoid impacts to commercial, residential, open space or other environmental impacts

Limit Property Acquisition
Does development of the site require more then four property acquisitions and potentially increasing project costs and public concerns.

Adequate Utilities
Do public utilities to the site meet the needs of the proposed development? This analysis did not include an exhausted study of utility capacity.

Does Site avoid public Road Impacts?
An evaluation of site and site egress that might conflicts with local roads or freight rail operations

Does Site serve Feeder and Local Transit Routes (Bus only)?
A check to see if the proposed facility site could provide a connection to an end-of-line station and/or a major transit center owned / operated by another transit agency or committed to in the 2030 travel model.

Committee and Stakeholder Support:
A reflection of comments or suggestions made by TAC and/or RCC members expressing support for a given station area. A blank box does not imply inadequate support, but an X depicts specific support by local agencies

Minimize Flyover and Extended Lead Track (Commuter Rail only)
Does the site location avoid the need for the lead track (tracks that come off the main line into the rail yard) to go over existing rail lines or roadways. In addition the location does not require the lead track to exceed half a mile longer then if adjacent to the main line

Zoning Appropriate for Current and Future Use
Does current or future zoning match the proposed land use?

Limits Layover Sites (Commuter Rail only)
If the site is not located near the primary origination point of the commuter rail trips then there will be more non revenue travel required and the need to store some commuter rail consists at their morning starting point. This will require a siding and rail vehicle storage separate from the main yard.

BUS OPERATIONS AND MAINTENANCE FACILITY
2nd Screening

MAINTENANCE SITE	CRITERIA						COMMENTS
	Alternate site available in the immediate area	Site within 5 mile of end of line station	Site not in rapid developing urban growth area	No Known Environmental Impacts	Strong Support from Committee & Stakeholder Support		
Site Location for Package A							
Us Hwy 34 & US Hwy 85	X	X	X	X			• Close to end of line station • Little or no environmental impact • Many alternate sites within the same area
Greeley 27th St. & 1st Ave.	X	X		Near residential development area			• Near expanding single and multistory residential units. • Growth from adjacent residential units likely
Us Hwy 34 & SH 257 ***Greeley***	X		X	X			• Ten miles from end of line station • Little surrounding growth at this time.
Site Location for Package B							**COMMENTS**
Portner Road & Trilby Road (LCR 34) ***Fort Collins***		X	X	Near residential development area	X		• Adjacent to existing transit center for City other uses unlikely • Preferred by City staff • Existing transit operation surrounded by residential area
Us Hwy 34 & US Hwy 85	X	X	X	X			• Close to end of line station • Little or no environmental impact • Many alternate sites within the same area
Airport Business Park ***Fort Collins***	X			X			• Multiple potential properties in general area • Does not serve local routes

Note: **Shaded gray rows indicate site has been dropped and clear rows indicate site will be carried forward in the DEIS process.**

Legend

Operations and Maintenance Facility
An Operations and Maintenance Facility is the location where buses are cleaned and serviced. The facilities are also the base of operations for drivers and will provide administration space for system management. They are listed in the tables after the nearest intersection or in some instances named after an existing transit facility. Where there is no existing or planned transit facility, the team is evaluating potential sites within a mile radius of the identified cross street.

Criteria
The general location elements used to evaluate Maintenance Facility locations. See the **Criteria Definitions** (below) for explanations of the specific criteria used to evaluate the station locations. An **X** in a column indicates that the given station location meets the criteria.

Comments
Various text-based notes for specific sites are included in the comments column. These bullet points convey information.

Maintenance Facilities shown with gray shading were not selected for analysis in screening

Criteria Definitions

Alternate site available in the immediate area:
This criteria evaluates if there is likely to be alternate site(s) close to the identified site that meets the same criteria if the identified site is not available when property is to be purchased.

Is Site within 5 mile of end of line station:
A quantitative measurement based on a specific site's ability to be within a defined distance from end of line station which would be the start and end of flow for most riders. This has the potential of reducing operating costs and out of service travel.

