

## **Appendix A: Public Comments and Responses**



**US 550 South Connection to US 160**

SUPPLEMENT to the US Highway 160  
from Durango to Bayfield EIS

**RESPONSES TO PUBLIC COMMENTS**





CDOT and FHWA received comments during the Supplemental Draft EIS (SDEIS) public review period from 5 agencies and 83 individuals. Comments were received in the form of public hearing oral comments, comment sheets, letters, e-mails, and through the project website. After the comment period ended, each comment was assigned a unique identification number and was categorized by origin. Of the comments received, 396 comments were in the form of a letter with petition signatures. All of those were grouped together as one comment. If an individual commenter had multiple comments, the letter or e-mail was broken into topical areas and each topical area was assigned a number. This generated 228 discrete comments.

The comments are grouped by commenter into four categories and assigned identification numbers within those categories. Comments received from state and federal agencies are classified as *SF XX*. Comments received from local governments are classified as *LO XX*. Oral comments received during the SDEIS public hearing and recorded in the Public Hearing Transcript are classified as *TRA XX*. Comments received from individuals and groups are classified as *IND XX*. Each comment is further delineated by topic, and these topics are assigned identification letters and numbers.

Responses to all comments received are presented in this appendix. The comments are organized into tables which provide the comment with the response next to the specific comment. Most comments require some explanation, clarification or factual corrections and some resulted in changes to the SFEIS document itself. These are clearly identified in the responses given.

Some comments have been grouped together as "Common Comments." These are included on page 2 through page 19, along with Common Responses. This allows for a number of public hearing and individual and group comments to refer to the Common Responses rather than repeat the same response every time.

Comments received varied from support for the Revised G Modified Alternative (the Preferred Alternative) to concern about advancing the Eastern Realignment Alternative to support for a new alternative that is located closer to the existing US 550 alignment. Criticism was also received for the length of the NEPA process overall.



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## Common Comments and Responses



The following are common comments received during the review period for which common responses have been provided. These common responses are referenced throughout this document.

**Comments**

**Responses**

**Common Comment 1:** The SDEIS over-predicts future traffic on US 160. The method used to predict future traffic volumes double counts some of the anticipated increase because it adds traffic from a particular development to future growth trends. The predictions do not take into account significant congestion that will occur to the west and the alternate routes drivers will take to avoid this congestion. A growth factor of 4.53 is too high.

**Common Response 1:** The assumption that the SDEIS over-predicts future traffic on US 160 and double counts some of the anticipated increase because it adds traffic from a particular development is incorrect. US 160 has a documented historical traffic growth of approximately 2.25% based upon annual traffic count data collected by CDOT. Historic traffic growth rates are commonly used to forecast future traffic growth for an area. However, this is a simplistic approach that may not always accurately predict the true long-term traffic growth expected for an area. CDOT believes that there are several factors, including current and future land use changes in the project area, which will drive the traffic growth above the historic trend. Specifically, the City of Durango has annexed a significant new development (Three Springs) that will not follow this natural historic growth pattern. The Three Springs development alone is anticipated to double the current size and population of Durango. CDOT is already experiencing increased traffic generation on US 160 from this development. March 2011 traffic counts internal to the Three Springs development show that it is already generating an average of nearly 5,300 vehicle trips daily to US 160. To ensure CDOT's traffic growth predictions do not double count these trips, the future traffic trip generation calculation used in the SDEIS for the Three Springs development has been reduced by 5,300 trips/day.

When large scale developments of this nature and density are approved and in the beginning stages of development, the assumption that historic traffic growth trends will continue at normal growth rates comes into question. In developing the US 550 at US 160 2030 Traffic Volume Verification report (Appendix D), which provides our basis for predicting the future growth within the project area, CDOT considered whether using the historic growth rate of 2.25% would accurately predict the impacts of the Three Springs development on traffic generation to US 160. During this process, we determined that the historic traffic growth over the last ten years has been approximately 2% annually, rather than 2.25% annually due to the economic down turn. Therefore, we concluded that using the historic growth of 2.25% annually was not valid, and a growth of 2% annually was used in the SDEIS analysis. The 2% projected growth in background traffic accounts for the typical growth in traffic we would expect to see within the City of Durango and the surrounding areas. However, it does not factor in any additional trip generation (above the 5,300 trips/day already accounted for) created by the annexation of the Three Springs development by the City of Durango, nor does it predict this development's impact on surrounding growth which will also impact US 160. The development of Three Springs is likely to promote further growth within

Comments

Responses

Common Response 1 (cont'd)

La Plata County as new commercial and business enterprise move into the area. These conditions required CDOT to utilize a more adaptive traffic growth model. Below is the process description of the analysis CDOT performed to develop the final traffic growth projection for the SDEIS. This analysis shows how the traffic numbers were developed, and also refutes the claim that CDOT assumed a growth factor of 4.53 in the analysis. This can be reviewed more thoroughly in Appendix A of the "US 160 and US 550 Year 2030 Traffic Volume Verification" memo found in Appendix D, Traffic and Safety Memos, of the SFEIS.

**Summary of Steps Taken to Verify the Final Traffic Forecasts for US 550/US 160**

Initial Data Development

1. Review original 2025 trip estimates from the 2006 US 160 FEIS.
2. Adjust these numbers for the year 2030.
3. Determine the typical weekday peak season factor utilizing the permanent Automated Traffic Recorder (ATR) data collected near the project area.
  - a. Identified that peak season traffic is 25% higher than the annual average daily traffic (AADT).
4. Determine 2030 projected background traffic numbers. This was based on the most current 2009 Average Daily Traffic (ADT) and 20-year CDOT growth factor.
  - a. Determined a 20-year growth factor of 1.56 which equates to an annual increase of 2.25%.

Data Adjustment Factors

1. Use documented traffic counts generated by the Three Springs Development onto the highway system.
  - a. 2011 counts identified that 5,290 trips/day being generated.
2. Reduce calculated 2030 peak season background traffic by current trips generated by the Three Springs.
  - a. Reduced by the 5,290 trips/day.
3. Add anticipated traffic assumed for the full build-out condition of Three Springs to the adjusted 2030 background traffic (less the 5,290 trips currently calculated as background).

Check annual growth rate to verify this is correct due to downturn in economy in Colorado

1. Evaluate last 10 years if traffic count data within project area and calculate trend line growth based upon this data.
2. Determine actual growth factor for the area has been 2% annually using the 10 year traffic count data.
3. Develop 2030 background traffic estimates using a 2% growth.
4. Adjust new 2030 background trips to peak season (25%).

Develop Adjusted Traffic Growth Data (using 2% annual growth)

1. Reduce new 2030 peak season background traffic by current trips generated by Three Springs.
  - a. Reduced by 5,290 trips/day from actual data above.
2. Add in anticipated traffic assumed for the full build-out condition of the Three Springs to the adjusted 2030 background traffic (less the 5,290 trips from Three Springs currently calculated as background).
3. Compare new 2030 trip estimates to the 2006 US 160 EIS 2030 estimates.
  - a. Both data sets are within 6.5% of each other in the year 2030 providing validation that numbers are comparable and justified.
  - b. New 2030 trip estimate is actually lower than the 2006 US 160 EIS as a result of the reduced growth due to the economic downturn.
4. Publish new 2030 trip estimate as final project numbers in the SEIS.

Comments	Responses
	<p><b>Common Response 1 (cont'd)</b></p> <p>Lastly, the SDEIS did not specifically analyze congestion issues to the west of the project area. This area was not part of the 2006 US 160 EIS, and this supplemental analysis focuses solely on the connection of US 550 to US 160. However, the traffic analysis discussed above looks at future traffic growth trends which encompass the City of Durango and surrounding area. We can assume that any increase in future traffic will have an effect throughout the City of Durango and surroundings, but the analysis of this impact was not part of the current study.</p>
<p><b>Common Comment 2:</b> The problems that this project is intended to solve are not existing problems. There are not that many accidents on either US 160 or US 550 now. The existing traffic congestion and travel times are not that bad.</p>	<p><b>Common Response 2:</b> Comments that the existing conditions are not a problem are partially correct. The existing level of service (measurement of how well an intersection operates) at the Farmington Hill signalized intersection is typically a letter grade of B for the intersection as a whole. However, both left turn movements at the intersection currently operate at a level of service D with the existing configuration. The traffic operations analysis is supposed to ensure that the intersection and individual legs of the intersection do not reach a level of service worse than a letter grade D within the foreseeable future (20 years). In the case of the existing condition this intersection is already reaching capacity for the left turn movements and will begin to degrade to an unacceptable level within a few years if improvements are not made soon. This does not mean the intersection will begin to fail immediately but it does signal the need to being planning improvements. If CDOT does not make improvements, the traffic congestion will lead to a higher level of accidents and injuries due to people becoming impatient with the operation of the intersection. When this happens, people begin taking chances to get through the intersection, which creates unsafe conditions and increased accidents.</p>

Comments

Responses

**Common Comment 3:** Revised G Modified appears to be the best alternative.

**Common Response 3:** The Supplemental Final EIS (SFEIS) identifies Revised G Modified as the Preferred Alternative, as discussed in Section 2.5.6. The SFEIS also identifies Revised G Modified as the alternative with the least overall harm, per 23 CFR 774. This is based on the following information contained in the SFEIS:

- This alternative uses three Section 4(f) properties, which is the least number of Section 4(f) properties used when compared to the other feasible and prudent alternatives.
- This alternative more completely addresses the purpose and need elements for safety and capacity. This alternative will also provide safer operations than the other two alternatives because of the use of a roundabout (left turn and broadside accidents eliminated) rather than a signalized intersection. The roundabout also has more reserve traffic capacity for traffic growth resulting in a better level of service beyond the year 2030. The roundabout better addresses the capacity requirements of the project's purpose and need. Roundabouts are not likely to be used at either the Farmington Hill Intersection location or at the proposed Single Point Urban Interchange (SPUI) proposed at Three Springs. Geographic constraints, greater impacts to adjacent land uses, increased environmental impacts, and multiple traffic points of ingress and egress between the connecting roads do not provide an optimal interchange design with a roundabout option for these alternatives.
- This alternative results in the least adverse effect determinations to archaeological sites: five compared to six with Revised F Modified Alternative and eight with the Eastern Realignment Alternative.
- This alternative has noticeably fewer wetland impacts than the other two alternatives. It has 0.03 acre of wetland impacts compared to 0.53 acre with Revised F Modified Alternative and 3.2 acres with the Eastern Realignment Alternative. The US Army Corps of Engineers has identified this alternative as appearing to be the Least Environmentally Damaging Practicable Alternative.
- This alternative has the least impacts to irrigated farmlands, elk winter range, elk severe winter range, deer winter range, deer severe winter range, southwestern willow flycatcher habitat and bald eagle winter range as described in Section 4.11 of the SFEIS. It should be noted that Revised G Modified (Preferred) Alternative affects more acres of elk winter concentration area, bald eagle winter concentration area and high priority wildlife habitat when compared to the other two reasonable alternatives
- This alternative has the least impacts to existing land uses, including the number of impacted residences, number of impacted commercial land uses and total right-of-way required as described in Sections 4.1 and 4.3 of the SFEIS.
- As presented in the SFEIS, the Revised G Modified (Preferred) Alternative has the greatest ability to manage traffic growth into and beyond the design year 2030. The other alternatives do not have as much capacity as the Revised G Modified (Preferred) Alternative does.

No final decision on which alternative will be selected for implementation will be made until the Record of Decision is signed in the fall of 2012.



Comments

Responses

**Common Comment 4:** The Eastern Realignment Alternative has many more impacts on individual property owners, is more costly, and affects more historic sites and wildlife habitat.

**Common Response 4:** The Eastern Realignment Alternative is not identified as the Preferred Alternative in the SDEIS nor in the SFEIS. Of the reasonable alternatives evaluated in the SDEIS and SFEIS, it has:

- The most impacts to residences and businesses, requiring six residential relocations and one business relocation, compared to none with Revised G Modified and four residential relocations with Revised F Modified Alternative.
- The most ROW required (133 acres compared to 71.6 acres for Revised G Modified and 106.2 acres for Revised F Modified Alternative).
- The most wetland impacts (3.2 acres, compared to 0.03 acre with Revised G Modified and 0.53 acre with Revised F Modified Alternative).
- The most impact to wildlife habitat, elk winter range, elk severe winter range, mule deer winter range, mule deer severe winter range, bald eagle winter range and potential habitat for the southwestern willow flycatcher, as discussed in Sections 4.11 and 4.12 of the SFEIS.
- The Eastern Realignment Alternative has the anticipated use of more Section 4(f) properties than Revised G Modified (four compared to three), but less than the Revised F Modified Alternative which has six.
- The highest estimated construction costs: \$92.73 million compared to \$79.68 million with Revised G Modified and \$78.39 million with Revised F Modified Alternative.

No final decision on which alternative will be selected for implementation will be made until the Record of Decision is signed in the fall of 2012.

Comments

Responses

**Common Comment 5:** The “Webb” Proposal (also called Alternative R or an alignment along the existing US 550) seems to make the most sense. It has the following advantages:

1. It provides for the same capacity as Revised G Modified Alternative and has acceptable safety, access control and constructability attributes.
2. It is cheaper than Revised G Modified.
3. It has fewer impacts to the Webb Ranch and other private property owners.
4. It results in a need for substantially less excavation of material.
5. It has fewer impacts to wildlife habitat and the rural character of the Grandview area.

**Common Response 5:** The Webb proposal (Alternatives R1, R2, R3 and R4) presents four variations of an alternative design that closely resembles the “T” Alternatives discussed and not carried forward for further consideration in Chapter 2 of the SFEIS. As presented in the analysis of those alternatives, and true for the Alternative R design variations, substantial problems preclude these design variants from meeting the safety requirements for purpose and need.

Alternative R (discussed in Sections 2.4.5 and 2.5.3.5 of the SFEIS) includes a signal-controlled hybrid diamond interchange that connects US 550 to US 160 at the existing intersection location. Design variations R1, R2, R3, and R4 are included in this analysis. These design variations have either a tight upper curve with a 715-foot radius, or a flatter upper curve with a 1250-foot radius, and either a five or six percent grade. This alternative is evaluated first for whether it meets capacity, safety and access requirements of the purpose and need.

Capacity

CDOT’s traffic analysis of this alternative indicates that this alternative, as presented, meets the capacity requirements for the project purpose and need. According to the data provided, this interchange with a signal is expected to meet the stated requirement of a LOS D or better. However, the proposed design would impact the only existing access to the La Plata County Gravel Pit situated to the north of the intersection. While an alternate access through several privately owned parcels may be possible for the gravel pit, prefer to consolidate access consistent with the purpose and need for access control in the SFEIS by bringing a fourth leg into the proposed hybrid diamond interchange. Adding this fourth leg may negatively affect the capacity of this intersection.

Safety

This on-alignment alternative varies the radius of the upper-most curve to achieve either a stated 35 mph or stated 45 mph design speed. These stated design speeds do not account for a center median barrier which is included in the design to reduce the overall width of the roadway and therefore the amount of earthwork that is required; the barrier reduces driver sight-distance and would likely lower the actual design speed of the roadway by approximately 5 mph. The design speed for US 550 south of this location is 70 mph due to minimal curvature and flat terrain. This large reduction in design speed from 70 mph to approximately 30 mph or 40 mph creates an unsafe condition, similar to what exists today. A roadway’s posted speed is generally less than the design speed to provide an additional safety buffer. This principle has been followed on the design and posted speeds of both US 550 and US 160, and would be followed on the US 550 connection to US 160. This brings the posted speed along any Alternative R design variation to 25 mph or 35 mph.

Comments

Responses

**Common Response 5 (cont'd)**

This large reduction in speeds required by the Alternative R variations will create significant safety issues. Under the scenario presented by this alternative, drivers would travel on a 4-lane US 550 from the New Mexico State Line to just south of the CR 220 intersection at the posted speed limit of 65 mph under consistent roadway design features exhibiting minimal curvature. The roadway posted speed would then be reduced to 25 mph or 35 mph as drivers begin the descent into the Farmington Hill section of US 550. Research suggests that reductions in the design or posted speed of a roadway of more than 15 mph creates a high crash risk (FHWA, 2007). Under this direction, dropping the design speed to anything below 55 mph would be an unacceptable safety risk. Alternative R does not meet the safety requirements of the project purpose and need.

Access Control

Access control is included in the alternative and it therefore meets the access requirement of purpose and need.

Logistics/Constructability

Alternative R has constructability issues due to elevation differences inherent in the proposed grade separated roadway segments. Along most of the alignment, the elevational difference between the existing and proposed highway is 10 feet. This elevational difference becomes more pronounced as the roadway nears the interchange where it exceeds 24.5 feet. While the Alternative R proposal is to construct the roadway without detouring traffic off the US 550 alignment, this would require temporary retaining walls extending from near CR 220 all the way to US 160. In rough numbers, there would be approximately 28,000 square feet of temporary walls required to keep traffic on US 550 while building a new roadway. This would exceed \$2,000,000 in throw-away costs, or costs expended for walls used only during construction that are not needed for the final project. Improvements made to CR 220 so it could be used as a detour would be permanent features that would be beneficial to the County and the residences along CR 220. Additionally, a detour would be far safer to the traveling public, more efficient for the contractor, and would allow construction to proceed more quickly. In conclusion, given these challenges, and with the reduced construction time made possible by allowing construction to occur in this difficult area without the need to maintain traffic immediately adjacent to the construction site, and the fact that the detour will be safer for the traveling public the detour is a better option. Even though these logistical challenges exist with Alternative R, they do not rise to the level of not meeting the Level One screening criteria.

Comments

Responses

Common Response 5 (cont'd)

Cost

Contrary to the assertions of the proponents of Alternative R, depending on the particular design variation, this alternative is either somewhat more expensive or somewhat less expensive than Revised G Modified Alternative, but construction cost is not a major differentiating factor.

Although cost estimates were provided to CDOT, they do not consider and include costs associated with the purchase of ROW and also do not consider a number of design elements discussed in detail in Section 2.5.3.5 of the SFEIS. For a more direct comparison of relative costs, CDOT attempted to approximate costs for these missing elements which included design issues associated with the proposed interchange, and a lack of design and ROW considerations for the CR 220 Intersection, among others. Additionally, CDOT did not attempt to determine if the alignment presented in the submitted design would create un-economic remnant parcels that would require total property acquisitions and increase costs. Based on the conceptual ROW required for each design variant, it is very likely that total property acquisitions may be required for the Piccoli and Hillmeyer properties. CDOT assumed the conceptual ROW required for the CR 220 intersection for Alternative R would be the same as required by that shown in Alternative A. CDOT estimates that right-of way required to construct design variations R1 and R3 would be approximately 87.1 acres, and 96.5 acres for design variations R2 and R4.

Assuming the same cost for ROW as with all other alternatives presented in this document (\$14,000/acre), the expected costs of the Alternative R design variations would be \$73,736,985 for Alternative R1, \$92,926,876 for Alternative R2, \$83,855,653 for Alternative R3, and \$102,440,558 for Alternative R4. This compares to \$77,598,000 for the Revised G Modified Alternative, \$77,429,000 for the Revised F Modified Alternative, and \$93,106,000 for the Eastern Realignment Alternative.

Property Impacts

Information on property impacts is relevant to the discussion of Alternative R as this alternative was presented to CDOT as a means of reducing or eliminating impacts to the Webb Ranch property and the Section 4(f) resource associated with that property.

Comments

Responses

**Common Response 5 (cont'd)**

The information provided to CDOT about Alternative R was used to make similar calculations of right-of-way needed. Unfortunately, CDOT is uncertain of the extent of all property impacts associated with the differing design variations of Alternative R as these were not calculated for all parcels.

Therefore, CDOT had to estimate impacts to these properties based off of the provided drawings illustrating these properties and the proposed edge of toe of slope. Alternative R variations as compared with the Eastern Realignment Alternative, Revised F Modified Alternative, and Revised G Modified (Preferred) Alternative are presented below.

Alternatives	Webb Property*	Hillmeyer Property	Piccolli Property**	Total ROW Needed
Alternative R (R1)	26.9 acres [ 9.3 acres]	Access Revision	Complete Acquisition and Relocation	87.1 acres
Alternative R (R2)	31.4 acres [13.2 acres]	Complete Acquisition and Relocation	Complete Acquisition and Relocation	96.5 acres
Alternative R (R3)	18.5 acres [3.9 acres]	Access Revision	Complete Acquisition and Relocation	87.1 acres
Alternative R (R4)	24.8 acres [5.4 acres]	Complete Acquisition and Relocation	Complete Acquisition and Relocation	96.5 acres
Eastern Realignment	0.0 acres [0.0 acres]	None	None	133.0 acres
Revised F Modified	32.6 acres [32.6 acres]	Access Revision	Access Revision	106.2 acres
Revised G Modified (Preferred)	41.5 acres [41.5 acres]	Access Revision	Access Revision	71.6 acres

\*The impact to the historically designated Webb Ranch protected under Section 4(f) is provided in parentheses.

\*\*The Piccolli property includes three residences and one commercial building

As illustrated above, Alternative R has fewer impacts on the Webb Ranch than Revised G Modified, but it has more impacts to other property owners, including more residential and commercial relocations, and requires more right-of-way overall.

Comments

Responses

**Common Response 5 (cont'd)**

Amount of Material to be Excavated

Contrary to the assertions of the proponents of Alternative R, the amount of material that would need to be excavated for Alternative R is not substantially less than what would be needed for Revised G Modified Alternative. Design variation R1 requires 1.8 million cubic yards of excavation, design variation R2 requires 3.1 million cubic yards of excavation, design variation R3 requires 810,000 cubic yards of excavation, and design variation R4 requires 1.6 million cubic yards of excavation. This compares to approximately 1.6 million cubic yards of excavation for Revised G Modified, 2.2 million cubic yards of excavation for the F Modified Alternative, and 2.7 million cubic yards of excavation required for the Eastern Realignment Alternative. Only one variation (R3) has less excavation requirements than the Preferred Alternative, and this is accomplished through the incorporation of uphill terraced walls. It is important to note that this same design with uphill terraced walls could be used on any of the alternatives discussed in the SEIS to reduce excavation quantities.