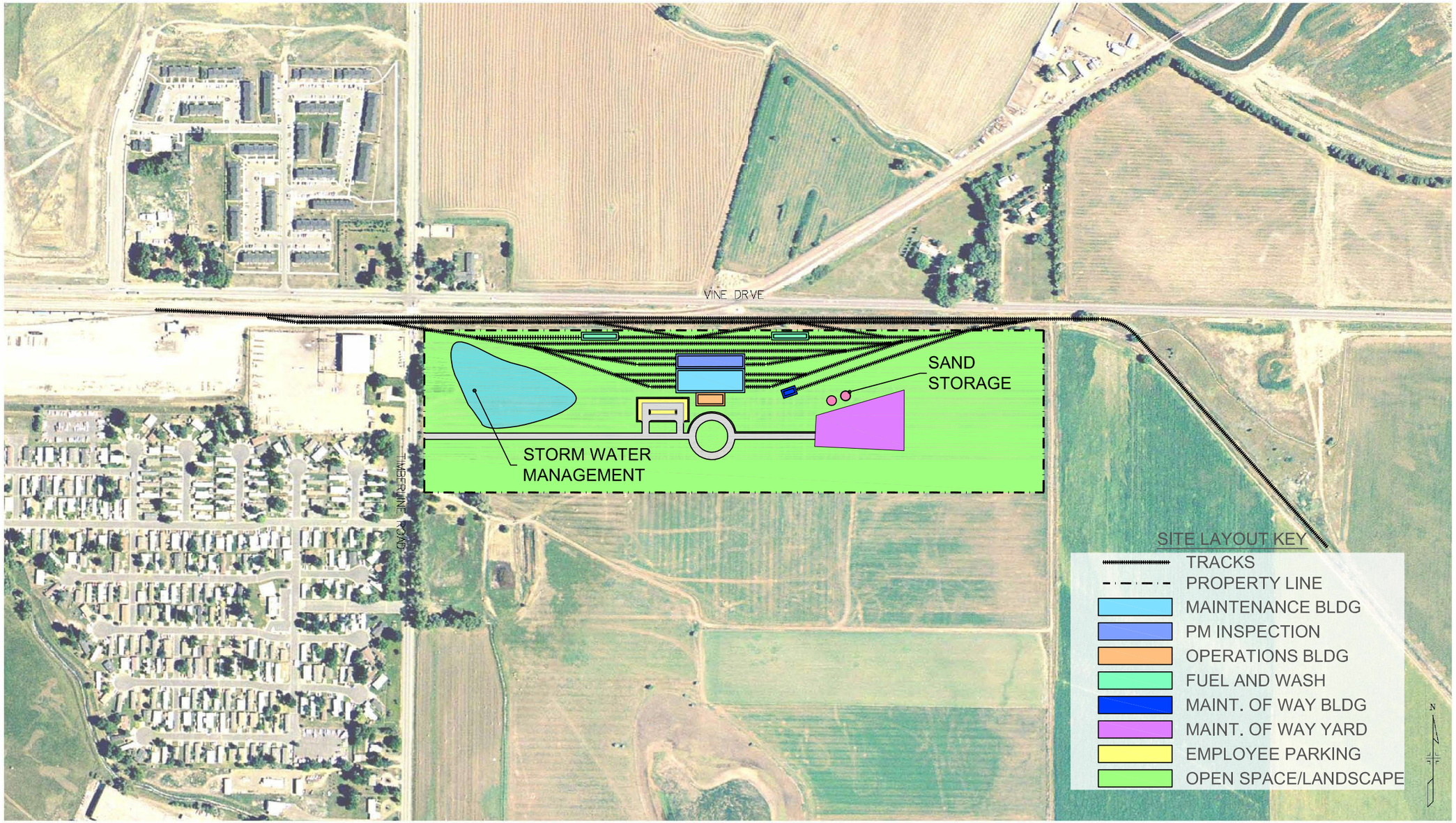
Site not in rapid developing urban growth area:
This is an assessment of the surrounding urban development and the likelihood of the site being available at time of purchase for the facility.

No Known Environmental Impacts:
A more stringent evaluation of environmental impacts then set under Screening Level 1.