Environmental Impacts

Currently, it is unknown whether the Alternative R design variations would present fewer impacts to the natural environment. Since they fail to meet the purpose and need requirements they will not be carried forward for detailed analysis of their impacts to the natural environment. However, in a preliminary analysis, this does not appear to be the case. Looking closely at the designs presented by the Alternative R design variations, there would be additional and likely substantial impacts to Wilson Gulch which crosses under US 160 near the existing intersection with US 550. This means additional wetland impacts and impacts to wildlife habitat associated with this area. As explained in Section 2.1 and 2.5.5 of the SFEIS, CDOT/FHWA merged analysis under the NEPA with Section 404 of the CWA. The merger process states that CDOT is to select the Least Environmentally Damaging Practicable Alternative under the Clean Water Act. Due to the presence of numerous wetland seeps on Farmington Hill and the large wetland complexes and riparian areas associated with Wilson Gulch which would be impacted by any "on alignment" alternatives, none of these could be considered the Least Environmentally Damaging Practicable Alternative. Additionally, the recent information provided by the CPW shows that the Farmington Hill area is centrally situated in a high priority wildlife habitat area, and any alternatives west of the mesa will create additional impact to this resource. While the 3 alternatives presented in the SFEIS impact this area to some degree, any "on alignment" alternative will create additional impacts to this area.

Comments	Responses
	<p><b>Common Response 5 (cont'd)</b></p> <p><u>Conclusion</u>                      Alternative R meets the project purpose and need for capacity; however, it creates unacceptable safety problems, so this alternative does not meet the safety requirement for purpose and need. It also has some challenging logistical issues. The Alternative R variations do not improve the existing design and safety deficiencies to current standards, which CDOT uses to provide for a safe and uniform traveling experience. Based on the constrained nature of the existing alignment on the steep western slopes of Florida Mesa, achievement of acceptable design speeds cannot be met at this location. For these reasons, it is not reasonable and is not carried forward for detailed analysis. See Design Memo in Appendix F for more information.</p> <p>Additionally, this alternative creates serious financial and environmental concerns. It does not reduce the costs associated with connecting US 550 to US 160 relative to other alternatives and does not reduce the required amounts of earthwork relative to other alternatives. While it does accomplish a reduction in the extent of the impact to the Webb Ranch property, it does so by shifting the alignment thereby creating additional impacts to properties on the south side of US 550.</p> <p>Other issues associated with this alternative include significant logistical problems with attempting to construct a grade separated roadway while keeping traffic on the existing alignment, and capacity problems if a fourth leg is required to be added to the interchange to accommodate access to the properties located north of the interchange that would be directly affected by the implementation of this design.</p>
<p><b>Common Comment 6:</b> The Revised G Modified Alternative is too expensive for our needs right now.</p>	<p><b>Common Response 6:</b> Revised G Modified was designed to respond to current and future traffic demands for the area. This proposal represents a significant investment in highway infrastructure, and therefore is designed to continue to function through 2030. The design was selected to provide for a safe and well functioning highway system based on estimated peak seasonal traffic demands through the year 2030, while minimizing impacts. The costs associated with the project are in-line with similar construction projects throughout the state, and compared with the other alternatives analyzed in the SFEIS. Connecting US 550 to the Grandview Interchange allows CDOT to lengthen the estimated service life of this investment. The Grandview Interchange was modified to include a roundabout which allows the interchange, and therefore the alternative, to function at a higher capacity level for a longer duration into the future.</p>

Comments

Responses

**Common Comment 7:** Is the Grandview Interchange (US 160/US 550) really able to stand on its own? What are the benefits of using this location for the US 550 Connection over the other options?

**Common Response 7:** In October 2008 CDOT was asked by the Federal Highway Administration to justify the existence of the Grandview Interchange if US 550 did not connect to this facility. CDOT responded with an independent utility analysis showing that future traffic growth from the Three Springs development and the surrounding area justified the need for the interchange and its existence. This memo states that present and future traffic volumes for access to the north and south of US 160 will be needed for development in the Grandview Area. Currently south of US 160 there are 68 homes and over 78,000 square feet of commercial development, to the north of US 160 there is the Mercy Regional Hospital, C&J Gravel, homes along High Lama Lane, and the planned use development of Three Springs phases I and II. The combination of traffic from the existing uses and the traffic generation of the development to the north of US 160 will require a grade separated interchange to provide safe access to US 160. Three Springs Boulevard is currently the only access from US 160 to the Three Springs development. This access can only accommodate traffic generation from phase I of this development. The interchange will alleviate growing traffic pressure from Three Springs by providing a secondary access to accommodate traffic from phase II and beyond. The interchange's independent utility evaluated the need for the interchange with the assumption that no traffic from US 550 would use the interchange. Even without US 550 the interchange is still needed due to continued growth in the Grandview Area.

There are benefits and detriments inherent in each of the three potential US 550 connection locations, the existing connection at Farmington Hill, the Three Springs Interchange, and the Grandview Interchange (the Preferred). CDOT first analyzes the potential for upgrading existing infrastructure to meet current design and safety standards when attempting to improve a segment of highway. Alternatives that utilize the existing Farmington Hill connection have benefits such as being able to utilize portions of the existing alignment, providing the least out of direction travel, and having the least impacts to the Webb Ranch. However, none of these alternatives were able to meet the safety requirements of the project purpose and need, and therefore are not reasonable alternatives. Additionally, the "on-alignment" alternatives that tie in to US 160 at the existing Farmington Hill intersection have the greatest impact to Wilson Gulch and its associated wetlands, have greater impact to other residential and commercial properties, have substantial hillside impacts with multiple retaining walls and benches impacting habitat and slope stability.



Comments

Responses

**Common Response 7 (cont'd)**

Alternatives that use the existing Farmington Hill connection will have substantial operational impacts to US 550 and the intersection of US 160 and US 550 during construction, while the construction of the grade separated interchange will require the closure of the intersection requiring a significant detour of US 550 onto County Road 220 to SH 172 then to US 160. This impact will occur for a duration of up to two years until US 550 can be restored to operation on the newly built interchange structure. These alternatives also have a shorter life span to accommodate future traffic growth beyond the year 2030.

The Three Springs Interchange connection includes both the Revised F Modified Alternative alignment, and the Eastern Realignment Alternative. The major benefit of utilizing this location for the connection of US 550 to US 160 is that it connects to an existing signalized intersection that is planned for a future interchange. The alignments that tie in to this connection have been determined to meet the project purpose and need for safety, capacity, and access, and were all deemed to be reasonable alternatives carried forward for detailed analysis in the SEIS. However, the detriments of this connection location and its associated alternative alignments include the fact that they are situated on virgin alignments, these alternative alignments have the greatest out of direction travel of the alternatives considered in the SEIS, have greater wetland impacts than the Preferred Alternative, have the greatest impact to Section 4(f) properties, have greater impact to residential properties than the Preferred Alternative, have greater traveler impacts at the proposed interchange at the Three Springs intersection with US 160 because the interchange will require signalization even though a grade separation will be in place.

The Grandview Interchange connection is the US 550 and US 160 connection associated with the Revised G Modified Alternative alignment. This alignment has been shown to meet the project purpose and need for safety, capacity, and access, and was deemed to be a reasonable alternative carried forward for detailed analysis in the SEIS. As detailed in the SEIS, this alternative is shown to have the least overall impacts to the human and natural environment, including the least impact to Wilson Gulch and its associated wetlands, the least impact to Section 4(f) properties, and the least impact to residential and commercial properties. This alternative provides the best overall roadway geometry and alignment to support highway travel speeds, and involves minor out of direction travel when compared to the Three Spring connection alternatives (Revised F Modified, and the Eastern Realignment). Additionally, no signalization is required at the interchange which provides uninterrupted traffic flows to and from US 160, and connects to an existing interchange. Detriments of this alignment include the fact that it involves a virgin alignment, the moderate out of direction travel (approximately 2 minutes), the large embankment excavation impact which is required to provide an appropriate roadway grade change to the existing interchange, it has the greatest impact to Webb Ranch, and impacts 18.5 acres of high priority deer/elk habitat.

Comments

Responses

**Common Comment 8:** Why has this process taken so long? Shouldn't CDOT have figured out these issues earlier?

**Common Response 8:** The length of the 2006 US 160 EIS process was typical for this kind of project compared with the national average (10 years). For projects this large, construction is frequently broken into phases. Due to the passage of time, impacts are reassessed at each phase because resources move, regulations change, and guidance from regulatory agencies can change that affects the decision and requires reanalysis. This is what happened in this process as described in more detail below.

The 2006 US 160 EIS process began in December of 2002 with the publishing of the Notice of Intent to prepare an EIS in the *Federal Register*. The Draft EIS (DEIS) addressed a 16.2 mile corridor extending from east of Durango, beginning at milepost 88.0 near Farmington Hill to east of Bayfield at milepost 104.2. A segment of US 550 was also included from south of CR 220 at milepost 15.4 to the US 160 and US 550 intersection at the base of Farmington Hill, at milepost 16.6. The DEIS/Draft Section 4(f) Evaluation was finalized and made available to the public in September of 2005. The Final EIS/Section 4(f) Evaluation was signed and made available for public review in May of 2006. The FHWA signed the Record of Decision (ROD) in November of 2006. The ROD called for widening the highway to four lanes between Bayfield and Durango and constructing three grade-separated interchanges on US 160 through the Grandview Area, one of which would connect a newly aligned US 550 just east of the current junction (the Grandview Interchange).

Due to the size of the proposed action presented and approved in the ROD, construction along the corridor was broken into phases. Design and ROW acquisition is included in each phase as funding is identified. In 2008, CDOT began the design and construction of the Grandview Interchange situated approximately 0.6 mile east of Farmington Hill on US 160. The right-of-way process also began in 2008 and right-of-way has been acquired in phases, as it was needed to support construction of a particular phase. During that time, CDOT also began designing the connection of US 550 to US 160 that was shown in the ROD to tie in at this location. During the design process CDOT discovered that the 2006 US 160 EIS was in error and did not identify a gas well which had been constructed within the alignment previously selected in the ROD. CDOT completed a design with minor design modifications as a means to avoid this gas well while maintaining a similar alignment for the US 160 and US 550 connection.

The 2008 design effort also included a re-assessment of the environmental impacts and conditions of the project area. During this re-assessment, the Webb Ranch was determined to be an eligible historic feature, a designation not previously assigned to the ranch based on the State Historic Preservation Office evaluation criteria.

Comments

Responses

Common Comment 8: (cont'd)

Common Response 8 (cont'd)

Three other ranches that fell within other alternative alignments were also determined to be eligible under SHPO evaluation criteria. Additional cultural resource studies conducted on behalf of the Webb Ranch and by CDOT also identified additional archaeological resources within the alternative alignments not previously inventoried. Many of the archaeological resource sites that were not previously identified were outside the footprint of the alternatives analyzed in the 2006 US 160 EIS. In 2009 CDOT began analyzing US 550 connection alignments that would avoid or minimize impacts to the four historical ranches and other cultural sites identified in this re-assessment process. As part of the 2006 US 160 EIS process, an area of potential effect was identified and was surveyed for individual historic structures. Since then, the national trend in historic preservation is to consider landscapes—such as ranches and farms as a whole—in addition to individual architectural structures. So while CDOT met all of the requirements previously, the approach taken to identify historic sites changed since the 2006 Record of Decision and resulted in the identification of additional properties not previously evaluated. During the historic resource surveys for the original 2006 US 160 EIS process, the alternatives under consideration did not directly affect any structures, so the overall ranch properties and associated landscapes were not evaluated. As noted in Section 1.3 (Background) of the SFEIS, a portion of the Webb Ranch, including its surrounding landscape, was found to be National Register eligible by CDOT in 2008 and additional ranch properties (Schaeferhoff-Cowan, Craig-Limousin) and a residence (Clark Property) were subsequently identified in 2009. Seven action alternatives were reexamined through a federal draft Section 4(f) process. In 2011, this process resulted in a draft Section 4(f) Evaluation showing that the alignment (as revised to avoid the gas well) identified in the 2006 US 160 ROD appeared to cause the least overall harm to Section 4(f) properties.

In early 2011 CDOT was instructed by FHWA to initiate a more extensive evaluation for a US 550 and US 160 connection in a SEIS. The SEIS was intended to focus only on the US 160/US 550 connection based on the discovery of previously unidentified impacts to historic ranches and cultural sites. The Record of Decision for the remaining portions of the 2006 US 160 EIS remained valid and was not revisited in conjunction with the SEIS. Inventories, environmental studies, and evaluations of the physical environment in areas that could potentially be affected by the proposed alternative alignments were completed. Consistent with the National Environmental Policy Act (NEPA) requirements, the SEIS included coordination with various local, state and federal agencies, dissemination of information through the website, news updates, and notices. Public input was then gathered by compiling the draft document and circulating it for comment followed by a public hearing, and public comment period. This SFEIS addresses comments received on the SDEIS. No final decision on which alternative will be selected for implementation will be made before the ROD, which is expected to be finalized and signed in the summer or fall 2012.

Comments

Responses

**Common Comment 9:** CDOT claims that the large reduction in speeds associated with the existing alignment (Farmington Hill) alternatives creates an unsafe condition that results in these alternatives not meeting the safety requirements of the project's purpose and need. However, similar speed reductions are associated with the Grandview Interchange for the Revised G Modified Alternative. Why is the speed reduction acceptable for the Revised G Modified Alternative, but not for the existing alignment alternatives?

**Common Response 9:** Each alternative design discussed within this document is comprised of mainline US 550, mainline US 160, and an interface of these two roadway features (interchange, intersection, etc.). Each of these components has specific criteria that affect the safety and capacity of the alignment such as sight distance, design speed, posted speed, clear zones (roadside areas free of obstructions), super-elevations (road template), the number and configuration of travel lanes, etc. Roadway features, as well as the context of the road, in this case a four-lane divided highway, establish a driving environment where drivers operate at speeds which feel comfortable and reasonable.

When CDOT states that the large reduction in speeds associated with the on-alignment alternatives (US 550 at US 160 At-Grade Intersection, the Partial Interchange at the Existing US 550 and US 160 (South) Intersection Alternative, the Revised Preliminary Alternative A, and most recently Alternative R) create an unsafe condition, this specifically refers to reduction in mainline design speeds.

The reduction in design speed required for the on-alignment alternatives varies from 25 mph to 35 mph. The Alternative R proposal would incrementally lower the operating (posted) speed on US 550 several miles before the intersection with US 160. This speed reduction occurs on the mainline, away from the US 550 and US 160 interface where driver expectancy is for much higher speeds. However, speeds cannot be reduced simply by changing the posted speed. The curvature and width of the roadway, along with visual clues in the surrounding landscape are what establish a driving environment where drivers choose speeds that feel reasonable and comfortable (FHWA, 2007). Adding additional curvature to the roadway would increase the impacts to adjacent properties, and increase costs associated with ROW acquisition. Although warning signs could be used to alert drivers to the sharp curves, it is not acceptable to design a new mainline facility that requires warnings to drivers that an unsafe condition is ahead unless there is no other alternative. The Alternative R variations do not improve the existing design and safety deficiencies to current standards, which CDOT uses to provide for a safe and uniform traveling experience. Instead, Alternative R perpetuates the existing situation in which sharp curves and steep grades are introduced into the mainline of the roadway after many miles with minimal curvature in flat terrain. The design speed reduction required for the Revised G Modified, Revised F Modified, and the Eastern Realignment alternatives is 10 mph. This speed reduction falls within the 15 mph-maximum speed reduction recommended by both AASHTO and FHWA. As seen in the designs presented in the SFEIS, this speed reduction occurs near the CR 220 intersection where clear line-of-site, sufficient clear zones and specifically designed roadway features such as super-elevations and transitions are in place to ensure a safe transitional speed.

Comments

Responses

**Common Response 9 (cont'd)**

Transitioning between the US 550 and US 160 mainlines to the interface between these features involves a separate speed reduction assessment. The Revised G Modified, Revised F Modified and the Eastern Realignment alternatives safely transition speeds near their respective interchanges at key driver decision points by providing deceleration lanes and ramps with clear lines-of-sight that meet driver expectancy to slow down and make turning movements. With the on-alignment alternatives, drivers would travel on a four-lane US 550 from the New Mexico State Line to just south of the CR 220 intersection at 65 mph under consistent roadway design features exhibiting minimal curvature. The roadway design speed would need to be decreased from 35 mph to 45 mph (25 mph to 35 mph posted speeds) near the descent into the Farmington Hill section of US 550. As discussed in Chapter 2.5.3.5 of the SFEIS, this on-alignment alternative varies the radius of the upper-most curve to achieve either a stated 35 mph or stated 45 mph design speed. These stated design speeds do not account for a center median barrier which is included in the design to reduce the overall width of the roadway and therefore the amount of earthwork that is required; the barrier reduces driver sight-distance and would likely lower the actual design speed of the roadway by approximately 5 mph. The design speed for US 550 south of this location is 70 mph due to minimal curvature and flat terrain. This large reduction in design speed from 70 mph to approximately 30 mph or 40 mph creates an unsafe condition, similar to what exists today.

None of the on-alignment alternatives sufficiently improve existing design and safety deficiencies to current standards, or adequately comply with AASHTO or FHWA guidelines. CDOT uses these guidelines to provide for a safe and uniform traveling experience. These proposals create unacceptable safety problems, so these alternatives do not meet the safety requirement of the purpose and need.



## Comments from State and Federal Agencies





Comments

Responses

Source:	Letter	Name:	U.S. Environmental Protection Agency
Document Number:	SF 1	City, Zip Code:	Denver, 80202

NO COMMENTS ON THIS PAGE.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 REGION 8

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 DENVER, CO 80202-1129  
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NOV 10 2011

Ref: 8EPR-N

John M. Cater  
 Federal Highway Administration  
 Colorado Division  
 12300 W. Dakota Ave., Suite 180  
 Lakewood, Colorado 80228

Re: US 550 South Connection to US 160 Draft  
 Supplemental Environmental Impact  
 Statement: CEQ # 20110342

Dear Mr. Cater:

The U.S. Environmental Protection Agency, Region 8, has reviewed the Draft Supplemental Environmental Impact Statement (SEIS) prepared by the U.S. Department of Transportation Federal Highway Administration (FHWA) for the US Highway 550 South Connection to US Highway 160. Our comments are provided for your consideration pursuant to our responsibilities and authority under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609.

**Project Background**

The Draft SEIS supplements the US Highway 160 from Durango to Bayfield Final EIS, completed by FHWA in May 2006 (US 160 EIS). It has been prepared because new land use issues have emerged on a portion of the originally proposed project in the time since the Record of Decision was signed in November 2006. The issues prompting a reevaluation of the proposed alignment of the US 550 South connection to US 160 are: (1) construction of a gas well in the alignment selected in the 2006 US 160 EIS, and (2) determination that a portion of the Marie J. Webb Ranch crossed by the selected alignment is a historic property.

The Draft SEIS analyzes impacts associated with a 1.2 mile portion of the project considered in the 2006 US 160 EIS, revising the length and location of US 550 from south of County Road 220 to its connection with US 160, including construction of a new interchange at the US 160/US 550 (south) intersection. The Preferred Alternative considered in the document lengthens the realigned portion to 1.5 miles long to reduce land use conflicts and improves the realigned portion of US 550 from a two-lane to a four-lane highway. The NEPA analysis includes a No Action alternative and three action alternatives. According to the Draft SEIS, the "Revised G Modified Alternative" was selected as the Preferred Alternative because it has the least amount of impacts to residents, businesses, irrigated farmlands, wildlife habitat, and wetlands as well as appearing to be the least harm alternative under Section 4(f).

Comments

Responses

Source:	Letter	Name:	U.S. Environmental Protection Agency
Document Number:	SF 1	City, Zip Code:	Denver, 80202
<b>Air Quality</b>			
<p>The EPA appreciates the air quality discussion in the Draft SEIS and the attention to potential Mobile Source Air Toxics (MSATs) impacts. The analysis of emissions of formaldehyde, an MSAT associated with vehicle emissions and noted in the SEIS as a pollutant increasing in the region, is particularly helpful in displaying how the alternatives compare to one another and to the baseline conditions. The MSAT discussion has been updated from what was presented in the 2006 US 160 EIS to reflect FHWA's updated October 13, 2009 interim guidance on MSATs. While there are positive elements of this interim guidance, the EPA continues to disagree with major pieces of the approach taken in this interim guidance, as well as much of the specific language used in the guidance.</p>			
A	<p>The discussion in Section 4.5.3.5 regarding incomplete or unavailable information for project-specific MSAT health impacts analysis essentially states that there are limitations with the existing modeling tools and that reliable methods do not exist to accurately estimate the health impact of MSATs at the project level. While there are of course important areas of uncertainty with any model, the EPA believes there are analytical tools available that yield meaningful information for the decision-making process. The EPA notes that the Draft SEIS focuses its discussion on the MOBILE6.2 model and its limitations; however, there is only a passing remark with regard to the 2009 draft version of the EPA's current and significantly improved model Motor Vehicle Emissions Simulator (MOVES2010), which is MOBILE6.2's replacement. We recommend that the discussion of models used to estimate MSAT emissions be updated with regard to EPA's MOVES2010 model, which was officially released on March 2, 2010 (75 FR 9411) and the revised/updated version, MOVES2010a, which was released on September 8, 2010. (See <a href="http://www.epa.gov/otaq/models/moves/index.htm">http://www.epa.gov/otaq/models/moves/index.htm</a> for further information.)</p>		
	<p>The EPA commends the Colorado Department of Transportation for development of their Draft Air Quality Action Plan to provide direction on programmatic mitigation solutions. Because this Plan is a key element of the air quality mitigation for the proposed project, we recommend that the Plan be provided as an appendix to the Final SEIS.</p>		
B	<b>Wetlands and Water Resources</b>		
	<p>The 2006 US 160 EIS contained excellent analysis of potential water quality impacts to surface water features, including modeling of annual loading for highway runoff constituents and an analysis of the level of removal required for best management practices (BMPs) to achieve no increase in mass loading of pollutants. It would be helpful for the Final SEIS to briefly summarize this information with respect to Wilson Gulch, to put the BMPs listed in section 4.7.7 into perspective. Additionally, we note that the information in the 2006 US 160 EIS for state water quality classifications and impairment status is based on reports from 2002 and 1999, respectively, and recommend that the Final SEIS describe the current classification and status for Wilson Gulch.</p>		
C	<p>We appreciate the inclusion of Tables 3-3 and 3-4, classifying each of the wetlands in the project area and defining their functions and values. This information helps to put the impacts discussion in Chapter 4 into context. Although impacts to wetlands associated with the Preferred Alternative are minor, we are pleased to see the commitment to mitigate those impacts concurrently or in advance of project impacts.</p>		

Response to Comment SF 1

- A. The emissions model discussion in the SDEIS focuses on MOBILE6.2 because this is the model that is currently used for NEPA analysis. EPA issued guidance on February 8, 2011, indicating that MOVES should be used for NEPA-related air quality analysis when its use is required for project-level conformity analysis (e.g., for analyses started after the expiration of the MOVES grace period on December 20, 2012). While there are improvements that may be realized by utilization of MOVES2010a over the less robust MOBILE6.2 emissions model, the EPA has not yet established regulatory concentration targets or NAAQS for the several relevant MSAT pollutants appropriate for use in a project level health risk assessment process. Therefore, CDOT does not feel there is an appropriate quantitative benchmark against which to evaluate potential health risk for the US 160 SEIS and continues to follow the most recent FHWA guidance on MSAT analysis.
- The following language was added to the SFEIS in the introduction text in Section 4.5: "Air quality analysis for highway projects is in a transition process between the existing MOBILE6.2 emissions model and the newer MOVES2010 model, and use of this newer model is not yet required for NEPA analysis. The current version of MOVES, MOVES 2010a, provides more aggregated speed and facility link refinement, and includes updated emissions factors for all pollutants. Compared to MOBILE6.2, MOVES generally reports higher NOx emissions and lower hydrocarbon-based emissions (including VOC and formaldehyde). However, for comparative alternative analyses shown in Table 4-1, the emissions are the same among 2030 alternatives because there was insignificant difference in VMT among the 2030 alternatives, and the MOBILE6.2 analysis was considered adequate for comparative purposes."
- B. The *Draft Air Quality Action Plan* has been included in the SFEIS as Appendix J.
- C. Changes have been added to the SFEIS to address revised water quality classifications in Wilson Gulch (Section 3.7.2) and to summarize the 2006 US 160 EIS pollutant loadings to support current mitigation requirements for installation of permanent BMPs (Section 4.7.2). These changes are summarized below.
- Section 3.7.2** Updated water quality classifications and numeric standards based on the Colorado Water Quality Control Regulations amended January 10, 2011 are applicable to Wilson Gulch, a tributary to the Animas River that parallels US 160 from the Three Springs

Comments

Responses

Source:	Letter	Name:	U.S. Environmental Protection Agency	<b>Response to Comment SF 1</b>
Document Number:	SF 1	City, Zip Code:	Denver, 80202	
				C (cont'd)
				Interchange to the current US 160 and US 550 Intersection. Wilson Gulch is currently designated as Outstanding Waters (OW) based on better than basic standard water quality, outstanding natural resource qualities, and the need for additional protection. The updated state water quality classifications for Wilson Gulch are outlined in Table 3-3:

<b>Table 3-3. Stream Classifications and Water Quality Standards</b>									
34.6(4) Region: 9 BASIN: ANIMAS AND FLORIDA RIVERS									
Stream Segment Description	Design	Classifications	Numeric Standards						Temporary Modifications and Qualifiers
			PHYSICAL And BIOLOGICAL	INORGANIC mg/l		METALS ug/l			
All tributaries to the Animas River and Florida River	OW	Aq life Cold 1	D.O.=6.0 mg/l	NH <sub>3</sub> (ac/ch)=TVS	S=0.002	As(ac)=340	Fe(ch)=WS(dis)	Ni(ac/ch)=TVS	
		Recreation E Water Supply Agriculture	D.O. (sp)=7.0 mg/l pH=6.5-9.0 E. Coli=126/100ml	Cl <sub>2</sub> (ac)=0.019 Cl <sub>2</sub> (ch)=0.011 CN=0.005	B=0.75 NO <sub>2</sub> =0.05 NO <sub>3</sub> =10 Cl=250 SO <sub>4</sub> =WS	As(ch)=0.02(Trec) Cd(ac)=TVS(tr) Cd(ch)=TVS CrIII(ac)=50(Trec) CrVI(ac/ch)=TVS Cu(ac/ch)=TVS	Fe(ch)=1000(Trec) Pb(ac/ch)=TVS Mn(ac/ch)=TVS Mn(ch)=WS(dis) Hg(ch)=0.01(tot)	Se(ac/ch)=TVS Ag(ac)=TVS Ag(ch)=TVS(tr) Zn(ac/ch)=TVS	

The following abbreviations may be used in the table:

ac = acute (1-day) Ag = silver Al = aluminum As = arsenic B = boron Ba = barium Be = beryllium Cd = cadmium ch = chronic (30-day) Cl = chloride Cl<sub>2</sub> = residual chlorine CN = free cyanide CrIII = trivalent chromium CrVI = hexavalent chromium Cu = copper dis = dissolved D.O. = dissolved oxygen E.coli = escherichia coli F = fluoride Fe = iron Hg = mercury mg/l = milligrams per liter ml = milliliters Mn = manganese NH<sub>3</sub> = un-ionized ammonia as N(nitrogen) Ni = nickel NO<sub>2</sub> = nitrite as N (nitrogen) NO<sub>3</sub> = nitrate as N (nitrogen) OW = outstanding waters P = phosphorus Pb = lead S = sulfide as undissociated H<sub>2</sub>S (hydrogen sulfide) Sb = antimony Se = selenium SO<sub>4</sub> = sulfate sp = spawning 4  
 Tl = thallium tr = trout Trec = total recoverable TVS = table value standard U = uranium ug/l = micrograms per liter UP = use-protected Zn = zinc

Comments

Responses

Source:	Letter	Name:	U.S. Environmental Protection Agency
Document Number:	SF 1	City, Zip Code:	Denver, 80202

Response to Comment SF 1

Conclusion and EPA's Rating

Based upon our review of the Draft SEIS for the US 550 South Connection to US 160, we are rating this document as "Lack of Objections" (LO). The "LO" rating indicates that our review has not identified any potential environmental impacts requiring substantive changes to the proposed plan amendment. While EPA believes the Draft SEIS adequately sets forth the environmental impacts of the alternatives, we have suggested the addition of clarifying language or information.

If you have any questions or would like to discuss our comments, please contact me at (303) 312-6925. You may also contact Molly Vaughan, lead reviewer for this project, at (303) 312-6577 or by email at vaughan.molly@epa.gov.

Sincerely,



Suzanne J. Bohan  
 Director, NEPA Compliance and Review Program  
 Office of Ecosystems Protection and Remediation

Enclosure: EIS Rating System Criteria

C (cont'd)

Changes from the 2006 US 160 EIS include:

- The OW designation has been adopted from the previous designation of HQ1 (High Quality 1) to reflect the new mandates of section 25-8-209 of the Colorado Water Quality Act which was amended by HB 92-1200 and to remove any potential for misinterpretation of the classifications and standards.
- Aquatic Life Cold Class 1 was upgraded from the prior Aquatic Life Cold Class 2. This classification provides for a higher level of water quality capable of sustaining a wide variety of cold water biota, including sensitive species. The prior designation under Class 2 included waters not capable of sustaining a wide variety of aquatic life due to habitat, flows, or uncorrectable water quality conditions.
- Recreation Class E was upgraded from the prior Recreation Class 1a. Under Recreation Class E the fecal coliform standard has been lowered from 200 counts per 100 ml to 126 counts per 100 ml.

Neither Wilson Gulch nor the Animas River are currently listed on the Colorado 303(d) list of impaired waters or the Monitoring and Evaluation List for potentially impaired waters.

Comments

Responses

Source:	Letter	Name:	U.S. Environmental Protection Agency
Document Number:	SF 1	City, Zip Code:	Denver, 80202

U.S. Environmental Protection Agency Rating System for  
 Draft Environmental Impact Statements

Definitions and Follow-Up Action\*

Environmental Impact of the Action

**LO -- Lack of Objections:** The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

**EC -- Environmental Concerns:** The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

**EO -- Environmental Objections:** The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

**EU -- Environmentally Unsatisfactory:** The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

**Category 1 -- Adequate:** EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

**Category 2 -- Insufficient Information:** The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new, reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

**Category 3 -- Inadequate:** EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

\* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

Response to Comment SF 1

C (cont'd)

**Section 4.7.2** None of the alternatives carried forward in the SFEIS analysis include new crossings of Wilson Gulch that were not analyzed in the 2006 US 160 EIS. Six different crossings of Wilson Gulch were analyzed for the Preferred Alternative in the 2006 US 160 EIS. Because these crossing locations of Wilson Gulch have not changed, a Driscoll analysis of pollutant loading is not warranted for the US 160 and US 550 connection. Reconstruction of the existing crossing at the US 550 and US 160 Intersection [Wilson Gulch #6] will occur regardless of the alternative selected and pollutant loadings associated with the crossing are included as part of the No Action Alternative. Pollutant loading summaries for each alternative evaluated in the 2006 US 160 EIS predicted increases in copper and zinc concentrations at all crossings of Wilson Gulch above existing baseline conditions. Because the Eastern Realignment Alternative includes no additional crossings of Wilson Gulch that were not analyzed in the 2006 US 160 FEIS, pollutant loading estimates are identical to that predicted for Alternative F Modified (i.e. Revised F Modified Alternative). The increase in predicted annual mass loadings for copper and zinc were stated to require removal of 53 percent of copper and 67 percent removal of zinc loadings to maintain existing water quality in Wilson Gulch. These water quality impacts are not solely attributable to the US 550 and US 160 Connection Alternatives but provide the basis for installation of permanent best management practices during new development and redevelopment projects to protect future water quality. Mitigation measures presented in this section support the need for water quality improvement measures based on mass loading predictions presented in the 2006 US 160 EIS.



Comments

Responses

Source:	Letter	Name:	U.S. Department of the Interior
Document Number:	SF 2	City, Zip Code:	Denver, 80225

Response to Comment SF 2



United States Department of the Interior

OFFICE OF THE SECRETARY  
 Office of Environmental Policy and Compliance  
 Denver Federal Center, Building 67, Room 118  
 Post Office Box 25007 (D-108)  
 Denver, Colorado 80225-0007



November 21, 2011

9043.1  
 ER-11/933

Mr. John Cater  
 Division Administrator  
 Federal Highway Administration  
 Colorado Division  
 12300 West Dakota Avenue, Suite 180  
 Lakewood, CO 80228

Dear Mr. Cater:

Thank you for the opportunity to comment on the Draft Supplemental Environmental Impact Statement and Supplemental Section 4(f) Evaluation for the US 550 Connection to US 160 at Farmington Hill in Durango, Colorado. The Department of the Interior has reviewed the document, and hereby submits these comments to you as an indication of our thoughts regarding this project.

**Wildlife**

Throughout the document it is noted that wildlife crossings will be constructed but that exact locations and designs have not yet been finalized. The document discusses constructing wildlife exclusion fences and jumpouts, or escape ramps. The document also discusses the amount of growth that is expected to occur along both the new and the improved sections of roadway. It is conceivable that without land protection, growth and development could render wildlife crossings unusable. We encourage FHWA and CDOT to preserve lands adjacent to the wildlife crossing structures in advance of the project and after optimal locations are determined.

We are pleased to see measures to protect migratory birds incorporated into the project, and that the preferred alternative avoids impacts to listed species.

**National Historic Trails**

The National Park Service, National Trails, Intermountain Region Office has reviewed the documents and maps related to this project. That office, with the Bureau of Land Management, co-administers the Old Spanish National Historic Trail (NHT) that runs from Santa Fe, New Mexico to Los Angeles, California (1829-1848). Their research shows that the northern route of the Old Spanish National Historic Trail runs through the current project area.


- A. The Colorado Department of Transportation recognizes that land-use surrounding wildlife underpasses can directly affect the effectiveness of such structures. CDOT does not have the authority to manage lands outside of the right-away acquired for the development of the proposed action. Any preservation of lands adjacent to planned wildlife crossing structures will have to be coordinated and implemented through the La Plata County Planning Office. To assist in this effort, CDOT will provide the La Plata County Planning Office maps detailing the locations of the planned wildlife crossing structures and request the local jurisdiction to consider requiring an open space easement, preservation area, or property transfer to exclude development of the adjacent properties.
- B. A number of intensive-level cultural resources field surveys have been completed in the project area in the past decade. A survey of the US Highway 160 corridor was completed as part of the 2006 US 160 EIS effort; an independent survey of parcels associated with the alignments of the Revised F Modified and Revised G Modified alternatives was conducted in 2008 and 2009 by a consultant hired by the owners of the Webb Ranch; and CDOT conducted surveys of the Revised F Modified and Eastern Realignment alternatives in 2009 and 2010. The CDOT surveys involved file searches and intensive-level field inventories of the areas of potential effect identified for the alignment locations. None of the survey efforts resulted in the identification of remnants or resources associated with the Old Spanish Trail, portions of which have been documented in Delta, Mesa, and Saguache Counties per the Office of Archaeology and Historic Preservation's Compass database. CDOT will ensure that there is a specification in the construction plans to stop work and notify the CDOT archaeologist if trail remnants or trail-related resources or artifacts are identified during construction. This stipulation is included in the text will be added to the Memorandum of Agreement (MOA) between FHWA, CDOT, SHPO and the consulting parties, which can be found in Appendix I of the SFEIS.

A

B

Comments

Responses

Source:	Letter	Name:	U.S. Department of the Interior	Response to Comment SF 2
Document Number:	SF 2	City, Zip Code:	Denver, 80225	
Mr. John Cater		2		
<p>Trails segments and sites associated with the Old Spanish NHT are often very subtle. Since parts of the area have been modified for agricultural purposes, it is possible that no visible trail remains can now be identified. However, we note that your summary of historic cultural resources does not include the Old Spanish NHT, nor is it discussed in the text of the SDEIS. We would like to make you aware of the potential presence of the trail and trail-associated resources during the planning of this project.</p>				
<p>As the project is implemented, we would appreciate if you communicated by means of a permit or contract stipulation with any archaeologists who might be monitoring construction activities to be sensitive to subtle swales and light scatters of nineteenth century artifacts possibly associated with the Old Spanish NHT that might otherwise escape their notice.</p>				
<p><b>Section 4(f) Evaluation Comments</b></p> <p>Following our review of the Section 4(f) Evaluation, we appreciate that you have considered our previous comments. We concur that there is no feasible or prudent alternative to the Preferred Alternative selected in the document. We note that the document contains a draft Memorandum of Agreement (MOA) to minimize adverse effects to historic properties in consultation with the Colorado State Historic Preservation Office, the Advisory Council on Historic Preservation, and consulting parties. Contingent upon signature of the MOA, we would concur that all measures have been taken to minimize harm to these resources.</p> <p>We appreciate the opportunity to review this document. Should you have questions regarding the wildlife comments, please contact Alison Michael, U.S. Fish and Wildlife Service, at 303-236-4758. For questions regarding National Historic Trails comments, please contact Michael Elliott, National Park Service, at 505-988-6092. For questions regarding Section 4(f) comments, please contact Cheryl Eckhardt, National Park Service, at 303-969-2851.</p> <p style="text-align: center;">Sincerely,</p> <div style="text-align: center;">               Robert F. Stewart              Regional Environmental Officer         </div> <p>cc: FHWA CO – Stephanie Gibson              SHPO CO – Edward Nichols              CDOT – Kerrie Neet</p>				

B  
 cont'd

Comments

Responses

Source:	Letter	Name:	Colorado Parks and Wildlife
Document Number:	SF 3	City, Zip Code:	Durango, 81301



COLORADO PARKS & WILDLIFE

151 E. 15<sup>th</sup> Street • Durango, Colorado 81301  
Phone (970) 247-0855 • FAX (970) 382-6672  
wildlife.state.co.us • parks.state.co.us

28 November 2011

Ms. Sandra Taylor  
Colorado Department of Transportation  
3803 North Main, Ste 300  
Durango, CO 81301

Dear Ms. Taylor:

Colorado Parks and Wildlife is currently reviewing the U.S. 550 South Connection to U.S. 160, Supplemental Draft EIS to the U.S. Highway 160 from Durango to Bayfield EIS. Our comments are forthcoming. However we request a one week extension of your deadline.

Thank you in advance for this consideration.

Sincerely,

Patt Dorsey  
Area Wildlife Manager, Durango

Response to Comment SF 3

The requested extension was granted.



Comments

Responses

Source:	Letter	Name:	Colorado Parks and Wildlife
Document Number:	SF 3	City, Zip Code:	Durango, 81301

Response to Comment SF 3



COLORADO PARKS & WILDLIFE

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 wildlife.state.co.us • parks.state.co.us

5 December 2011

Ms. Sandra Taylor  
 Colorado Department of Transportation  
 3803 North Main, Suite 300  
 Durango, CO 81301

Dear Ms. Taylor:

Colorado Parks and Wildlife (CPW) reviewed the **U.S. 550 SOUTH CONNECTION TO U.S. 160, SUPPLEMENTAL DRAFT EIS TO THE U.S. HIGHWAY 160 FROM DURANGO TO BAYFIELD EIS**. With respect to the impact on area wildlife and wildlife habitat we are providing the following comments. Big game, including elk and mule deer were used in CDOT's analysis of the proposed projects. These species are economically important. And, because mule deer and elk are large migratory animals many other species are protected when their habitat requirements are adequately met. There is extensive literature documenting the ecological effects of roads on wildlife. We appreciate this opportunity to review and comment on this draft.

The SDEIS makes a comparative analysis of the relative amounts of various habitat types directly impacted by the alternatives considered as part of the proposed project (Executive summary ES-9 and Section 3.11). Habitat types are characterized as piñon-juniper, wetlands and other (residential and irrigated agriculture) in Table 3.6. The analysis overlays these habitat types onto the species activity maps from CNDIS to calculate the amount of habitat loss for each alternative by species. CNDIS is a great planning tool for coarse scale analysis of development alternatives. However CNDIS was not intended and does not function as a fine scale analysis tool. On a fine scale, the quality of habitat varies, e.g., not all winter range is equally valuable.

As a result, the analysis does a good job of identifying direct impacts related to physical land disturbance and vegetation removal (only PJ habitat type), but fails to assess the relative habitat value or the potential functional habitat impacts for each alternative. Likewise, indirect impacts which reduce habitat functionality by affecting wildlife behavior, displacing wildlife to lower quality habitats, limiting wildlife access to otherwise productive habitats and decreasing productivity and/or survival rates are not analyzed.

In the San Juan Basin, winter range is vitally important for big game. The proposed project lies within mule deer winter range and elk winter concentration areas. However,

A. It is CDOT's understanding that the goal of the CNDIS, a product of the CPW, is to provide information to assist decision makers, professionals and planners to make informed decisions regarding the potential effects of development on wildlife and plant habitat in Colorado. The information provided by this service is expressly aimed at improving land use planning and decision making. The heart of the CNDIS database is a GIS-based decision support system that utilizes spatial data and analyses with the aim of providing a scientific, rationale basis for understanding the potential effect of developments on wildlife habitat and populations (Hobbs et al. 1997\*). To CDOT's knowledge, no other readily accessible habitat mapping tool for assessing project related impacts to wildlife habitat exists. CDOT understands that not all winter range is equally valuable, but until the CPW provided the previously undisclosed information referenced in this letter, CDOT was not aware that a comparative assessment of habitats within the study area had been made.

CDOT recognizes the importance of winter range and winter concentration areas for big game species. As such, CDOT has provided assessments for direct impacts to land use, vegetation, wildlife habitat, and even specific impacts to wildlife ranges, such as deer and elk winter range and winter concentration areas. Relative habitat values were not specifically assessed for each alternative, as CDOT assumed that given the landscape components of the area the functional values of the habitat located in the three alternatives were relatively equal. Vegetation and other landscape components were recorded during field studies, from assessing aerial photography and maps, and utilizing information from the Southwest Regional Gap Analysis Project (SWReGAP) land cover mapping and habitat modeling. All the sources utilized provided information on the plant communities and other landscape features within the study area boundaries. The three major vegetation types that are present in each of the three alternatives carried forward for detailed analysis in the SEIS include piñon-juniper woodlands, irrigated agricultural lands, and wetland areas. While the relative amounts of these landscape features varied between alternatives, the individual vegetation community components, i.e., piñon-juniper woodlands, irrigated farmlands, and wetlands, were all observed and documented to have similar species composition and densities. Since mule deer occupy all ecosystems in Colorado from grasslands to alpine tundra (Fitzgerald et al., 1994) and prefer broken habitats which provide browse and cover which is present in all three alternatives, and the SWReGAP animal-habitat models predict the use and distribution for ungulates to be rated the same for the entire study area, CDOT felt safe to assume the functional values of the habitat located in the three alternatives were relatively equal.