Committee and Stakeholder Support:
A reflection of comments or suggestions made by TAC and/or RCC members expressing support for a given station area. A blank box does not imply inadequate support, but an X depicts specific support by local agencies

Notes:

1. Because of the alignments of computer bus and BRT the Us Hwy 34 & US Hwy 85 works for either package although this was not the basis for selection.
2. Other sites were considered Screened and eliminate from further review under the Level 1 screening for Bus Operations and Maintenance Facility.
3. Commuter Rail sites were reduced to two under the first level of screening and therefore no further screening was considered necessary.



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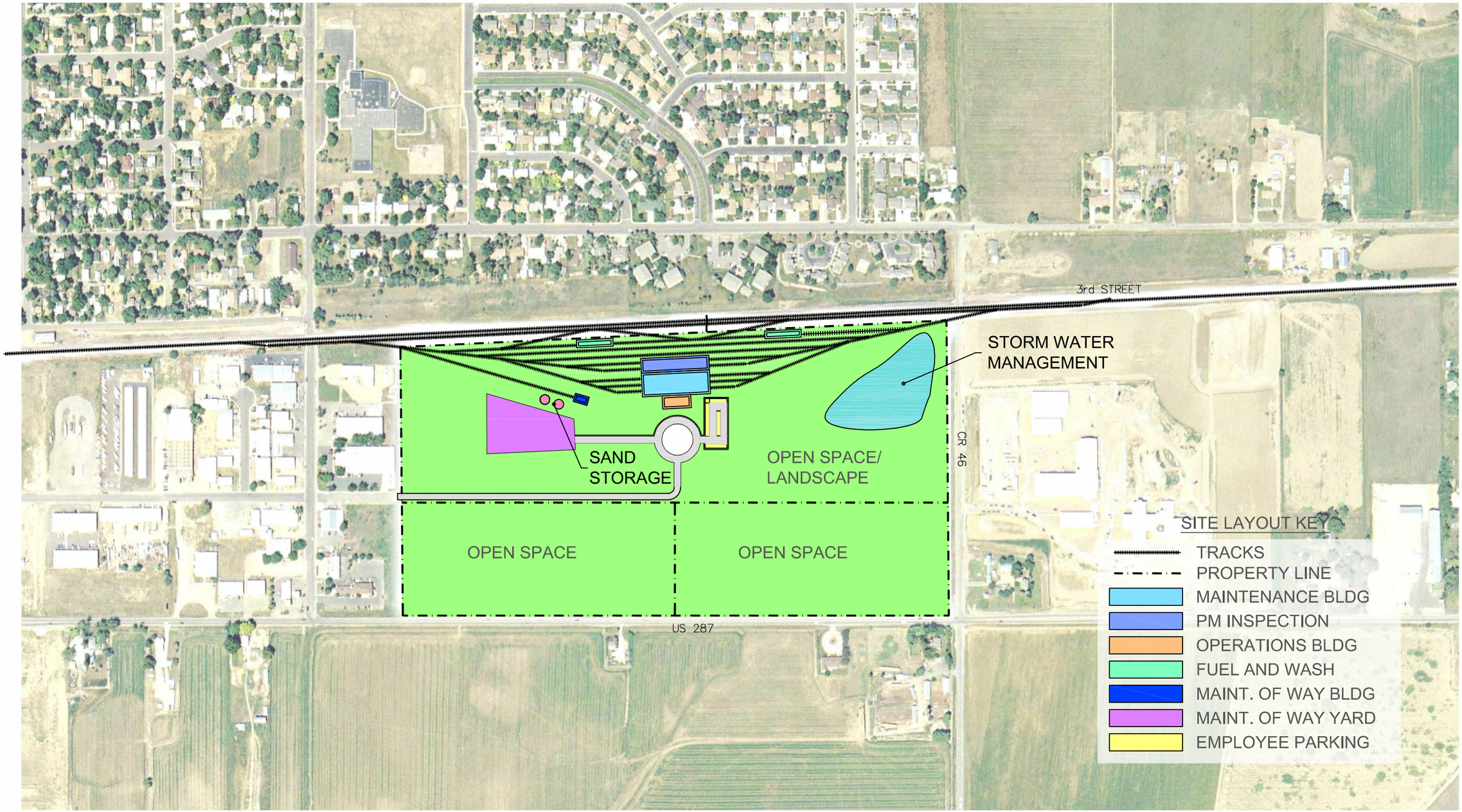
NORTH I-25 EIS
information. cooperation. transportation