\*(N.T. Hobbs, D.M. Theobald, J.A. Zack, T. Bearly, W.E. Riebsame, T. Shenk. 1997. Forecasting Impacts of Land Use Change on Wildlife Habitat: Collaborative Development of an Interactive GIS for Conservation Planning. <http://www.nrel.colostate.edu/scop/SCoPwww.html>)

A

Comments

Responses

Source:	Letter	Name:	Colorado Parks and Wildlife
Document Number:	SF 3	City, Zip Code:	Durango, 81301

Response to Comment SF 3

**B** based on radio-collar data, winter flight data and other analyses, CPW understands that due to relative habitat values, big game animals do not equally use or are not equally distributed across winter range within the project area. Wintering elk and mule deer prefer a mix of piñon-juniper, sagebrush and irrigated agricultural lands. Recently, CPW, The Nature Conservancy and BP mapped and modeled wildlife habitat in the San Juan Basin using 9 habitat qualities that increase the importance of habitat for mule deer and other species of concern. This finer scale analysis subsequently identified 11 high priority habitat areas within the Basin. One of these priority areas encompasses the Animas River corridor and the western edge of the Florida Mesa bordering the existing US Highway 550 (Farmington Hill) down into Wilson Gulch and US Highway 160.

**C** The SDEIS analysis includes three alternatives: Revised G Modified Alternative, Revised F Modified Alternative and an Eastern Alignment. The Revised G Modified preferred alternative falls within a high priority habitat area where CPW has documented high mule deer density during the winter months and passes through an elk winter concentration area. An alignment that avoids the edge of the mesa and the ecotone (transitional area between habitat types) of piñon-juniper and the Animas River corridor will have less impact on habitat functionality and reduce animal-vehicle collisions as animals make daily west to east movements between security cover and foraging areas on the mesa and mesa edge.

The year-round availability and continuity of undeveloped riparian habitats is vitally important for big game and many other species, including small- and medium-sized mammals, herptiles, passerine birds, raptors and waterfowl. The connectivity between the Animas River Corridor and the Florida Mesa must be maintained to support wintering big game animals. The SDEIS states that the alternative route will be fenced and two wildlife crossing will be installed (Alternative G); however the SDEIS fails to identify the locations of these crossings. We are concerned that:

1. The locations of these wildlife crossings are not identified;
2. The timing of the construction of the wildlife crossings in relation to the other roadway improvements is not clearly spelled out in the SDEIS.

In our letter to CDOT dated June 23, 2011 pertaining to the US Highway 550/CR 302 intersection improvement project, CPW noted that we are becoming increasingly concerned with the phasing or timing of highway construction and the wildlife mitigation measures (usually underpasses) that help maintain habitat connectivity and migratory movements for big game and other wildlife along the US Highway 160 and US Highway 550 corridors. It appears that many of the roadway improvements and wildlife fencing are constructed, creating barriers to wildlife movement, but that a number of the major wildlife crossing structures committed to in the original US Highway 160 EIS have not been included as part of these construction projects. Examples include:

- The wildlife crossing at on US Highway 160 at Wilson Gulch (MP 88.27) which is critical to maintain migratory movements for big game since guard rail and

A (cont'd)

Indirect impacts were discussed at length in the 2006 US 160 EIS in Section 4.11.2, which was incorporated by reference into the SDEIS. Additionally, Section 4.11 of the 2006 US 160 EIS discusses wildlife displacement, highway permeability issues, and animal-vehicle collision reduction techniques.

**B.** CPW provided CDOT with previously undistributed information regarding the identified 11 high priority habitat areas within the San Juan Basin on December 29, 2011. As stated, one of these priority areas is located near the study area. This high priority habitat area has been added to Figures 3.7 and 4.9b of the SFEIS.

Additionally, Alternative Revised G Modified was shifted further to the east to avoid a gas well on the Webb Ranch property. This shift in alignment moved the alternative further from the edge of the mesa, and effectively reduced the extent of impacts to piñon-juniper woodlands. Revised G Modified impacts a total of 48.1 acres of wildlife habitat, of which 36.6 acres are comprised of piñon-juniper woodlands; Revised F Modified Alternative impacts 70.9 acres of wildlife habitat, of which 39.3 acres are piñon-juniper woodlands; the Eastern Realignment Alternative impacts 86.0 acres of wildlife habitat, of which 49.1 acres are piñon-juniper woodlands. Comparatively, Revised G Modified impacts 2.7 acres less of piñon-juniper woodlands than the Revised F Modified Alternative, and 12.5 acres less of piñon-juniper woodlands than the Eastern Realignment Alternative. Additionally, under all action alternatives, the existing US 550 roadbed on Farmington Hill would be removed. CDOT would plant native vegetation and enhance the use of this area for wildlife, including big game species. The current condition of the cut slopes between the existing US 550 alignment and the Florida Mesa is very steep and comprised of loose alluvium making it a poor movement area for deer and elk. The restoration of the Farmington Hill roadbed would provide an excellent opportunity for deer and elk to make the west to east movements between security cover and foraging areas on the mesa.

**C.** CDOT has included the high priority habitat boundary in the study area mapping (Figures 3.7 and 4.9b), and added information regarding these areas and associated impacts to the Affected Environment (Section 3.11) and Environmental Consequences (Section 4.11) of the SFEIS. CDOT analysis indicates that approximately 249 acres of this 1022.5 acre area falls within the study area boundaries. Conducting a comparative assessment of impacts shows that all three proposed action alternatives would impact this resource. Impacts associated with each alternative encompass new impacts created by the virgin alignments, but also include impacts currently present along the existing US 550 corridor. Specifically, Revised G Modified would impact 18.5 acres of the identified high priority habitat area, 7.2 acres of which are along the existing US 550 alignment, and 11.3 acres are new impacts along previously

Comments

Responses

Source:	Letter	Name:	Colorado Parks and Wildlife
Document Number:	SF 3	City, Zip Code:	Durango, 81301

Copy of Comment D

D

The year-round availability and continuity of undeveloped riparian habitats is vitally important for big game and many other species, including small- and medium-sized mammals, herptiles, passerine birds, raptors and waterfowl. The connectivity between the Animas River Corridor and the Florida Mesa must be maintained to support wintering big game animals. The SDEIS states that the alternative route will be fenced and two wildlife crossing will be installed (Alternative G); however the SDEIS fails to identify the locations of these crossings. We are concerned that:

1. The locations of these wildlife crossings are not identified;
2. The timing of the construction of the wildlife crossings in relation to the other roadway improvements is not clearly spelled out in the SDEIS.

Response to Comment SF 3

C (cont'd)

undisturbed areas. Likewise, Revised F Modified Alternative would impact 14.5 acres of the area, with 5.2 acres of existing and 9.3 acres of new impact. Finally, the Eastern Realignment Alternative would impact 4.2 acres of the high priority area, of which 0.9 acres are existing impacts along US 550, and 3.3 acres are new impacts.

Alternative Revised G Modified would newly impact 1.1 percent of this high priority area, but impacts less overall wildlife habitat than the other alternatives. CDOT recognizes the impact to this designated high priority use area, and provides a discussion of this impact in the SFEIS. Some of this impact will be mitigated through CDOT's plans to remove the existing US 550 roadbed on Farmington Hill. CDOT will plant native vegetation and enhance the use of this area for wildlife, including big game species. The current condition of the cut slopes between the existing US 550 alignment and the Florida Mesa is very steep and comprised of loose alluvium making it a poor movement area for deer and elk. The restoration of the Farmington Hill roadbed would provide an excellent opportunity for deer and elk to make the west to east movements between security cover and foraging areas on the mesa.

- D. CDOT recognizes the need to maintain the connectivity between the Animas River and Florida Mesa. As stated, two crossings have been preliminarily situated along the Revised G Modified alignment. These are depicted in Figure 4.11.1-Wildlife Crossings Grandview Section of the 2006 US 160 EIS. One crossing is located at the current CR 220/US 550 intersection which will connect to the old US 550 roadbed, and one crossing will be situated at the large gulch located at the north end of this alignment. CDOT believes that this is the primary route big game utilizes to move from Wilson Gulch to Florida Mesa in this area. While final design has not been completed for this alignment, context sensitive design considerations will ensure that this gulch is spanned with a bridge structure rather than a fill slope to address wildlife movement concerns. Exclusionary fencing along US 160 and the US 550 Connection will help reduce animal-vehicle collisions, and the two underpasses will allow animals to make daily west to east movements. These measures will mitigate some of the direct and indirect impacts from the project.

The timing of the construction, including wildlife crossings, has not been detailed in SFEIS. Due to the uncertain nature of CDOT's funding, the amounts and timing of construction dollars for this work is not clear. It is accurate to state that exclusionary fencing will not be installed unless it is in conjunction with the installation of the two wildlife crossing structures. It is CDOT's intent to install these features as part of the contract for work on this alignment. These wildlife crossings

Comments

Responses

Source:	Letter	Name:	Colorado Parks and Wildlife
Document Number:	SF 3	City, Zip Code:	Durango, 81301

E

In our letter to CDOT dated June 23, 2011 pertaining to the US Highway 550/CR 302 intersection improvement project, CPW noted that we are becoming increasingly concerned with the phasing or timing of highway construction and the wildlife mitigation measures (usually underpasses) that help maintain habitat connectivity and migratory movements for big game and other wildlife along the US Highway 160 and US Highway 550 corridors. It appears that many of the roadway improvements and wildlife fencing are constructed, creating barriers to wildlife movement, but that a number of the major wildlife crossing structures committed to in the original US Highway 160 EIS have not been included as part of these construction projects. Examples include:

- The wildlife crossing at on US Highway 160 at Wilson Gulch (MP 88.27) which is critical to maintain migratory movements for big game since guard rail and

Response to Comment SF 3

D (cont'd)

have been committed to and will be constructed as detailed. Every effort will be made to construct the wildlife crossing outside of the ungulate's migration period.

E.

Mitigation measures for impacts to wildlife are included for both the US 160 and US 550 corridors. The 2006 US 160 EIS directs the mitigation efforts for that corridor. The US 550 corridor south of Durango had its own NEPA process, an Environmental Assessment (EA), which includes widening from two to four lanes along the existing highway from the New Mexico State Line to MP 15.4. Three main areas have undergone construction along the US 160 and US 550 corridors: the intersection of CR 302 and US 550, the intersection of CR 222/223 and US 160, and the Grandview Interchange. As expressed earlier, CDOT experiences uncertain and volatile funding. In order for the Region to be able to complete construction projects, larger projects are generally built in phases, and typically started in the areas with the most need trying to combine several funding sources to cover the construction costs. In doing so, the first projects are typically intersection improvement projects. These intersections have typically been identified by CDOT as priority improvement areas based on requests from County Commissioners, municipalities, and Tribes. These requests are due to high average daily traffic (ADT) volumes and forecasts, accident data, traffic and geometric data, and design information. Since limited funding is available for corridor projects, CDOT is able to combine these funds with additional monies set aside for intersection improvement projects to accelerate the construction of these critical improvements. Given the high traffic volumes, congestion, lighting, and other factors, intersections are generally not optimal spots to place wildlife crossing features.

However, CDOT has made significant efforts to incorporate wildlife impact mitigation elements (deer fencing, escape ramps, small mammal crossing, deer guards, etc.) into the projects listed above. Improvements within the Grandview Area have proceeded according to the plan laid out in the 2006 US 160 EIS and the current SFEIS which requires consultation with the CPW (formerly CDOW) in conjunction with final design of highway improvement projects. To date, CDOT has coordinated with CPW on three projects in the Grandview area including the Grandview 4<sup>th</sup> Lane Design/Build, Ramp B and Phase 3 interchange construction projects, and the CR 222/223 Intersection project. Small mammal crossings have been installed in four locations in Grandview, and impacts to Wilson Gulch have been minimized to the maximum extent practicable through elimination of the 2006 EIS proposed Ramp E.



Comments

Responses

Source:	Letter	Name:	Colorado Parks and Wildlife
Document Number:	SF 3	City, Zip Code:	Durango, 81301

Response to Comment SF 3

E (cont'd)

Future improvements on the Florida River Bridge and Wilson Gulch Bridge at the base of Farmington Hill will eventually accommodate deer and elk crossings. The construction of the wildlife crossing on US 160 at Wilson Gulch (MP 88.27) can only be accomplished after the SFEIS has been published and a ROD has been signed. The installation of this feature will require major modification to the roadway that cannot be initiated until the US 550 connection location has been finalized. In an effort to reduce the impacts to wildlife in this area, CDOT has not installed any exclusionary fencing along this section of the project unless required by safety considerations. This was done to allow for some level of permeability until the underpass can be constructed. The existing bridge at the Florida River will eventually accommodate four lanes at which time a reconstructed bridge suitable as an underpass for large mammal crossing will be installed.

CDOT has spent over \$800,000 on wildlife mitigation for the CR 302 Intersection project which had a total budget of \$5.5 million, and spent almost \$1.1 million on wildlife mitigation for the CR 222/223 Intersection project which had a total budget of \$5.7 million. While the CR 302 project did not have a wildlife underpass identified in the US 550 EA within its limits, CDOT did include the installation of three 36" culverts designed solely for the purpose of aiding small mammal and amphibians (herpetofauna) passage. These locations were approved by your office. Additionally, to comply with the conditions set forth in the US 550 EA, permanent exclusionary fencing was installed to restrict deer and elk crossing within the project area. To avoid potential conflicts, CDOT located wildlife detection systems at both the north and south ends of the deer fence terminations. The detection system includes motorist warning signs and sensor cables that allow large mammals to cross the highway at the ends of the deer fence sections while warning motorists of their presence to react accordingly. Within the exclusion fence area, four escape ramps were constructed to allow large mammals trapped inside the ROW to escape by climbing the ramp and leaping the fence. Oversized cattle guards were installed at the county road connections to US 550 and access driveways within the project area to restrict wildlife access to the highway ROW.

Similar to the CR 302 Intersection project, the CR 222/223 project incorporated numerous mitigation measures for wildlife. The project included culvert upgrades to accommodate drainage and small mammal and herpetofauna passage. The culverts range in size from 24 inch to a 6 ft. by 12 ft. twin concrete box culvert (CBC) on lower Long Hollow Draw. Two longitudinal shelves running the length of

Comments

Responses

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Response to Comment SF 3

E (cont'd)

walled sections both east and west of this proposed crossing have already been constructed and there is no other safe passage for wildlife across US Highway 160 for over 2 miles.

- The extension of the Florida River Bridge which was to serve as a wildlife crossing during high flow periods. This crossing is also critical since the wildlife fencing has been constructed in both directions for the US Highway 160/CR 222 & 223 intersection.

We commend CDOT for its work on the at grade wildlife detection system/crossing area east of the Florida River, but this single crossing area is not adequate to maintain connectivity for habitats along the entire US Highway 160 highway corridor. The other wildlife crossings committed to in the original US Highway 160 EIS need to be constructed before additional barriers, including fences, are constructed along the highway corridor to avoid additional impacts to big game and other wildlife species. Our concern is that the impacts to wildlife created by "phasing" construction were not properly analyzed or appropriately disclosed in the original US Highway 160 EIS or in this SDEIS.

the culverts were installed to accommodate small mammals including the New Mexico Meadow Jumping Mouse. A large concrete box culvert (CBC) was also fitted with an elevated floor and natural bottom substrate to accommodate small and medium size mammals on the lower Long Hollow Draw crossing. Non-dedicated wildlife culverts were also installed along the county road connections to accommodate small and medium size mammals. The existing bridge on the Florida River and steel plate arch on Long Hollow Draw can also accommodate small and medium size mammal crossings within the project area. The 2006 EIS did not identify any large mammal crossings that could be accommodated in conjunction with the scope of the completed projects. As CPW states, permanent exclusionary fencing was installed to restrict deer and elk crossing within the project area which extends from the top of Florida Mesa on the west side to Long Hollow Draw on the east. Since an underpass was not situated within the project limits, and budget did not allow for the extension of the Florida River Bridge, a wildlife detection system including motorist warning signs was installed east of Long Hollow Draw to MP 94.15. This system extends to and was integrated with the wildlife detection system situated at MP 94.15 to 96.36. So, unrestricted wildlife passage is provided from approximately MP 93.75 to 96.36. Additionally, wildlife passage within the project area is provided by the existing Florida River Bridge which has been well documented to accommodate passage of large mammals during low flow periods. Large mammals are able to cross the highway at the top of Florida Mesa where sight distances and response times are favorable for motorists and east of Long Hollow Draw where motorists will be warned by the wildlife detection system. Within the exclusion fence area, four escape ramps were constructed to allow large mammals trapped inside the ROW to escape by climbing the ramp and leaping the fence. Oversized cattle guards were installed at the county road connections to US 160 and access driveways within the project area to restrict wildlife access to the highway ROW.

The 2006 US 160 EIS and the SDEIS both state that improvements would be constructed in phases as funding permits, and as capacity and safety require. The corridor is included in the CDOT Long Range Plan and has been identified as a strategic corridor and a priority for funding by the state Transportation Commission. However, CDOT feels that both the 2006 US 160 EIS and the SDEIS adequately presented the logistical and financial constraints with the development of this scale, and addressed its impact analysis with this in mind.

E  
 cont'd

Comments

Responses

Source:	Letter	Name:	Colorado Parks and Wildlife
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Response to Comment SF 3

F

With respect to this project, the impacts on wildlife analyzed in the original EIS are completely different without the construction of the wildlife crossing at Wilson Gulch. Additional deer exclusionary measures "placed along the entire length of the Revised G Modified (Preferred) Alternative," exacerbate those impacts. Particularly as the major road crossings have not been identified. We recommend construction of the wildlife crossings prior to additional construction or fencing.

G

The original US Highway 160 EIS and the SDEIS acknowledge that short-term, localized impacts to migratory birds caused by the removal (and restoration) of vegetation and increased noise and activity from the highway construction could cause temporary and permanent displacement of individuals. However, there is no discussion of possible impacts to the avian community, e.g., changes in species composition, density, nesting success, mortality, etc. Studies have demonstrated that noise impacts from vehicle traffic may change avian species composition.

As this project continues through the design and construction phase, feel free to contact our office if we can be of assistance. We can be reached at (970) 247-0855.

Sincerely,



Patt Dorsey  
 Area Wildlife Manager, Durango

Page 3 of 3

F. As explained above, since the Wilson Gulch wildlife crossing lies under the existing US 160 and US 550 Intersection at Farmington Hill, this crossing will not be able to be designed and constructed until after the SFEIS is published and a ROD is signed. Deviations from the Preferred Alternative connection to US 160 could directly impact this location, and change the requirements and design of the crossing. Regardless, CDOT is committed to installing the two designated underpasses along the Revised G Modified alignment during the initial stages of this phase of the construction process if it is selected for implementation in the ROD. The Wilson Gulch underpass would likely be installed sometime after the US 550 Connection is built. The deer exclusionary fencing along this section of US 160 would not be installed until that time. CDOT understands that this is a less than ideal situation, but has no options with regards to this issue until the final US 550 connection alignment is determined, and funding becomes available.

CDOT acknowledges that any new highway connection along a new alignment will have some impact on nesting success, bird density, and will likely cause an increase in direct mortality due to vehicle collisions. These impacts are discussed in Section 4.11.2 of the 2006 US 160 EIS. However, 1-2 linear miles of new impact is not expected to affect any avian species' population levels as whole. According to the research CDOT has reviewed (primarily a paper from the CALTRANS dated 2007 and entitled "The Effects of Highway Noise on Birds" and another from UC Davis, 2005, entitled "How far into a Forest Does the Effect of a Road Extend?"), road effects extend up to 900 meters into a forest. CDOT used this extreme because US 550 in this area is more out in the open, and this would be a very conservative assessment. By using 900 meters on each side of the road for the distance 1 mile, CDOT calculated an impact area of 720 acres.

G. Since there are no records of any rare avian species within 5 miles of the project area (well outside the area of impact from the road), CDOT concluded that the birds in the area are fairly common and, therefore, have population levels that allow them to maintain a high level of production. Given that there are no unique habitat types that will be impacted by the project and the large amount of available habitat that is similar to that being impacted, CDOT concluded that individuals may be impacted but it would not affect whole population levels of any individual avian species throughout their entire range. CDOT believes that highways do have a negative effect on birds. However, given that there are over 88,000 center lines miles of highway in the state, the impact of 1 to 2 more miles would have an insignificant impact on avian populations.

Conversely, CDOT's aggressive re-vegetation plan includes the planting, establishment, and care of a wider variety and potentially an increased number of plants within the non-roadway portions of the ROW than what is currently there. This has the potential to attract birds that wouldn't be there otherwise. That would lead to a higher density, but a more limited variety of birds.





## Comments from Local Governments




Comments

Responses

Source:	Letter	Name:	City of Durango
Document Number:	LO 1	City, Zip Code:	Durango, 81301

Response to Comment LO 1



**CITY of DURANGO**

Public Works Department  
 949 E. 2nd Avenue  
 Durango CO 81301-5109  
 970-375-4800  
 970-375-4848 (FAX)

**RECEIVED**

NOV 28 2011

COLORADO DEPT. OF TRANSPORTATION  
 REGION 5  
 TRAFFIC & SAFETY

November 28, 2011

Kerrie Neet, Region Manager  
 Colorado Department of Transportation  
 3803 Main Avenue  
 Durango CO 81301

Re: Response to Supplemental Draft Environmental Impact Statement Section 4(f) Evaluation  
 To the US Highway 160 from Durango to Bayfield EIS

Kerry:

We have reviewed the Supplemental Draft Environmental Impact Statement to the US Highway 160 from Durango to Bayfield dated October 2011. We appreciate the opportunity to comment on the draft and concur with your conclusion that improvements are needed to the State Highway system to provide safe and efficient movement of traffic from Highway 550 South onto Highway 160 in Durango.

We note that the National Environmental Policy Act (NEPA) and Colorado Department of Transportation regulations require you to consider local land use plans in your decision making process. Further, NEPA requires consistency with local plans and/or justification for actions that might impact those plans and proposals for mitigating those impacts. In 2004 the City of Durango and La Plata County adopted a Grandview Area Plan that describes future land uses, a road network system and policies to assure the efficient and attractive development of the Grandview area. The 2006 Environmental Impact Statement for the Highway Improvements took into consideration that area plan, and changes that we recommended to the EIS based on the plan were considered and in most cases changes to the actual construction effort were made in support of our comments.

The Supplemental Draft Environmental Impact Statement prepared this year includes alternatives that are not consistent with the area plan. While the described Revised F Modified Alignment and the Eastern Alignment are not recommended, it should be noted that neither of these alternatives is an option that should be approved without further review. Land uses proposed for the area would be bisected by a major highway which would interrupt a reasonable flow of local traffic, would prevent logical movement of pedestrian and bicycle traffic in what is proposed to

A. CDOT shares the city's concerns for impacts on bicycle and pedestrian mobility. Should Revised F Modified Alternative or the Eastern Realignment Alternative be selected as the "Preferred", those impacts will be addressed and mitigated during final design. Bicycle and pedestrian mobility are important factors for CDOT. CDOT has adopted the Bike and Pedestrian Procedural Directive 1602.1, which directs CDOT staff on the importance of accommodating all forms of transportation and the development of a true multi-modal transportation system. This Procedural Directive will be implemented and utilized during final design to ensure that multi-modal concerns are addressed by the alternative selected within the SFEIS.

Information has been added to SFEIS Sections 4.1.4 and 4.1.5 reflecting the inconsistency of Revised F Modified and Eastern Realignment alternatives with the Grandview Area Plan.

A

Comments

Responses

Source:	Letter	Name:	City of Durango
Document Number:	LO 1	City, Zip Code:	Durango, 81301

Response to Comment LO 1

A  
cont'd

be an urban setting. We oppose any alignment that does not take into consideration the bicycle and pedestrian movements anticipated for this area.

B

If any other options are considered as the result of the public comment on the draft supplemental EIS we suggest that consideration of all forms of transportation be considered in any analysis. We request that the adopted land use plan be given due consideration and that the City of Durango be consulted on the effects of any proposed alignment on the area plan that has been adopted by the City of Durango and La Plata County.

We have some comments regarding the descriptions and analysis included in the supplemental draft environmental impact statement.

C

- I. We disagree with the predictions of future traffic volumes on Highway 160. We do agree that regardless of future volumes, improvements are needed to assure a safe and efficient connection between US Highway 550 and US Highway 160. We believe that predictions in this supplemental EIS should not be used to determine future interchange locations or designs. We believe that the method used to predict future traffic volumes overestimates traffic volumes on US Highway 160 because it adds to the established growth along the highway the traffic that will occur because of the urbanization in the area. Such a method double counts some of the increase in traffic and skews the results to predict a need for future interchanges in the area. The City of Durango and La Plata County undertook to predict the traffic volumes on major roads in La Plata County including the State Highway system in 2006. The predictions are based on a gravity model that includes consideration of land use designations and opportunities throughout La Plata County and adds that increase in exterior traffic volumes at the county line on all county roads and State Highways. The model uses State demographer predicted populations for the County and locally developed parameters for trip origins and destinations. We believe our model takes into consideration the effects of traffic congestion that are not included in the analysis conducted by the State's consultant for the draft supplemental report. Predictions in the 2011 draft supplemental report do not take into consideration that significant congestion that will result in the State Highway system to the west of the study area and the alternate routes that drivers will seek to arrive at their destination. It is difficult to see how the prediction of future traffic volumes can reasonably be based on the ten years of data as described in Figure 1-4 in the report.

- B. As described in comment response LO 1 A, (previous page), CDOT has the Bike and Pedestrian Procedural Directive 1602.1 to ensure that all forms of transportation are considered in all alternatives considered. In addition CDOT will consult with the City of Durango on any alternatives that may impact or have an effect on any adopted area plans by the City of Durango and La Plata County.
- C. Please see response to Common Comment 1. CDOT is familiar with the referenced study from 2006 (2030 TRIP Report). There is one major difference between CDOT's traffic analysis and the traffic volumes and trip distribution developed and analyzed in the 2030 TRIP Report. The 2030 TRIP Report prepared for the City of Durango and La Plata County assumed a new connection between the Three Springs Development and the City of Durango (Ewing Mesa connection) that would pull 24,100 trips per day off of US 160 going to Durango. While this connection could greatly help the overall traffic impacts to US 160 once it is built, this connection crosses federal Bureau of Land Management lands requiring a National Environmental Policy Act (NEPA) analysis before construction can occur. To date, this process has not been initiated by either the city or county. CDOT cannot consider this connection in project analysis until it is better developed and truly considered "reasonably foreseeable."

The report assumes the Ewing Mesa connection would average 24,100 trips per day between the City and Three Springs. Without this connection these 24,100 trips would most likely travel US 160 between these two locations. If these 24,100 trips were added to the US 160 trip volume going to and from Durango stated in the 2030 TRIP report, the average daily traffic would be 79,200 vehicles per day on US 160 in the year 2030. CDOT's analysis estimates that there will be 85,900 trips per day on US 160 in 2030. These two studies were performed completely independent of each other nearly six years apart, and both estimate traffic on US 160 in the future (2030) with only a 8.46 percent difference. This is very telling when two completely different independent trip studies correlate so closely when predicting trips 20 years into the future.

Comments

Responses

Source:	Letter	Name:	City of Durango	<p><b>Response to Comment LO 1</b></p> <p>C (cont'd)</p> <p>CDOT is not opposed to the City and County's idea to build the Ewing Mesa connection; it would help the overall capacity of US 160 once it is constructed. However, since the roadway crosses federally owned lands, CDOT cannot consider this future road connection in the project analysis until the necessary environmental clearances are in place.</p> <p>Information relevant to the city's comment about double counting of future traffic growth is contained in the response to Common Comment 1.</p> <p>Lastly there is mention that the current model does not account for the potential future congestion west of the study area. This is true; the area west of this location was not a part of the earlier 2006 US 160 EIS or this SFEIS. This supplemental analysis focuses solely on the connection of US 550 to US 160.</p>
Document Number:	LO 1	City, Zip Code:	Durango, 81301	

Comments


Responses

Source:	Letter	Name:	City of Durango
Document Number:	LO 1	City, Zip Code:	Durango, 81301

D  
E  
F

2. We reiterate our comment in 2005 that the visual resources need to be reestablished when any construction occurs, particularly in an urbanizing area. The record of decision should include a requirement that landscaping, signage, retaining walls and other features of the project receive local government scrutiny and adequate funding. We appreciate the efforts made to include the City of Durango in the design of the architectural features of the overpass and bridges constructed within the original EIS project work. We suggest that you review the Grandview Area Plan for recommendations with regard to context sensitive design of the highway system, and that you consult with the City's landscape planner and arborist in the design of the roadway.
3. We recommend again as we did in 2005 that you consider a westbound exit ramp east of mile post 89.44 between High Llama Lane and Three Springs Boulevard to relieve traffic congestion at the recently constructed roundabout. An off ramp from the highway system could provide more direct and quicker access to the emergency room at the hospital and would reduce conflicts and traffic volumes in the roundabout as motorists attempt to access commercial development proposed for the area.
4. Access limitations along the proposed highway for any of the alternatives are not specifically addressed in the draft. Access limitations in the 2006 EIS led to specific "access-lines" limiting where access could occur. It seems that access limits have caused problems as the final designs for each phase of right-of-way acquisition and construction have been undertaken on the phases completed to date. A complete description of access limitations should be discussed in the supplemental EIS in order to aid in future land use planning.

We appreciate the opportunity to comment on the supplemental draft and would be glad to discuss our comments with you at any time.

Yours truly,  
  
 Otha J. Rogers, PE, Director  
 Public Works Department

Response to Comment LO 1

- D. The following statement has been added to Section 4.16.6 under Mitigation for visual resource and Table 4-14 Summary of Mitigation Measures under the Visual Resources Section of the SFEIS: "Project development and design within the Grandview Area will be coordinated with the City of Durango's Landscape Planner and Arborist to assure consistency with context sensitive design goals of the Grandview Area Plan. CDOT is committed to working with the City of Durango with regards to visual resources. Details pertaining to the aesthetic of features such as landscaping, signage, retaining walls, etc. will be determined during final design. Similar to the coordination that occurred with CDOT's recent Grandview projects, CDOT will work with the City during that phase of the project development to ensure that the City of Durango has adequate opportunity to review and provide input to the visual character of the roadway and surrounding landscape".
- E. An additional access ramp east of High Llama Lane is not an option due to the close spacing of the existing westbound on-ramp from Three Springs and the westbound off-ramp for the Grandview Interchange. A free-flow right turn near the roundabout and off the westbound off ramp is not part of the current design but may be a possibility. This would need to be looked at closer during final design or as area development demands dictate.
- F. The SFEIS is focused on determining a Preferred Alternative for the future connection of US 550 to US 160. This document is not reevaluating the US 160 corridor through the Grandview Segment and where future accesses will be allowed to US 160. This was outlined in the 2006 US 160 EIS by establishing the locations for future frontage roads to limit access to US 160 as a goal of the purpose and need. Access control for the alternatives proposed in the SFEIS is provided through the inclusion of frontage roads that provide for local access. Eliminating direct access to the highway improves the safety and mobility of the highway. CDOT is not currently proposing buying deeded rights of access (A-lines) for the SFEIS corridor.

## Comments from Public Hearing Transcript





Comments

Responses

Source:	Transcript	Name:	Kristina Hartley
Document Number:	TRA 1	City, Zip Code:	Durango, 81303

KRISTINA HARTLEY, 1108 County Road 220, Durango, Colorado:

A

I just wanted to comment on my support for the Revised G alternative. This Farmington Hill has always been such a dangerous intersection in the winter, and it's vital that, you know, it gets rerouted. This seems like the best alternative because it has the least residential and business impacts and the least impacts to wildlife, and also because it's closest to the original route, you know.

B

The thing to me that stands out that the reports don't see would be, you know, what Florida Mesa is and the heart of the community. I grew up on Florida Mesa, and the further east we move the route, the more it impacts the entire community as a whole and all that agricultural land and farmlands we've lost in La Plata County, you know, is vital.

C

And anyway, that's all. Thank you.

Response to Comment TRA 1

- A. Part of the purpose and need for the project reflects the safety concerns on US 550 at Farmington Hill. More information about these safety concerns is noted in the response to Comment IND 1A.
- B. Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.
- C. The eastern portion of Florida Mesa includes more residential and business properties, as reflected in the greater residential and business relocations required for the Eastern Realignment Alternative: six residences and one business compared to none with the Revised G Modified alternative. Also, please see response to Common Comment 4.

Comments

Responses

Source:	Transcript	Name:	Michelle Gilleland
Document Number:	TRA 2	City, Zip Code:	Durango, 81303

MICHELLE GILLELAND, 630 Dreamy Draw, Durango, Colorado:

My name is Michelle Gilleland, M-I-C-H-E-L-L-E, and it's G-I-L-L-E-L-A-N-D, and I live at 630 Dreamy Draw, which is just south of County Road 220. I have been coming to these meetings for a really long time. It seems like about a dozen years ago we came. It was when URS Greiner was running all the meetings. And they were working on an alignment to tie in -- same kind of thing.

And the alignment that they came up with, back then I lived at a house near a gravel pit on Highway 160. And when the lines were drawn, we learned that one of the on-ramps would be coming through our son's bedroom, and so we started to look for land, and we found some up on the Florida Mesa. The stars aligned, and we were able to move up there after many years.

And we started building our family. By then, the alignments were kind of up in the air, I think, and had changed, and they had come up with all the new scenarios that they have now. And the alignment they came up with now has -- the home that we live in now up on the mesa is kind of in the median of the Eastern Realignment, which is not good when you have five kids that like to play outside.

A

Response to Comment TRA 2

- A. The Eastern Realignment Alternative has greater effects on more private property owners which is one reason it has not been identified as the Preferred Alternative. CDOT acknowledges the financial impact NEPA processes have on individual property owners and is working diligently to complete this process, to address the uncertainties associated with alignment choices.
- A final NEPA decision relative to the selection of the alternative for implementation will not be made until the fall of 2012.
- All right of way acquisition will follow the Uniform Relocation Act, which provides for fair market value compensation and includes relocation assistance.

Comments

Responses

<b>Source:</b>	Transcript	<b>Name:</b>	Michelle Gilleland
<b>Document Number:</b>	TRA 2	<b>City, Zip Code:</b>	Durango, 81303

<b>A</b>	cont'd	<p>We also own some land adjacent to our home that is vacant land, which has -- in the economy, it's been difficult to sell vacant land, but when there's a highway alignment that goes through it, it really is not good. And so the financial impact to us has been big. We're almost to the end of our rope, and we tied a knot, and we're hanging on. But it's been frustrating for me that a decision just hasn't been made.</p>
<b>B</b>		<p>I'm kind of to the point now that I feel like I have had this long relationship with CDOT. We've known each other. We've, you know, talked back and forth, we've learned about different things, but I'm ready to break up. I don't want to be with you anymore. I just want you to make a decision.</p> <p>And I think it's unfortunate that we have to pit property owners against each other that -- I got to walk up on the Webb Ranch yesterday. That's the first time I've met Mr. Webb. I feel like I have hovered around him my whole life. I live north of the Webb Ranch and then south of the Webb Ranch, and it's beautiful. It's wonderful. It's a beautiful -- it would be sad to put a highway through it.</p> <p>But by the same token, I live in the Eastern Realignment, and I think, wow, that would really stink if a highway went through my living room. It would be just -- it wouldn't be very fun.</p>
<b>C</b>		<p>So I'm to the point now where I just -- if you're going to do the Eastern Realignment, just do it and get it done and make it a decision. I know it's difficult to break up sometimes, but let's just do it and move on. Okay? I've gotten a lot of wrinkles and gray hair waiting around for this, and I want to continue building my life with my family. And thank you. So make a decision. All right.</p>

Response to Comment TRA 2

- B. The decision-making process that CDOT and FHWA will follow consists of requesting public and agency input on the information contained in this SFEIS and then carefully considering that input along with the objective analysis contained in the SFEIS. The alignment that will be implemented will be selected and documented in a Record of Decision which is expected in the fall of 2012.
- The NEPA process is set up so that before any formal offers of right-of-way are made, the NEPA decision has been made. Following the NEPA decision, the design process begins. As construction funds are set aside, then the right-of-way process formally begins and CDOT works with property owners to come to an agreement on a fair purchase price. It would have been premature for CDOT to make a formal offer to purchase any part of the Webb Ranch prior to the NEPA and design processes being finalized. All property acquisitions will follow the Uniform Relocation Act of 1970, which will ensure that the "highest and best" use of the properties affected by the selected alignment is determined, and fair compensation is provided. The selection of an alternative for implementation will not be made until the ROD, which is expected in the fall of 2012.
- C. Please see response to Comment TRA 2A.

Comments

Responses

Source:	Transcript	Name:	Adam Howell
Document Number:	TRA 3	City, Zip Code:	Durango, 81301

ADAM HOWELL, 1206 Avenida del Sol, #321, Durango, Colorado:

Hi. My name is Adam Howell. It's A-D-A-M, H-O-W-E-L-L. This mike is really short for me. I live at 1206 Avenida del Sol, Apartment 321, and that's Durango, Colorado.

MS. PORTER-NORTON: Why don't you just lift the mike up.

ADAM HOWELL: Yeah. I'll just hold it in my hand. How's that? So I'm here to comment on this. I'm not a stenographer. My reason for getting involved and coming to this meeting tonight is because I've been driving past the Bridge to Nowhere and the Grandview interchange for a while now, and it's pretty disgusting to me.

From what I understand, the Grandview interchange was put in to help facilitate growth, projected growth models in the Grandview area and the Three Springs area, and so I would like to address that specifically.

Basically, I have read things about the projected growth in Three Springs and Grandview, and it's -- CDOT had some people contracted to do a study on how many people were going to be living in the Grandview area and those models. I think that data is skewed, and it's inaccurate.

Response to Comment TRA 3

- A. As noted in the response to Common Comment 7, the Grandview Interchange has independent utility and can function on its own with no future connection to a reconstructed US 550
- B. Please see response to Common Comment 1.

A

B

Comments

Responses

Source:	Transcript	Name:	Adam Howell
Document Number:	TRA 3	City, Zip Code:	Durango, 81301

Response to Comment TRA 3

C

Basically, a few things went wrong with that study, but in the same study they tried to predict how much traffic was going to be flowing through that area with those projected growth models, and I think that study was wrong for a few reasons. They overestimated those projections because of some unforeseen things like the downturn in the economy and then that, in turn, you know, is going to limit growth out there.

Then secondly, I think it was -- it wasn't

C. Please see response to Common Comment 1. The economy has not stagnated or declined to the point that traffic volumes are no longer growing. The recent downturn in the economy has shown that traffic growth since 2008 is slower than observed prior to that period. As a result the 20 year growth projections have been adjusted (lowered) based upon the recent down turn in the economy.

Comments

Responses

Source:	Transcript	Name:	Adam Howell	Response to Comment TRA 3
Document Number:	TRA 3	City, Zip Code:	Durango, 81301	
<b>D</b>	<p>predicted how poorly the development was going to be structured out there in terms of like how bland the cookie-cutter housing development turned out in terms of like poor landscaping, overpriced homes, and just a pretty bland neighborhood in general.</p> <p>And, third, there's problems with the water infrastructure connectivity in the Three Springs area. So that was another thing that wasn't really foreseen or plugged into the growth projection models.</p>			<p>D. The Three Springs development is continuing to occur and be occupied, with approximately 5300 trips per day entering and leaving the development in 2011.</p>
<b>E</b>	<p>So I have been pretty disgusted with the Bridge to Nowhere since its creation, and it makes me want to puke. So basically, I think it's disrespectful to build something and then ask for an easement later. I think that the process should include figuring out how you're going to get your easement and have those easements in writing beforehand before building a \$47 million interchange with a \$6 million Bridge to Nowhere. Okay?</p>			<p>E. The City of Durango (which has annexed the Three Springs development area) has planned water infrastructure for and can accommodate a population of 40,000 people. The city currently serves water to an approximate population of 18,000, so has water available to accommodate a substantial population increase. The City has installed a new 14 inch water main and water storage tank specifically for the new development. The Three Springs Development itself has installed water mains, water storage tanks and a water pressure booster station. To summarize, there is sufficient water infrastructure to support a substantial development in the Three Springs area.</p>
<b>F</b>				<p>F. As noted in the response to Common Comment 8, the right-of-way process for a typical construction project proceeds in phases, as funding becomes available for the next construction phase. Given funding levels, CDOT would never be able to acquire the entire right-of-way necessary for all phases of a large corridor project. All easements are obtained before construction begins on a particular phase.</p>
<b>G</b>	<p>Then I also would like to speak out against the proposed overpasses at Three Springs Boulevard and 160, as well as the overpass at Elmore's Corner and 160 -- is it 172 and 160? Thank you very much.</p>			<p>G. The proposed interchanges at the Three Springs Boulevard and Elmore's Corner were identified based upon future traffic projections in the 2006 US 160 EIS. The decision related to the need for those interchanges was made through the public hearing/comment process in the 2006 US 160 EIS and is not part of the decision being made in the SEIS process.</p>

Comments

Responses

Source:	Transcript	Name:	Lawrence Hjermstad
Document Number:	TRA 4	City, Zip Code:	Durango, 81303

Response to Comment TRA 4

LAWRENCE HJERMSTAD, 1102 County Road 220, Durango, Colorado:

My name is Lawrence Hjermstad, H-J-E-R-M-S-T-A-D, and I go by Larry. Basically, our situation at 1102 County Road 220, is our address, is very similar to the Gillelands'. The Eastern Alignment was essentially proposed and would go right to both right in front of our existing home, and it would go right through the home that we were planning on building in a new location on a southerly part of our property.

But the thing I want to do today is really support the decision that you have made as far as the Preferred Alternative for the Modified G Alternative. It meets, it looks like, all of the recommendations that you set as far as the least impact, the least cost.

And we were at the same meeting back in about 2002 when that was presented and accepted, and we just hope that this time, not only is it presented, accepted, but that it is the one that actually gets the decision to go ahead and get this whole thing completed.

Please see the responses to Common Comments 3 and 7. The Revised G Modified Alternative has been identified as the Preferred Alternative in the SFEIS. The final selection of the alternative for implementation will be made and documented in the Record of Decision. The ROD is expected to be finalized and signed in the fall of 2012.

Comments

Responses

Source:	Transcript	Name:	Lawrence Hjernstad
Document Number:	TRA 4	City, Zip Code:	Durango, 81303

We need to also look at the fact that there's been a lot of activity as far as infrastructure. Obviously, the Modified G Alternative uses that infrastructure and the expenses that have been done. I think it best fits into the whole concept of CDOT's ability to do these kinds of jobs and do it well with the least impact. You've completed a very good Environmental Impact Statement, and I think that all of this leads to this, basically, the support of the Modified G Alternative. Thank you.

--



Comments

Responses

Source:	Transcript	Name:	Dave Trautner
Document Number:	TRA 5	City, Zip Code:	Durango, 81301

Response to Comment TRA 5

A

DAVE TRAUTNER, 649 Tech Center Drive, Durango, Colorado:

My name is Dave Trautner, T-R-A-U-T-N-E-R, and the address is 649 Tech Center Drive. I was asked by Mr. Webb to provide just general consultation for him through this process. I have not been involved with this process until yesterday, and he had asked me to provide commentary with regard to geotechnical issues that might be encountered along the various alignments.