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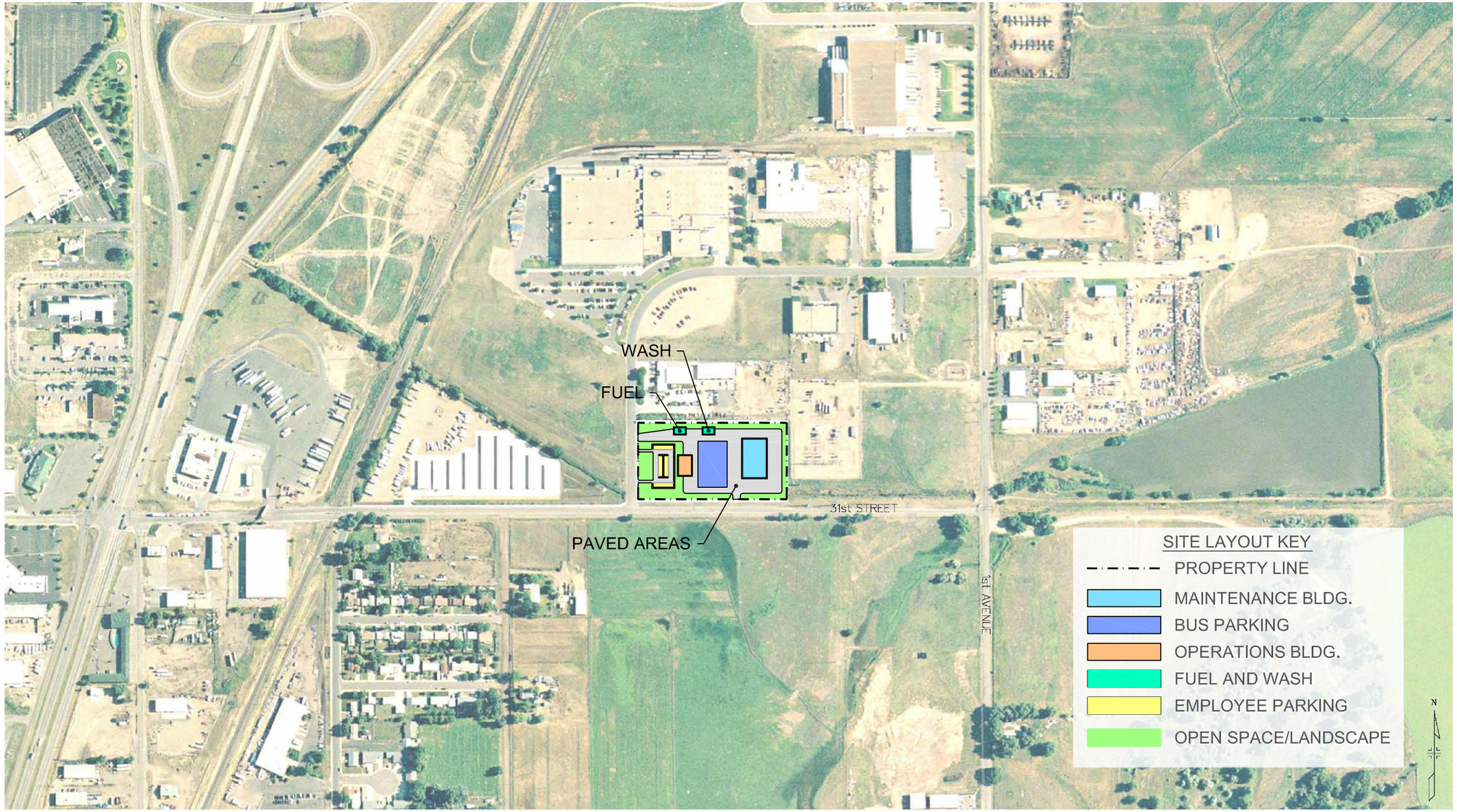