I didn't look at anything other than the Alternative G and the Alternative A or Revised Alternative A. I met yesterday with Tony and Steven Cross with other members of the team.

And I concur with CDOT on the Alternative A that was analyzed in that the 85 feet of fill on the slope there is not realistic from a geotechnical engineering perspective, based on my experience here. What did come out of the meeting yesterday with Tony and Steven was that that particular alternative was partially -- or that alignment was partially driven due to some constraints, archeological constraints and potentially other constraints which forced the alignment over the edge of the hillside more than you would normally do if you didn't have those other constraints.

A. Geotechnical engineering was considered when evaluating the alternatives presented in the SFEIS, and these were not considered a design constraint. CDOT realizes there are options such as terracing which could be used for any of the alternatives to work with these challenges. As noted in the response to Common Comment 3, the Revised G Modified Alternative has still been identified as the Preferred Alternative.

Comments

Responses

Source:	Transcript	Name:	Dave Trautner
Document Number:	TRA 5	City, Zip Code:	Durango, 81301

Response to Comment TRA 5

So with that said, there's alternative alignments that might change the geotechnical engineering conditions or considerations with regard to that alternative. And I think there's going to be other folks here that speak to this tonight.

I think what is critical to consider is to maybe relook at that alternative based on some of the information that came up both yesterday and today because there might be some changes in the influence of those archeological sites on the alignment, which would drastically change the influence of that alignment or the geotechnical engineering considerations on that alignment.

As far as geotechnical engineering considerations with regard to Alternative G, it's relatively straightforward in that regard. There are other issues that the other people will talk to. That's all I have.

**B**

- B. Please see Response to Common Comment 5 for information regarding why Alternative R does not meet the project purpose and need.  
  
 Regardless of the geotechnical issues associated with Alternative A's downhill walls, this alternative would fail to meet the capacity requirements of the project purpose and need. Shifting the alignment in to the hillside thereby alleviating the issues created by the downhill walls would not resolve this issue. Therefore, CDOT does not need to re-analyze this alternative.

Comments

Responses

Source:	Transcript	Name:	Tom Mills
Document Number:	TRA 6	City, Zip Code:	Durango, 81301

TOM MILLS, 628 County Road 220, Durango, Colorado:

I'm at 628 County Road 220. I'm here to say that I don't like --

(Speaker asked to speak up.)

I'm an advocate of keeping the intersection very near where it is and not compromising all the ground that are being considered in these three other options that are being presented.

The man that just spoke referred to what it takes to get from the top of Webb Ranch over to the Bridge to Nowhere. The terrain in real life is a lot more varied and diverse than what it looks like just in these overhead pictures, and I think it would take quite a lot. There's some beautiful Ponderosa pine trees back there. It's a wildlife corridor of high volume traffic.

If you bring people 70 miles per hour, as you say, it's not even a -- 70-mile-per-hour zone coming north on the mesa at this time. It's astonishing to me that you want to increase it to 70 to drive people into the trees to drop down to that bridge when, I believe, that the shoulder of the mesa could be modified to put it in the sunlight and deal with the safety issues and use a flyover down there or much more modified intersection that could keep people from having to

Response to Comment TRA 6

- A. Alternatives were considered that keep the intersection very near to where it is now. CDOT references to these as on alignment or near alignment alternatives in this Appendix. These were eliminated as documented in Sections 2.4 and 2.5 of the SDEIS because they did not meet the project purpose and need. The US 550 at US 160 At-Grade Intersection Alternative (with numerous design variations) did not meet either the capacity or safety requirements for purpose and need. In addition, it had logistical problems. The Partial Interchange at the Existing US 550 and US 160(South) Intersection Alternative did not meet the safety requirement for purpose and need, had logistical problems and substantially higher costs. The Revised Preliminary Alternative A also did not meet the safety requirement, had logistical problems and substantially higher costs.
- B. CDOT has conducted detailed topographical surveys for all alignments presented in the SFEIS document, and understands the engineering requirements of the proposals. The two-dimensional drawings supplied in the SFEIS have been analyzed by CDOT design engineers in three dimensions, and quantities for cuts and fills for each alignment are provided in Appendix F of the SFEIS. CDOT recognizes the area being discussed in the context of this comment as a natural wildlife crossing area that possess trees and other vegetation types that may be providing positive elements to the existing landscape quality. As expressed in Section 4.16.6 of the SFEIS, mitigation measures to reduce impacts to these resources have been incorporated. Additionally, wildlife crossings are an important component to the Preferred Alternative. CDOT will use current information on wildlife movement and wildlife crossings as available during final crossing site selection. CDOT will incorporate best management practices for wildlife, to make sure any wildlife crossings are designed and constructed to improve driver safety and to accommodate wildlife movement across the highway. Preliminarily, the roadway within this area will incorporate a wildlife crossing and funnel fencing to maintain this wildlife movement corridor.
- C. CDOT is required to look at design speeds when designing new highways. A 70 mph design speed was selected for the US 550 EA which extends from the New Mexico State line to County Road 220. This section of roadway is planned to be a 4-lane facility with flat curves and gentle grades. The design speed is reduced to 60 mph once the highway reaches County Road 220.

Comments

Responses

Source:	Transcript	Name:	Tom Mills
Document Number:	TRA 6	City, Zip Code:	Durango, 81301

stop, burn a lot of fuel, a lot of time, and a lot of frustration factors that would be involved with anybody from the south that wants to go to Durango.

D

If you want to go to Durango or you want to go to Grandview, you turn right and you go to Grandview. If you want to go to Durango, you go to Durango. Adding all that extra mileage for any south commuters is frustrating to me. Anyway, that's about what I have to say for now.

Response to Comment TRA 6

C (cont'd)

This is within the acceptable 15 mph drop in design speed that the AASHTO (American Association of State Highway and Transportation Officials) recommends. Please see response to Common Comment 9.

Improving the shoulder of the mesa would only resolve one of the numerous safety issues associated with the current alignment. Additional roadway deficiencies that would not be fixed by this work would include any improvements to increase the driver's ability to see hazards (sight distance), flatten curves and grades, provide more recovery area (clear zone), reduce the chances of hitting objects, and be consistent on what drivers expect (route continuity) as well as other deficiencies. The existing condition does not provide a roadway with these features. Please see Chapter 2 Section 2.5.3.5, of the SFEIS for an explanation as to why the on-alignment alternatives cannot be designed and constructed to resolve these roadway deficiencies.

D. The estimated length of out-of-direction travel to use the Revised G Modified alternative versus the existing Farmington Hill connection is approximately 1.2 miles. While this does increase the overall travel distance to the south slightly, the travel time for northbound traffic heading to Durango will be the same. The existing signalized connection can create up to 120 second delays for northbound traffic heading to Durango. At peak capacity, CDOT assumed a reasonable average speed of 30 mph for northbound traffic to go through the interchange it will take about 2 minutes (120 seconds) to drive the extra mile resulting in no additional delay to the driver heading northbound when compared to being stopped at the traffic signal at Farmington Hill.

Comments

Responses

Source:	Transcript	Name:	Brad Blake	<p><b>Response to Comment TRA 7</b></p> <p>A. CDOT began the identification of additional alternatives relatively recently. Please see response to Common Comment 8 for information pertaining to why these additional alternatives were developed.</p>
Document Number:	TRA 7	City, Zip Code:	Durango, 81303	
<p><u>BRAD BLAKE, 326 Dreamy Draw, Durango, Colorado:</u></p>				
<b>A</b>	<p>Thank you. My name is Brad Blake, B-R-A-D, B-L-A-K-E. My address is 326 Dreamy Draw. Thank you for the opportunity to speak in regards to this road project.</p>			
	<p>Our family has lived at Dreamy Draw for over ten years, and we have three pieces of property that would be affected by the Eastern Alignment -- one on Dreamy Draw, one off of County Road 301, and one down near the intersection where it would enter the highway at Three Springs.</p>			
	<p>Our support is for the Modified G plan for obvious reasons that that's the way it was designed. We bought property in this area because we like the area, and we thought we were also planning for 10 to 20 years out, and just like the Highway Department does, we like to plan that far ahead.</p>			
<p>Imagine our surprise when we woke up one day and</p>				

Comments

Responses

Source:	Transcript	Name:	Brad Blake
Document Number:	TRA 7	City, Zip Code:	Durango, 81303

Response to Comment TRA 7

B

saw an alignment that went nearly through one of our homes, the home that we live in now, and proposed to go through where we were going to build our new home. That comes as quite a surprise.

Just that proposal, just that proposal of that alignment devalued our property. It also thwarted the sale of our existing home. I don't think any of you realize how much. And that includes other property owners that are making decisions and deciding where other roads might be best put, how much that affects us. It costs us money.

B. As noted in the response to Common Comment 4, the Eastern Realignment Alternative is not the Preferred Alternative, but no final decision will be made until a Record of Decision is signed in the fall of 2012. CDOT acknowledges the financial impact NEPA processes have on individual property owners and is working diligently to complete this process, to address the uncertainties associated with alignment choices.

Comments

Responses

Source:	Transcript	Name:	Brad Blake
Document Number:	TRA 7	City, Zip Code:	Durango, 81303

Response to Comment TRA 7

C

That proposal alone -- I'll restate it -- costs us money. It thwarted our lives, just that proposal. I would hope that you would take into consideration, as was mentioned earlier, wildlife corridors. The wildlife corridor that used to exist where wildlife were going off the edge is no longer there because of the highway that has been put there and the high walls.

D

There still are wildlife corridors in the other areas that are existing and a lot of wildlife there. We enjoy that area. It's peaceful. A lot of trees will be destroyed, a lot of wildlife will be destroyed by going with the Eastern Alignment or another alignment that ends up down at Grandview.

To put it in perspective, I guess, you all plan for 20 years. We like to plan out, also. We thought we were doing so. And it's frustrating -- and I go with Michelle. It's frustrating when no decision can be made.

E

The Highway Department from New Mexico built a road from Bernalillo to the state line in one year. We built in the last six years 2 miles of road and tore 1 mile of the road up and then put it back in. Just please make a decision and remember that it affects all of our lives.

- C. CDOT recognizes that highways can impact wildlife through habitat fragmentation, direct and indirect habitat loss, temporary disturbance and displacement, and direct mortality. The implementation of any action alternative would impact wildlife and their resources. As expressed in Section 4.11.6, mitigation strategies to minimize impacts are included in the SFEIS. These are aimed at helping to increase habitat connectivity and maintaining permeability across the highway. Wildlife crossings are important components to the alternatives studied within the SFEIS. CDOT will use current information on wildlife movement and wildlife crossings as available during final crossing site selection. CDOT will incorporate best management practices for wildlife, to make sure any wildlife crossings are designed and constructed to improve driver safety and to accommodate wildlife movement across the highway.
- D. Comment noted. Impacts to vegetation, including trees, and visual resources are addressed in Sections 4.9, and 4.16 of the SFEIS. Mitigation measures to help limit and prevent the degradation of habitats and visual resources have been incorporated in to the design of each alternative and will be tightly adhered to during project implementation.
- E. The decision process for this project includes consideration of the comments received during the SDEIS public hearing, preparation of a SEIS that incorporates the comments received, consideration of any addition comments during a SFEIS public and agency review period and incorporation of those into a ROD which documents the final agency decision on the project. That decision is expected in the summer or fall 2012.

Comments

Responses

Source:	Transcript	Name:	Tom McNeill
Document Number:	TRA 8	City, Zip Code:	Detroit, 48226

TOM McNEILL, Detroit, Michigan.

Good evening. My name is Tom McNeill,  
 M-c-N-E-I-L-L. I'm from Detroit, Michigan.

(Speaker asked to turn around.)

MR. McNEILL: I would like to talk to the group.

MS. PORTER-NORTON: She would like you to turn  
 around to see your lips to make sure that she is getting all  
 of what you are saying.

MR. McNEILL: Great. Thank you. I appreciate  
 that. First of all, I am one of the two lawyers representing  
 the Webb Family in this matter. I have been working with  
 Chris Webb since 1999 on this matter. Chris is going to offer  
 some remarks tonight, as well.

We want to let you know that we disagree with  
 CDOT's analysis and conclusions in their preliminary, and we  
 have opened up a dialogue with them to explain why we feel  
 that way, but what I want to say to you on behalf of the Webb



Comments

Responses

Source:	Transcript	Name:	Tom McNeill
Document Number:	TRA 8	City, Zip Code:	Detroit, 48226

Response to Comment TRA 8

A

Family tonight is that we oppose all three of the alternatives.

We are opposed to F, and we are opposed to the Eastern Alignment. That goes through the properties of our neighbors, as well. We don't think that any of the property owners should bear the burden of this highway.

We've got a group of technical experts who are going to look at this issue and have. We are going to present our own materials by the end of this month to CDOT. We attempt to persuade them to go back into the existing alignment into the current path.

In our view, there is technical support for building a highway there, for reconstructing it, for making improvements. So tonight, we tell you that we're trying to persuade CDOT to stay in the existing alignment. We think that can be done.

We want to let you know that those of you up on Florida Mesa, we're not trying to push the highway off on you. It's our burden, as well. It's your burden. We're looking at the existing way. So I want to thank you and I also want to thank CDOT for the amount of time that they spent with us in the last week or so for this dialogue. Thank you.

A. See response to Comment TRA 6A about consideration of alternatives located along the existing highway alignment. In addition, CDOT has recently analyzed new alternatives located along the existing highway alignment. Response to Common Comment 5 provides information relative to the new alternatives. None of the new alternatives meet the safety requirements identified as a part of the project purpose and need.

Comments

Responses

Source:	Transcript	Name:	Kathleen Krager
Document Number:	TRA 9	City, Zip Code:	Denver, 80204

KATHLEEN KRAGER, 1390 Stewart Street, Denver, Colorado:

Thank you. Kathleen Krager, K-R-A-G-E-R, 1390 Stewart Street, Denver Colorado. I am a professional engineer and a professional traffic operations engineer. It's been my job to take a look at the projections used in the capacity analysis used in the Supplemental Report and some issues with the projection.

**A** | The projections on 160, in particular, go from 19,000 vehicles per day currently to 86,000 vehicles per day in 20 years. I find that to be an incredible increase of traffic that in my 35-plus years of traffic engineering, I have not seen.

That type of growth represents a 20-year growth factor of 4.53. Again, a growth factor such as that, I have never seen. The State demographer is responsible for providing our 20-year growth factors in all counties, and the La Plata County has -- the State demographer has given it a growth factor for the next 20 years of 1.57.

**B** | Additional, the City and the County did an extensive study in 2006 to look at their 20-year growth factor, and they determined, estimated it to be 1.82. Either of those growth factors are very reasonable and what I would expect to see, but certainly not 4.53.

Response to Comment TRA 9

- A. See response to Common Comment 1 and response to Comment LO 1C for information about the process used to forecast future traffic on US 160.
- B. As stated in the response to Comment LO 1C, when future traffic volumes estimated by CDOT were compared to ones estimated by the City and County, they varied by only 8.4 percent in the year 2030.

Comments

Responses

Source:	Transcript	Name:	Kathleen Krager
Document Number:	TRA 9	City, Zip Code:	Denver, 80204

Response to Comment TRA 9

C

To accomplish a growth factor of traffic of 4.53 would mean that the County population basically would have to grow from its current 51,000 people today to 232,000 people in 20 years from now. That is a tremendous growth that this state is not expecting to occur in this area and neither are the local governments.

The 86,000 vehicles a day that are expected on 160, just so that you can sort of relate what that looks to, would be the same volume of traffic that I-25 currently has on it in sections of Colorado Springs, such as Colorado Springs I-25 and Briargate.

D

Considering that Colorado Springs has a population of 400,000 people, I do not expect to see that level of traffic volumes on the rural road for a community of 51,000 people. I believe that if we take a more realistic look at the traffic projections that are used in the report that we can go back and look at some of the alignments that have been thrown out and reassess these alignments and maybe come up with an alignment that is much more practical and has less damage to all involved. Thank you.

- C. Section 3.3.3 of the SFEIS provides information on expected population growth for La Plata County. The 2010 census data for La Plata County shows a current population of 51,334. The 2030 population projections are 79,762 people.
- D. It should be noted that growth in traffic volumes is not directly related solely to population growth. Other factors, such as employment growth, growth in tourist traffic, growth in regional (through trip) traffic, changes in development patterns, such as a new location of a major destination or changes in travel behavior, such as an increase in average household income, are all factors that also influence traffic growth.

Comments

Responses

Source:	Transcript	Name:	Daniel Gregory
Document Number:	TRA 10	City, Zip Code:	Durango, 81301

Response to Comment TRA 10

DANIEL GREGORY, 151 Columbine Drive, Durango, Colorado:

I'm Daniel Gregory, 151 Columbine Drive. I've lived in the community for about 20 years. I'm one of the Webbs' attorneys. I'm local counsel for them. I have a firm here in town, Gregory, Golden, and Landeryou. And I just, first of all, want to thank CDOT for the information they provided to us and hosting this meeting tonight.

A

The short message that I have is that I think we can do better. And I don't think that all the alternatives have been fully presented. There is an alternative that keeps this in the existing alignment. What Dave Trautner was talking about is, it's an alternative that doesn't require these 80-foot high retaining walls.

We're trying to work with CDOT and show them the feasibility of that alternative. A lot of times when we talk about how we can do better whenever there's a public improvement, we hear the acronym, NIMBY, Not in My Back Yard. Unfortunately, NIMBY oftentimes means, "Not in my back yard, in your back yard."

B

The way we can do better is, there's a solution that puts it not in my back yard, not in your back yard, but in nobody's back yard in the alignment that it's currently in.

The construction that is proposed in Alternative G Modified is going to have tremendous impact, not just on the Webb Ranch, but on this entire community. CDOT calls that construction in their internal document The Grand Dig. What they're talking about when you drive past that Bridge to Nowhere and you look at where it abuts to that hillside is an

- A. See response to Comment TRA 6A about consideration of alternatives located along the existing highway alignment. There are alternatives that do not require downhill fill walls along the existing alignment, but none have met the purpose and need. Response to Common Comment 5 provides information relative to the new alternatives.
- B. The only alternative that avoids impacts to the adjacent property owners along the highway is the No Action Alternative. All other alternatives will have impacts to property owners to varying degrees, including the newly proposed Alternative R. The Revised G Modified Alternative requires the least amount of right-of-way. Please see response to Common Comment 5, and Section 2.5.3.5 of the SFEIS.

Comments

Responses

Source:	Letter	Name:	Daniel Gregory
Document Number:	TRA 10	City, Zip Code:	Durango, 81301

C

The construction that is proposed in Alternative G Modified is going to have tremendous impact, not just on the Webb Ranch, but on this entire community. CDOT calls that construction in their internal document The Grand Dig. What they're talking about when you drive past that Bridge to Nowhere and you look at where it abuts to that hillside is an 880-foot width cut. That's 120 feet deep and extends about 1400 linear feet with a depth of 120 up to 40 feet.

That is a huge impact on that environment and the wildlife and the cost and the time and how they're going to move 1.6 million cubic yards of dirt.

Response to Comment TRA 10

- C. The amount of cut (earthwork) involved with getting US 550 from the top of Florida Mesa down to US 160 is significant regardless of the location. Three out of the four Alternative R design variations actually have more cut (earthwork) than the Revised G Modified (Preferred) Alternative. The one that doesn't have more cuts is design variation R3 which incorporates terraced walls. (For more information about quantities of excavation required for the four Alternative R design variations, please see Appendix F.) Regardless, the relative differences in the volume of earthwork associated with these or the three alternatives carried forward for detailed analysis is not substantial enough to make it a deciding factor.
- Please see the response to Common Comment 5 for more information regarding CDOT's analysis of Alternative R.
- The response to Common Comment 6 contains additional information about elements of alternatives that affect construction costs.

Comments

Responses

Source:	Letter	Name:	Daniel Gregory
Document Number:	TRA 10	City, Zip Code:	Durango, 81301

Response to Comment TRA 10

D

There is a better solution. The better solution is something that I think benefits the entire community. It saves us money. It saves us time. We'll have more money to do snowplowing on our county roads and things of that nature.

We can satisfy, with the alternatives that we're talking about, keeping it in the existing alignment, the purpose and need criteria of CDOT, as well as things like the cost, the impact to the environment, the impact to the wildlife, safety for all of us, and improved driving conditions.

E

So what I would simply ask everyone to keep in mind is, there is still an existing alignment alternative that does make sense. It does not require huge retaining walls. It can come in right where Farmington Hill is, squeezing just a little bit of the Webb Ranch away. It doesn't impact anybody

F

else, and we can accomplish the objectives that we're all looking to accomplish so we all have safe travel in this community. Thank you very much.

- D. The cost estimates for the on- or near-alignment alternatives are very similar to the off-alignment alternatives. While some were seen to be slightly higher or slightly lower than the Revised Alternative G Alternative, none of the cost differences were significant enough to make it a deciding factor between alternatives.  
 Within Colorado, CDOT maintains the interstate highway system, the US highway system and other state highways. Snowplowing county roads is the responsibility of others, not CDOT.
- E. Please see the responses to Common Comment 5 and 9 for information as to why Alternative R fails to meet the purpose and need for the US 550 south connection to US 160.
- F. As expressed in TRA 10B above, the only alternative that avoids impacts to the adjacent property owners along the highway is the No Action Alternative. All other alternatives will have impacts to property owners to varying degrees, including the newly proposed Alternative R. Please see response to Common Comment 5, and Section 2.5.3.5 of the SFEIS. Also please see response to TRA 6A, which discusses how this alternative performs with regard logistics, safety, and costs.

Comments

Responses

Source:	Transcript	Name:	Steve Winters	<b>Response to Comment TRA 11</b>  A. As detailed in Section 2.5 of the SFEIS, the on- or nearly on-alignment alternatives were eliminated based on an accumulation of factors that affected the safety of these alignments. The degree of safety deficiencies associated with these alternatives prevents them from meeting the purpose and need of the project.  B. See response to Common Comment 9. Lowering the design speed on a highway can be done within reason. AASHTO recommends that the maximum decrease in design speed be no more than 15 mph. This is because drivers do not adjust their speed unless there is a perceived change in the roadway condition (physical changes). Dropping the design speed to anything below 55 mph would present an unacceptable safety risk. The issue with reducing the design speed south of County Road 220 is that sharper horizontal curves or grades that would reduce a driver's sight distance would be needed to effectively control driver's speed. These are not safe options, and would dramatically increase the potential for accidents. US 550 will eventually be a 4-lane divided highway with flat curves and gentle grades from Aztec, NM to Durango, CO. The connection to US 160 should be consistent with this design to provide a safe traveling experience.  C. Please see response to Common Comment 9 for information concerning FHWA and AASHTO guidelines for safely lowering posted speed limits. Travel time is not part of this project's purpose and need. Safety is part of the purpose and need, and is one of CDOT's primary concerns when designing new highway facilities.
Document Number:	TRA 11	City, Zip Code:	Durango	
STEVE WINTERS, Durango, Colorado:				
<b>A</b>	Steve Winters, S-T-E-V-E, W-I-N-T-E-R-S. I have also been contacted by the Webbs. I'm a professional engineer, and I guess the thing I will be talking about specifically is the existing alignment versus the Revised Modified G with respect to safety issues.			
	The existing alignment seems to be eliminated on essentially the grade, the curvature, the super elevation. There was also the solar issues, and then there was the speed variation in the change of a 75 mile-per-hour design down to a 30- or 35-mile-per-hour design.			
<b>B</b>	The one thing I guess I would say is that if you stay within the existing alignment, you can do it and still meet AASHTO standards. It's just for a lower design speed, which would generally make any accidents in that area less severe, less loss of life, and less of an issue.			
<b>C</b>	As far as the speed variation, if you have to slow it down to get 35 down the hill, you would probably do that south of County Road 220. I think this would make that intersection much safer because you could reduce the design speed there; whereas, with their Revised Modified G, you'd have to wait until, all the way until you get to the			

Comments

Responses

Source:	Transcript	Name:	Steve Winters
Document Number:	TRA 11	City, Zip Code:	Durango

Response to Comment TRA 11

C  
 cont'd

roundabout in the Grandview intersection.  
 So you could reduce the speed on another intersection. And by reducing that and staying in the existing alignment, you actually wouldn't take any more time to get to Durango from Farmington and vice versa.

D

So I think that's something that still needs to be looked at. As far as the north-facing slopes, if you look at the existing alignment, and what one of the proposals is, it's to shave back this slope, which would greatly increase the amount of solar exposure that you guys would get.

E

And then the Revised Modified G, you're going to build in this 120-foot deep canyon that has 3-to-1 slopes, which I think -- I don't know if you guys have done it, but I think if you look at the solar exposure, it might be similar to what you have out there now.

Anyway, I appreciate you guys' time, and I hope that you will continue to have a dialogue with the Webbs and work with them as this goes forward. Thanks.

- D. CDOT agrees, flattening cut slopes along a highway increases the amount of sunlight that hits the road surface. CDOT has analyzed the solar exposure for all the alternatives in the SFEIS, and utilized this information in the safety assessment for each alignment.
- E. Regardless of the alternative selected, slopes will be flattened where practical to allow for solar exposure.



Comments

Responses

Source:	Transcript	Name:	Nancy Lauro
Document Number:	TRA 12	City, Zip Code:	Durango

Response to Comment TRA 12

NANCY LAURO, Durango, Colorado:

Nancy Lauro, L-A-U-R-O. I also work with Steve and Mike at Russell, and we have been doing some work with the Webb Family. Just a quick point I want to make and emphasize today is about, really, Appendix B of the EIS, which speaks to the independent functionality of the Grandview interchange.

And I think I've heard a couple times tonight, and I tend to hear when I'm out in the community, that "Why are you even working on this? CDOT has to connect up to those existing bridges, don't they?"

And Revised G is the only alignment that uses those existing bridges. So I think everywhere I go in the community, I hear people saying, "It's going to go through the Webb Ranch. You're going to do G because we need to use the infrastructure."

So I think the whole point of Appendix G, which the EIS does do a great job of emphasizing it is that interchange, it functions with or without connecting 550 to it. It speaks to providing a shortening of the time to the emergency room for traffic from the west, providing a second access to the Three Springs development and to the hospital.

And then it speaks to the significant amount of development in that north area that this would serve. The only two things that we might want to correct or speak to in that that are missing is, it does say that the only missing items to make the interchange fully functional for access to

- A. CDOT does not have to connect US 550 to the Grandview Interchange. On October 30, 2008, CDOT sent a memo at the request of the Federal highway Administration to justify that the Revised G Modified interchange was needed even if US 550 did not connect to it. Subsequently, FHWA accepted CDOT's justification that the interchange was needed independent of a US 550 connection to US 160 at this location. Information about this is contained in the response to Common Comment 7.
- B. CDOT agrees that the Grandview Interchange will provide better access to the hospital and development in the Three Springs area.
- C. All earthwork between Ramp B, the Round-a-bout and structures have been completed, and the interchange is fully functional and open to the public.

A

B

C

Comments

Responses

Source:	Transcript	Name:	Nancy Lauro
Document Number:	TRA 12	City, Zip Code:	Durango

Response to Comment TRA 12

D the north are completion of earth work between the structures, Ramp B and the roundabout -- those are mostly done now.

I think that the other big piece that is missing there is the construction of Wilson Gulch Drive, which would connect the roundabout and intersection over to the hospital. That's in the design work now, and not by CDOT, but by the City and County. And there might be private work or involvement in that, also.

E I think the one other thing that you might think about is that perhaps it works better independently in that when you're accessing from those properties back to the west across Bayfield to south across those bridges, what's going to have to happen if it connects with 550 is that you'll cross the bridge. There will be two lanes coming down 550 at a higher speed, and there will have to be a left turn across those two lanes to get back on the highway to the east. So that is something that should be considered in the safety analysis, I would think.

D. CDOT has been working closely with the City of Durango and La Plata County to complete an agreement for the connection of Wilson Gulch Road to the interchange. The City's goal is to request City Council approval for this connection in early 2012.

E. CDOT has analyzed the southbound left turn to Ramp B (eastbound US 160 off-ramp from the US 550 Bridge) movement for both capacity and safety, and found that it meets the capacity requirements of the project's stated purpose and need. The AM and PM levels of service in the year 2030 were estimated to be C during the morning and B during the evening peak periods of traffic flow.

CDOT has performed a safety analysis for the all of the proposed alternatives in the SFEIS (see table on the next page). The Revised G Modified alternative was found to have the lowest potential for accidents in the year 2030 for all the alternatives reviewed. It is estimated that the Revised G Modified alternative is estimated to have approximately 5.5 crashes per year with the year 2030 estimated traffic volumes. This includes an estimation of 2 crashes per year for the left turn across the two lanes of US 550 to Ramp B. The crash potential for this movement is considered low and overall the interchange is safer than the other alternatives considered.

In addition, the alignment of US 550 approaching from the south down to the interchange and the round-a-bout provides a clear line of sight. It improves the overall safety of the roadway by affording drivers a longer period to observe vehicle movements prior to approaching the round-a-bout or turning movements to Ramp B. Further, a signing plan will be developed to warn the drivers of the termination of US 550 at US 160 so that they can adjust their travel for the approaching conditions at the interchange and round-a-bout.

Comments

Responses

Source:	Transcript	Name:	Nancy Lauro
Document Number:	TRA 12	City, Zip Code:	Durango

Response to Comment TRA 12

E (cont'd)

Type of Comparison	No Action Alternative	Revised G Modified Alternative	Revised F Modified Alternative	Eastern Realignment Alternative
Estimated Intersection Crash Frequency at Year 2030 Traffic Volume	31 crashes per year	5.5 crashes per year	13.8 crashes per year	13.8 crashes per year
Relative Safety Rank	4	1	2	2
Estimated Crash Frequency on US 550 at Proposed Width (2-lane or 4-lane) and 2030 Traffic Volume	10.1 crashes per mile per year	7.5 crashes per mile per year	7.5 crashes per mile per year	7.5 crashes per mile per year
Relative Safety Rank	4	1	1	1
Estimated Crash Frequency on US 160 at Year 2030 Traffic Volume	20 crashes per mile per year	18 crashes per mile per year	22 crashes per mile per year	22 crashes per mile per year
Relative Safety Rank	2	1	3	3
Total of Relative Safety Rankings	10	3	6	6
Overall Rank for Potential Safety Benefit	4	1	2	2

Comments

Responses

Source:	Transcript	Name:	Mike Russell
Document Number:	TRA 13	City, Zip Code:	Durango, 81301

Response to Comment TRA 13

MIKE RUSSELL, 924 Main Avenue, Unit C, Durango, Colorado:

Okay. Mike Russell, R-U-S-S-E-L-L. And I'm at 924 Main Avenue, Unit C, in Durango. And I represent the Webb Family Ranch. I was brought into this early this summer to kind of, like, take a look at the alternative alignments, and Mr. Webb directed me to look at the Preferred Alignment that we're talking about tonight, along with the existing alignment.

And when I look at it on paper, it seems like, yeah, I could see as a professional engineer doing a lot of road design in the county for 17 years since I have been here, I can see why the connection on paper looks good to go across, the alignment across the Webb Ranch into the current bridges.

But when you actually go out there and walk it in the field -- I mean, as an engineer, I like to, before I ever lay a design out, I like to go out and do a site visit, walk it, and see what the impacts are. When you go out there and look, the ravines that exist across the Webb Ranch, the irrigated farmlands, the spectacular environment that it's in, and then you look at how deep that cut was going to be in order to get up from the bridge back up to the alignment up on top of the mesa, I feel like the costs that were generated in the estimated construction cost for Alignment G are, I'd say they're overstated -- or understated. And the costs for the alignment on the existing alignment are overstated.

A

A. The amount of cut (earthwork) involved with getting US 550 from the top of Florida Mesa down to US 160 is significant regardless of the location. Three out of the four Alternative R design variations actually require more cut (earthwork) than the Revised G Modified Alternative. Overall the required amount of earthwork will be the same or higher for the on-alignment alternatives than it would be for Revised G Modified Alternative. Regardless, the required cuts and costs associated with them are not a deciding factor for the selection of alternatives. Please refer to the responses for Common Comments 5 and 6 and Section 2.5.3.5 of the SFEIS for more details.

Comments

Responses

Source:	Transcript	Name:	Mike Russell
Document Number:	TRA 13	City, Zip Code:	Durango, 81301

Response to Comment TRA 13

B

I think when I looked at it in the last few weeks, particularly the last few days with new information provided by CDOT, I think there are options out there that could use the existing alignment, improve a lot of the safety issues that have been brought up tonight, cost significantly lower than was estimated in the document, and preserve a great ranch, a great piece of property that everybody can enjoy.

So with that, I would like to kind of continue the dialogue with CDOT staff. People that know me know that I like to try to find solutions. I always try to make things work. I'm trying to be practical as much as possible, and I think there are some solutions out there.

C

I think these alignments were done on paper. I know there has been some work on the environmental side, but from an engineering standpoint, I think there's a better solution out there, and I would love to be able to explore that further with CDOT staff and the community. And I'm actually faster than I thought, but I'll leave it at that. Thank you.

B. As stated by the purpose and need of the project, safety is one of the main considerations within the SFEIS. Safety considerations are critical in selecting an alternative, and have been analyzed for all alternatives within the document.

The cost estimates for the on- or near-alignment alternatives are very similar to the off-alignment alternatives. While some were seen to be slightly higher or slightly lower than the Revised G Modified Alternative, none of the cost differences were significant enough to make it a deciding factor between alternatives. Similarly, the earthwork required for Revised G Modified Alternative is very similar to that needed for the Alternative R design variations. Please refer to the responses for Common Comments 5 and 6 and Section 2.5.3.5 of the SFEIS for more details.

It is CDOT's understanding that the Webb Ranch is a private parcel that is not open for public use.

C. The alignments and catch points presented within the SFEIS were modeled using a computer, printed on paper, and physically staked and reviewed in the field. CDOT staff, past and present, have walked the alignments numerous times during the limited occasions when granted access.

CDOT has reviewed and evaluated the new alternative submitted by Mr. Webb, during the SFEIS public comment period, Alternative R. Response to Common Comment 5, Section 2.5.3.5 of the SFEIS, and the technical memorandum in Appendix F provide details of this evaluation.

Comments

Responses

Source:	Transcript	Name:	Chris Webb
Document Number:	TRA 14	City, Zip Code:	Farmington Hills, MI, 48336

CHRIS WEBB, 25146 Lyncastle Lane, Farmington Hills, Michigan:

Chris Webb, W-E-B-B. My address is 25146 Lyncastle Lane, Farmington Hills, Michigan. First of all, I would like to thank CDOT for this opportunity. I think this kind of dialogue is great, and I hope we can have more of them.

I sense a change in both economics, the community, and I think that this moment is very special for all of us.

I think it actually -- we can hold, if you will, the clock for a moment and actually reason together figuring out a win-win through a collaborative effort.

The team that we've tried to put together is dedicated, and I intend to do everything I can to make this a success for the community and one that works. We may have to sacrifice, but I think the facts are coming on the table, and that's good. Collaboration is really the answer.

I respect all the historical ranches, and I love Florida Mesa, and I love Durango. I was raised here and worked on our ranch and lived on it. I think it's time to step back and see if we can find common ground. I believe that -- I come from the Detroit area that is built on conflict. I believe finding consensus is really the answer.

Comments

Responses

Source:	Transcript	Name:	Chris Webb
Document Number:	TRA 14	City, Zip Code:	Farmington Hills, MI, 48336

Response to Comment TRA 14

A

I have to throw out a couple things that I think the community should know. I have been told by our people that there may be five more bridges if they do Modified G. That means that there will be a second Bridge to Nowhere parallel to the one that's there. This is a scary thing for me. It changes our community. We need to think about it.

B

Also, there may be additional cloverleaf construction. So there's a lot that everybody has on their plate.

Second thing is their funding realities. I heard people talking today about, let's get it done. Funding, what we heard today, might be ten years out for actual construction. So we are living with some realities here, CDOT's realities that it doesn't necessarily control, so I'm not throwing a stone at them at all.

So if we come together, continue this, we stand ready in good faith to work with CDOT and all the community to find a win-win. Thank you.

- A. The interchange is designed so that as traffic volumes increase or development occurs, additional lanes and structures can be added to accommodate those demands. This is independent from the discussion of the alternatives presented in the SFEIS. However, the existing interchange has the potential for adding two additional bridges. The US 550 leg of the Revised G Modified (Preferred) Alternative may have an additional one to three bridges. These will all be driven by traffic demand in the area.
- B. The proposed improvements have been identified as a priority for funding in the State Transportation Improvement Program (STIP), and the Southwest Transportation Planning Region (TPR) Preferred Plan. In the STIP, \$200,000 of funding is identified in 2012 for design and \$2.58 million of funding is planned for right-of-way acquisition and additional design for this project. While construction dollars have not been identified for this project, CDOT has volatile funding and new opportunities often become available for priority projects. Routinely, these projects can only qualify to receive the funds if they are capable of being constructed within a short timeframe. Therefore, the further along with right-of-way acquisition and design CDOT is with this project, the better positioned CDOT will be to receive any previously unidentified funding.

Comments

Responses

Source:	Transcript	Name:	Lynn Murison
Document Number:	TRA 15	City, Zip Code:	Durango, 81303

LYNNE MURISON, 29024 Highway 160, Durango, Colorado:

Lynne Murison, L-Y-N-N-E, M-U-R-I-S-O-N,  
 29024 Highway 160. I haven't been able to follow the other propositions, so I feel like I can only speak to the ones that have -- that are on the boards right now.

A

Two of them go essentially through my back yard, not enough that it would probably take out my house, but it would take out the air quality. It would -- I could not live there. I have asthma. There is no way I could live next to a frontage road with that kind of traffic.

B

If my house had to be sold, which it would, there is no way I could buy another house comparable with any of the rural features that I sought when I bought that house 16 years ago.

Response to Comment TRA 15

A. Section 4.5 of the SFEIS contains information about the air quality impacts of each of the three reasonable alternatives. All three alternatives would result in lowered emissions compared to existing conditions. No health effects would be anticipated.

Particulate matter less than 10 micrometers in diameter (PM<sub>10</sub> or dust) entrainment is a complex process. It essentially means that wind and tire traction along a road surface can pick up and transfer dust into the air. Sometimes, such as on a gravel road, the dust is visible as a vehicle passes. Most of the time, the dust is fine enough that once it is picked up in the air, it is carried for some distance, depending on wind speed and direction.

The Preferred Alternative (Revised G Modified) would not build a frontage road or make significant modifications at this locality. The new interchange at County Road 233 would modify the nearby mainline traffic; however, no roadway changes would be located adjacent to your property. The closest frontage road traffic for the Revised F Modified and Eastern Alignment alternatives would run within approximately 300 feet of your home. Although these alternatives bring the roadway traffic, and thus roadway generated emissions closer to the property, dispersion due to local winds and dissipation of exhaust emissions/fumes away from the roadway source would still be expected according to air quality studies addressing near road effects. Particulate matter (primarily PM<sub>10</sub>) entrained by passing vehicles on one of these alternatives' frontage road and mainline would contribute more emissions to the immediate adjacent roadway area; however, it should be noted that entrained dust from the local unpaved street where you currently live is also a PM<sub>10</sub> contributor.

B. Any property owner who has all or part of their property acquired will be eligible for compensation through Federal and State Laws. Any residential occupant or tenant is eligible for relocation benefits in accordance with federal and state law. See Section 4.3 of the SFEIS for more information regarding property acquisitions.



Comments

Responses

Source:	Transcript	Name:	Lynn Murison
Document Number:	TRA 15	City, Zip Code:	Durango, 81303

C

So anything that would keep the air quality, that would keep the amount of traffic out of our very established neighborhood would be important to me. Thanks.

Response to Comment TRA 15

C. The Revised G Modified (Preferred) Alternative should not have any impact to your neighborhood. However, selection of an alternative for implementation will not be made until the ROD, which is expected in the fall of 2012. Air quality is discussed in detail in Sections 3.5 and 4.5 of the SFEIS.

Comments

Responses

Source:	Transcript	Name:	Dana Abendroth
Document Number:	TRA 16	City, Zip Code:	Ignacio, 81137

DANA ABENDROTH, 5962 County Road 334, Ignacio, Colorado:

Hello. My name is Dana Abendroth, and I live at 5962 County Road 334 in Ignacio. First of all, I'm going to say I moved here in 2005 from Minnesota. I find some of the ways things are done out here kind of backwards.

What I really found as far as disagreeable to this is that everything I have gotten has been in the newspapers regarding this, so I can't tell you 100 percent if it's accurate.

**A**

What I'm going to say, though, is this. If planning on this started back in the 1990s, why was there -- how is it that we've gotten to this point, had a bridge built, and we haven't even gotten out of the planning stage?

Where -- how did we get to this point?

**B**

We have \$50 million sitting out there, and we're not possibly going to get it connected. Mr. Webb is trying to hold up the progress -- okay -- through processes of historic registry, et cetera. You know, I don't know what his ranch is like. I have no idea. I come -- you know, like I said, I came from Minnesota. Everybody likes their place. Everybody wants to keep it. Everybody has a price, though, as well.

Response to Comment TRA 16

- A. Please see response to Common Comment 8, which describes the process that CDOT has followed to comply with the NEPA requirements on this project.
- B. Section 3.13 of the SFEIS contains information describing the attributes of the Webb Ranch.  
  
Please see response to Common Comment 8.

Comments

Responses

Source:	Transcript	Name:	Dana Abendroth
Document Number:	TRA 16	City, Zip Code:	Ignacio, 81137

Response to Comment TRA 16

C

I'm sure that if Mr. Webb was offered the right price, he would be willing to sell it. So going on from there, if there was preliminary -- if there were discussions going on with Mr. Webb way back in 2005, from my information, why wasn't there any kind of preliminary agreements ever reached on this? If so, maybe the gas well wouldn't have been built where it was.

The other thing is this. Okay. If you have a four-step procedure, how did we get out of that four-step procedure? Continuing on from there, right now, as I said -- okay -- Mr. Webb is trying to get this put on a historic site of registry, et cetera.

D

Now what I consider is that we've got a bridge built, and now CDOT is now scrambling to find some kind of means to connect that bridge with a road. If you wanted to connect a road at Three Springs, you should have built the bridge at Three Springs along with overpasses and proper entry and exit points.

E

At this point, I think that some of the planning people in this have failed to do their jobs. I don't think we should have them in CDOT. I think that many of the people in CDOT in this region have to be, you know, ousted. I think they wasted a lot of our money. I think we have to get a petition going and have this constructed. Thank you.

- C. The NEPA process is set up so that before any formal offers of right-of-way are made, the NEPA decision has been made. Following the NEPA decision, the design process begins. As construction funds are set aside, then the right-of-way process formally begins and CDOT works with property owners to come to an agreement on a fair purchase price. It would have been premature for CDOT to make a formal offer to purchase any part of the Webb Ranch prior to the NEPA and design processes being finalized.
- D. CDOT is not scrambling to connect this bridge to a roadway as you suggest. This analysis is to determine the connection of US 550 to US 160 that causes the least harm to the overall environment (see response to Common Comment 7). CDOT was questioned in 2008 by the Federal Highway Administration as to whether this interchange/bridge was needed if US 550 did not connect to it. CDOT showed the independent need for the interchange in a response to FHWA in 2008. The development of Three Springs and the traffic generation from it will require this interchange and two additional interchanges in the future. These additional interchanges are planned for the Three Springs Boulevard connection to US 60, and SH 172 connection to US 160
- E. A planning or feasibility study is typically required for large corridors. These studies determine the needs and vision for a corridor, and begin the process for determining the best way for a planned project to comply with the National Environmental Policy Act (NEPA). Please see response to Common Comment 8.