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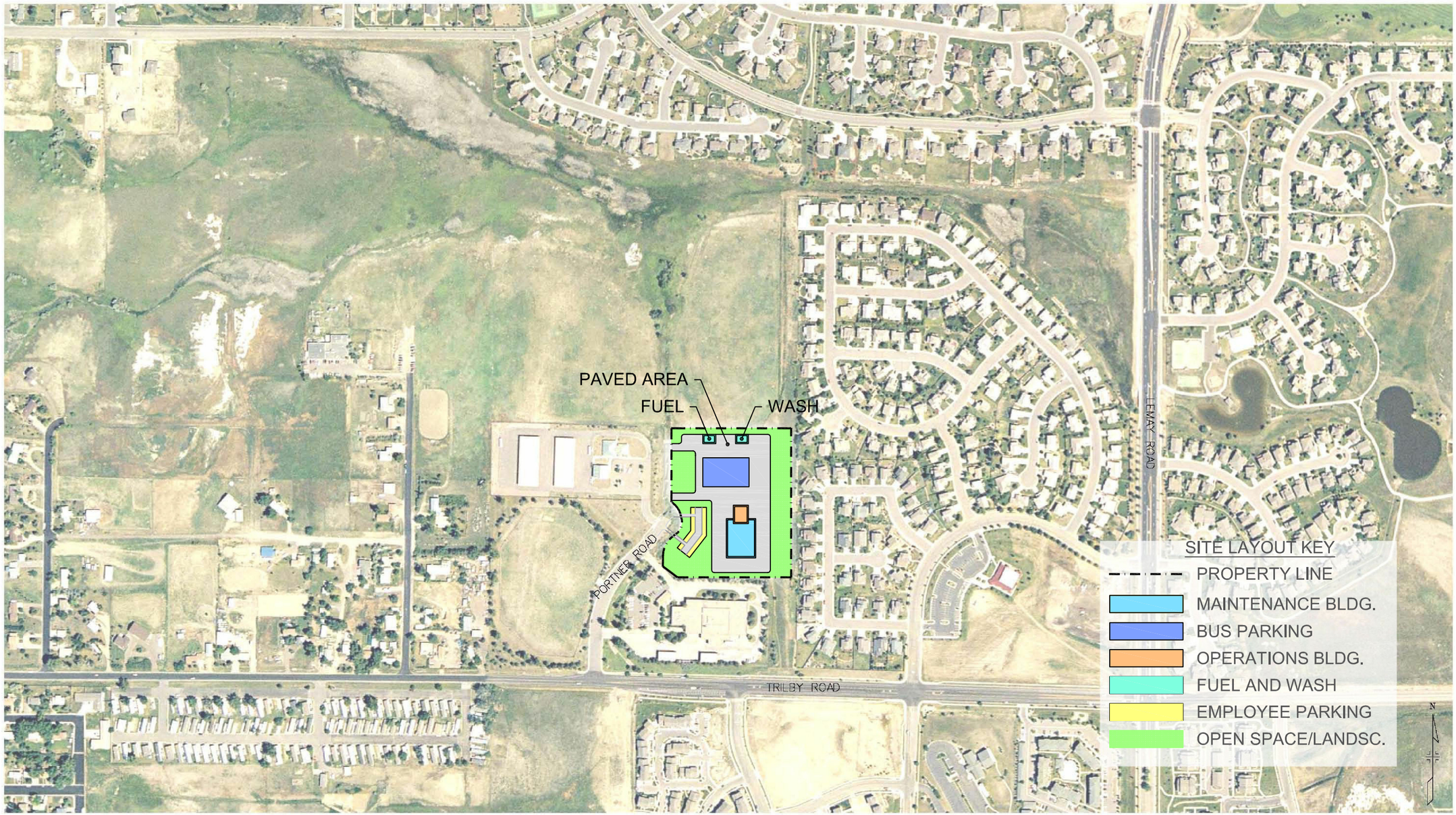

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