Comments

Responses

Source:	Transcript	Name:	Robert Genualdi
Document Number:	TRA 17	City, Zip Code:	Durango, 81303

ROBERT GENUALDI, 228 Dreamy Draw, Durango, Colorado.

My name is Robert Genualdi. Last name is spelled G-E-N-U-A-L-D-I. And I'm purely addressing this document, you know, what we were asked to do today. So I mean, there's many other things that have been discussed, but I'll just keep it at that.

My address is 228 Dreamy Draw, Durango, Colorado. I'm a property owner in the Diamond G Subdivision located approximately 1 mile from the intersection of 550 and County Road 220. As a local property owner in the vicinity of the construction project, I have reviewed the EIS in support of CDOT's decision to select Revised G Modified Alternative as the Preferred Alternative.

The technical documents, conclusions, and selection of the best alternative in the EIS appear unbiased and supportable by the information provided by the authors. I commend CDOT for diligently pursuing a recommendation that has the least impacts and is the most beneficial to the community. I would further like to emphasize that there has been two thorough evaluations of this intersection, each with the same result.

Comments

Responses

Source:	Transcript	Name:	Robert Genualdi
Document Number:	TRA 17	City, Zip Code:	Durango, 81303

Response to Comment TRA 17

A

As a parent and someone who works in the community and uses the road every day, I have legitimate concerns about the safety of travel on 550. My children ride the school bus on 550 every day, and my wife and I use it to travel to work and for other trips.

This road and the successful completion of this project will impact us on a daily basis, and I would now like to impress upon the importance of moving this project forward for the safety of all travelers on 550.

B

You know, we'd really like to see this project move forward. I think all my neighbors feel the same way. We want to see this thing in whatever forms it comes out, we just want to see a conclusion. We also feel strongly that anyone impacted by this project needs to be compensated, fairly compensated.

C

One concern I have that, you know, with what people have said about moving the alternative to the existing alignment, I would much like to see that, as well. However, I do have concerns about any rerouting of 550 down County Road 220. It's very narrow. My kids and many kids get on the school bus on that road, and that would greatly impact the traffic, and that needs to be fully evaluated before any other alternatives are recommended. With that, thank you very much.

A. Safety improvements were one of the primary reasons for looking at a new US 550 connection to US 160. These improvements include increased line of site, improved clear zone, better grades, and improved geometry to name a few. CDOT investigated the accident potential of leaving US 550 in its existing 2-lane configuration relative to improving it to a 4-lane highway. The findings of the safety analysis indicated that the accident potential would be an estimated 10.1 accidents per year if US 550 is not improved to a 4-lane segment. If US 550 is improved to a 4-lane segment, the accident potential will reduce to an estimated 7.5 accidents per year which is based on CDOT accident statistics from similar roadways throughout the state.

Additional information about the existing safety problems on Farmington Hill is contained in Section 1.6.2.1, of the SFEIS.

B. All property acquisitions will follow the Uniform Relocation Act of 1970, which will ensure that the "highest and best" use of the properties affected by the selected alignment is determined, and fair compensation is provided. The selection of an alternative for implementation will not be made until the ROD, which is expected in the fall of 2012.

C. The three reasonable alternatives currently being investigated in the SFEIS would not require temporary or permanent rerouting of US 550 to County Road 220. Any alternative that would require rerouting of US 550 to County Road 220 would need to be further investigated by CDOT before being implemented.

Comments

Responses

Source:	Transcript	Name:	Sally Bellerue
Document Number:	TRA 18	City, Zip Code:	81301

SALLY BELLERUE, 72 South Hermosa Acres Drive, Durango,  
 Colorado:

I'm Sally Bellerue, 72 South Hermosa Acres Drive, Durango. I support the Revised Modified, G Modified. I'm interested in what Mr. Webb's group had to say, but I'm concerned about the way that would end up working.

A

The reason I'm supporting the G Modified is that I think it's the best plan. It affects fewer people than the other alternatives. It's a shorter distance to New Mexico for Durango residents and, of course, we know it's partially built.

B

But I have two basic concerns about shifting the alignment to the east, and that's my biggest concern, for shifting 550 to the east to come in at Three Springs light takes out existing homes and harms others with noise and air pollution.

C

The compensation and the affects of landowners whose homes would be destroyed, even though if properly compensated, would probably not allow them to invest in another home with the same rural qualities and location to town. Those remaining would have their rural way of life destroyed.

Response to Comment TRA 18

- A. Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.
- B. The response to Common Comment 4 provides information about the Eastern Realignment Alternative and why it is not being recommended as the Preferred Alternative. The Uniform Relocation Act requires fair compensation for all property owners whose property would be needed for any of the alternatives.
- C. All property acquisitions will follow the Uniform Relocation Act of 1970, which will ensure that the "highest and best" use of the properties affected by the selected alignment is determined, and fair compensation is provided. The selection of an alternative for implementation will not be made until the ROD, which is expected in the fall of 2012.

Comments

Responses

Source:	Transcript	Name:	Sally Bellerue
Document Number:	TRA 18	City, Zip Code:	81301

Response to Comment TRA 18

D

Second, if you move to the east, it's about 1-1/2 miles from the LaPosta Road towards Farmington to the light at Three Springs. So I expect that if you are considering this road, you need to evaluate and take an additional look at the EIS on their proposal.

E

Certainly more Durango residents will take the short-cut saving 3 miles on a round trip to New Mexico and causing more traffic on LaPosta than at present. This needs evaluation and notice to LaPosta residents. I, again, support the Revised G Modified and keeping the alignment close to where it is presently. Thank you.

MS. PORTER-NORTON: Okay. Did anybody sign up to speak who I didn't call? And Vanessa and folks, do we have anybody that signed up in the back? All right.

This concludes the public hearing. I really want to thank all of you. I think you were a tremendous and fabulous group tonight in respect to the ground rules quite nicely. Thanks for all your thoughtful comments.

And don't forget, there's a lot of other ways to comment -- e-mail. If you would like to talk to the stenographer directly tonight, you can do that. There are written comments, and all of that. So the forms are in the back. And the staff, if you have technical questions, will be here afterwards. So feel free to mill around and get snacks and get any questions that you have answered. So thank you, everybody.

D. It is possible that some of the travelling public may choose to utilize La Posta Road to travel to Farmington rather than travelling further east to access the proposed Grandview Interchange. Some drivers may prefer this route along La Posta Road under current conditions rather than utilizing the existing US 550 via Farmington Hill. CDOT cannot influence driver behavior or preferences; however CDOT can incorporate safety, capacity, and access standards into the State-maintained system. Under the proposed Revised G Modified Alternative, drivers wishing to travel south on US 550 will be required to travel approximately 1/2 to 1/4 mile further east than the current Farmington Hill turnoff to access the Grandview Interchange then up to US 550 south. The proposed Revised G Modified Alternative requires some out of direction travel over current conditions, but does so with an increased factor of safety, capacity and access control over La Posta Road or the current Farmington Hill, particularly under future traffic scenarios. The SFEIS addresses future traffic projections to the year 2030 and during that time other road improvement may be made by the City and County which will influence driver behavior and preferences. If La Posta Road becomes heavily utilized based on the development of the Preferred Alternative, drivers and planning officials will respond accordingly.

E. See Response D above.

Comments

Responses

Source:	Transcript	Name:	Laura Stransky	Response to Comment TRA 19
Document Number:	TRA 19	City, Zip Code:	Durango, 81301	
<p><u>LAURA STRANSKY, 533 County Road 219, Durango, Colorado:</u></p> <p>Laura, L-A-U-R-A, Stransky, S-T-R-A-N-S-K-Y.</p> <p>I live at 533 County Road 219, Durango. In response to the safety issues on existing Farmington Hill, we have lived on County Road 219 and travel Farmington Hill every day for 30 years -- 33 years, and our kids rode the school bus, and we have never had a problem.</p> <p>The highway department kept it very safe, kept it always clear, kept it sanded tremendously when it's icy. It's not a problem. So just in response to the person with the concern about safety issues that's only lived here a few years, I wanted to say that. I would support the existing alignment. I think it can be done technologically. Thank you very much.</p>				<p>Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.</p>



Comments

Responses

Source:	Transcript	Name:	Christi Zeller
Document Number:	TRA 20	City, Zip Code:	Not provided
<b>A</b>	<p><u>CHRISTI ZELLER, address not given:</u></p> <p>Christi Zeller, C-H-R-I-S-T-I, Z-E-L-L-E-R. I'm with the La Plata County Energy Council, and I have concerns regarding natural gas wells that were put in place prior to the Record of Decision. Regardless of physically seeing them on the lands, they are of public record in the La Plata County courthouse. They are of public record in the Colorado Oil and Gas Conservation Commission, and although we don't have a statement of preference, we do need to make sure that the outreach includes the natural gas industry, which has not happened, except for one operator. There are multiple pipelines. There are multiple operators that need connective discussion with CDOT staff, and I am making myself available to get that connection made.</p>		
	<p>One of our issues is setbacks, the encroachment on any highway closer to a well that would prevent additional wells that have been approved by the State of Colorado to be spaced at 80 acres or 160. We need that setback to have some sort of an overlay map that we can identify to see how much impact we have in addition to access, the ability to access our wells no matter where the highway goes. Thank you.</p>		
<b>B</b>	<p><b>Response to Comment TRA 20</b></p> <p>A. CDOT contacted BP Production Company in 2011 to discuss potential impacts and conflicts with their oil and gas operations. During these discussions with BP, CDOT specifically asked if there were any other production companies that could be impacted by the potential interchange alternatives. BP noted that there were no other companies other than Chevron Oil to the north of US 160 that could be impacted. Based upon their knowledge and explanation of oil and gas leases in the area, and the large lease area they currently have, CDOT did not find a need to contact any other companies as a part of this analysis. The discussion included the potential impact to Chevron if that could result from further impacts to the north of US 160. CDOT is aware of the Chevron Well north of the Revised G Modified alternative (Grandview Interchange), and no additional impact north of the interchange is anticipated for this alternative.</p> <p>B. The Oil and Gas industry is not exempt from the State of Colorado Highway Access Code. Any access to a property or gas facility directly from a highway must have an approved highway access permit for that access. This cannot be addressed within this document, and requests for highway access should be submitted to CDOT on a case by case basis. CDOT has worked very effectively with numerous gas companies over the years to provide reasonable access to gas wells while still ensuring the overall safety of the highway for all users of the system. This will continue to be CDOT's number one goal through proper administration of the State Highway Access Code.</p>		

Comments

Responses

Source:	Transcript	Name:	Christi Zeller
Document Number:	TRA 20	City, Zip Code:	Not provided

Response to Comment TRA 20

B (cont'd)

Even though a gas company may have approval to develop a well by the COGC and La Plata County, this does not exempt the company from contacting CDOT and applying for an access permit to gain access from the highway to reach the down hole location for a well. CDOT must consider the production companies right to access for a well location, but access to a well shall be in accordance to the State Highway Access Code.

CDOT's design will accommodate access to natural gas facilities without requiring companies to negotiate alternate right-of-way requirements. The Preferred Alternative provides right-in/right-out access to the Webb-Reeder Gas Unit A2 production facility. Other alternatives will similarly accommodate production facility access. Natural gas pipelines and other utility issues will be addressed during final design of alternatives as funding allows. CDOT is responsible for costs associated with utility conflicts except in instances where utilities are placed within existing CDOT right-of-way.

During final design, CDOT will attempt to refine the alignments in order to comply with any applicable setback requirements. If design shifts cannot meet the setback requirements, CDOT will work with the projection companies to file for variances from setback requirements.

Comments

Responses

Source:	Transcript	Name:	Margaret Hjermstad	<b>Response to Comment TRA 21</b>  Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.
Document Number:	TRA 21	City, Zip Code:	Durango, 81303	
<p><u>MARGARET HJERMSTAD, 1102 County Road 220, Durango, Colorado.</u></p> <p>I just would, you know, voice my support of CDOT's decision. I don't think it's ideal, but it seems to be the most logical decision and has the least impact to the environment and social concerns. It isn't the cheapest, but it is -- I mean -- let's see. I said that wrong.</p> <p>It's not the cheapest, but it is the most -- it is cheaper than going with the Eastern alignment. And that's essentially, I guess, what I wanted to say.</p>				



## Comments from Individuals and Groups



Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	<b>John Hopkins</b>
<b>Document Number:</b>	<b>IND 1</b>	<b>City, Zip Code:</b>	<b>Durango, 81303</b>
<b>From:</b>	Elfdurango@aol.com		
<b>Sent:</b>	Monday, October 24, 2011 11:23 AM		
<b>To:</b>	Shanks, Nancy; Taylor, Sandra		
<b>Subject:</b>	US 550 at US 160 Comments		

**A** | My family and I have lived on Florida Mesa for 20 years and use Farmington Hill and CR 220 for round trips 2 to 4 times a day. I am very familiar with all the properties and I would like to see an alignment finalized ASAP because I consider Farmington Hill a dangerous road to drive, especially in the winter. Traffic volume has increased significantly over the last 20 years and I have seen significant accidents over the years.

**B** | I have a Ph.D. in Environmental Science and Engineering and have participated in developing many environmental assessments and EIS's over my 40 year career. I just reviewed the Supplemental EIS and I agree with its findings that Revised G Modified has the least impact both environmentally and economically. I think CDOT did a good job in preparing the document.

**C** | Highway 550 needs to be widened no matter what the alignment. I am glad to see that CDOT is fencing the area just south of CR 302 and I hope they will do so for any new alignment. The deer population has exploded on the mesa and has resulted in more and more car accidents. I think that the Craig Limousin Ranch would be affected by most realignments based on the need to widen CR 550.

**D** | Revised G Modified would have the least effect on mesa residents who use CR 220 to go south. This realignment route also would have the least environmental damage and visual impact if trees were planted in the right locations. The mesa is a natural pinon-juniper area and would be revegetated without irrigation over time. The last severe elk winter I saw was around 1992/1993 and the elk I saw were living around barns on CR 301. I don't think the loss of some territory would affect them. They are smart and would just migrate further south on the mesa.

**E** | I realize that historic ranches should be preserved but the Webb property can still be used for cattle grazing. If any archaeological sites are encountered, they can be moved. I have seen this done in many parts of New Mexico and Texas.

**F** | A major issue to me is cost. Revised G Modified is one of the two alternatives that is significantly less expensive to the taxpayer and in these economic times, less is much better.

Please let me know if you have any questions.

John Hopkins  
 2111 County Road 301  
 Durango, CO 81303  
 970-769-5266

**Response to Comment IND 1**

A. Safety is a key aspect of project purpose and need. The safety issues on US 550 from CR 220 to US 160 are summarized and updated for the SFEIS. The updated information for US 550 and US 160 near Farmington Hill confirms that the same safety issues and trends have continued to occur over the last few years (2005 to 2009) as were the case between 1996 and 2001.

Section 1.6.2.1 of the SFEIS describes the safety problems in the Farmington Hill area: The roadway is cut into the side of the Farmington Hill hillside and follows the sharp horizontal curves of the hillside at a steep grade, rising over 200 feet in approximately 0.66 mile. There are minimal shoulders of two feet or less. The traversable ground surface outside the roadway is as narrow as five feet or less in many places, and only one-third of the roadway section has guardrail, leaving little room for driver error or emergency stops. Outside the traversable area, the hillside both above and below the roadway is steep: approximately 34 degrees (the hillside slope either drops or rises one foot vertically for every three feet of horizontal movement off the edge of pavement). The bottom toe of the hillside below the roadway ranges from 46 to 290 feet below the roadway. The existing roadway runs primarily along the north-facing slope of the hillside, this location of the road surface receives less direct sunlight and is prone to icing in the winter. The steep hillside above the roadway is comprised of decomposed shale overlain by sandy cobbles and boulders, which are prone to falling/erosion onto the roadway surface, creating hazards for drivers. Because of the sharp horizontal curves, driver visibility along the road is short—as little as 100 feet at some locations; hence, at 30-miles per hour (mph), the posted travel speed, drivers have only 2 seconds to react to roadway hazards.

Comments

Responses

Source:	E-mail	Name:	John Hopkins
Document Number:	IND 1	City, Zip Code:	Durango, 81303

Response to Comment IND 1

A (cont'd)

The roadway conditions are factors in the type and severity of crashes occurring on US 550 [see Figure 1 6 (a and b), US 550 Weighted Accident Concentration Graph of the SDEIS]. Figure 1 6 (a and b) of the SDEIS indicates that 38.9 percent of the crashes on US 550 between MP 14 and MP 16.56 were on the steep winding decent to the Farmington Hill intersection (MP 15.8 to MP 16.56) 91 percent of the crashes on the US 550 decent to the intersection are related to the steep winding roadway, icing conditions, and roadway obstructions that contribute to drivers losing control of their vehicles. If drivers lose control, the narrow shoulders, lack of guardrails, and steep embankments make it difficult for them to regain control once their vehicles leave the roadway. Figure 1 6 (a and b) also indicates a spike of crashes that occur around MP 14.2. Specific analysis of this location found that 9 of the 11 crashes recorded in the last five years were wildlife collisions.

B. Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.

Copy of Comment B

**B**

I have a Ph.D. in Environmental Science and Engineering and have participated in developing many environmental assessments and EIS's over my 40 year career. I just reviewed the Supplemental EIS and I agree with its findings that Revised G Modified has the least impact both environmentally and economically. I think CDOT did a good job in preparing the document.



Comments

Responses

Source:	E-mail	Name:	John Hopkins
Document Number:	IND 1	City, Zip Code:	Durango, 81303

Copy of Comments C, D

**C** Highway 550 needs to be widened no matter what the alignment. I am glad to see that CDOT is fencing the area just south of CR 302 and I hope they will do so for any new alignment. The deer population has exploded on the mesa and has resulted in more and more car accidents. I think that the Craig Limousin Ranch would be affected by most realignments based on the need to widen CR 550.

**D** Revised G Modified would have the least effect on mesa residents who use CR 220 to go south. This realignment route also would have the least environmental damage and visual impact if trees were planted in the right locations. The mesa is a natural pinon-juniper area and would be revegetated without irrigation over time. The last severe elk winter I saw was around 1992/1993 and the elk I saw were living around barns on CR 301. I don't think the loss of some territory would affect them. They are smart and would just migrate further south on the mesa.

Response to Comment IND 1

- C. The NEPA process for widening of US 550 to four lanes was completed in 2005 and documented in an EA and portions of the alignment have already been widened. Wildlife fencing is being proposed at locations where there are high wildlife/traffic conflicts. (See Section 4.11.6 of the SFEIS for more details.) Yes, the Craig Limousin Ranch is affected by all three reasonable alternatives which have been evaluated in the SFEIS for the US 550 South Connection to US 160.
- D. Revised G Modified (Preferred) Alternative would be a more direct route than either Revised F Modified Alternative or the Eastern Realignment Alternative for those travelers wishing to go south. As discussed in Section 4.16, all three alternatives would result in a major new visual element in a landscape that appears mostly natural. Information about impacts to trees and revegetation plans are contained in Section 4.9 of the SFEIS. Through coordination with the CPW, an area within the Preferred Alternative was identified as an important winter concentration area for elk and winter range for deer. Currently, CDOT's mitigation efforts are focused on providing connectivity for wildlife across state transportation systems while at the same time addressing safety for the travelling public. These efforts to mitigate include wildlife fencing combined with wildlife underpasses and wildlife detection equipment. On the US 160/550 connection, two wildlife underpasses are included to allow east and west movements across the proposed realigned highway. These wildlife underpasses are shown in the US 160 EIS and final locations and configurations will be determined through coordination with the CDPW. The existing bridge over Wilson Gulch, at the base of Farmington Hill, is also identified as a wildlife underpass to allow connectivity to the lower Animas River.

Comments

Responses

Source:	E-mail	Name:	John Hopkins
Document Number:	IND 1	City, Zip Code:	Durango, 81303

Copy of Comments E, F

<b>E</b>	I realize that historic ranches should be preserved but the Webb property can still be used for cattle grazing. If any archaeological sites are encountered, they can be moved. I have seen this done in many parts of New Mexico and Texas.
<b>F</b>	A major issue to me is cost. Revised G Modified is one of the two alternatives that is significantly less expensive to the taxpayer and in these economic times, less is much better.

Response to Comment IND 1

- E. Revised G Modified would directly affect 41.5 acres of land from the 515 acre Webb Ranch. There are substantial portions of the Ranch that would still be available for ranching activities.  
  
At such time as one or more of the National Register of Historic Places-eligible archaeological sites is in danger from earth moving activities, an Archaeological Data Recovery Plan will be completed which will define the procedures and protocol for excavations. This will assure that no important cultural resource data will be lost.
- F. Revised G Modified is projected to cost approximately \$79.68 million. This compares to a projected cost of \$78.39 million for Revised F Modified Alternative and \$92.75 million for the Eastern Realignment Alternative.

Comments

Responses

Source:	Letter	Name:	C&J Gravel Products
Document Number:	IND 2	City, Zip Code:	Durango, 81301

U.S. 550 South Connection to U.S. 160  
 Supplemental Draft EIS (SDEIS)  
 October 26, 2011  
 C&J Gravel Products, Inc.

COMMENTS

The Executive Summary correctly identifies the preferred alternative "Revised G Modified Alternative" as the alignment with the least impact and the most advantageous to the public. The impacts from this alternative clearly identify it as the one CDOT should proceed with. The continual study and revision of data that has been available since the ROD was signed in 2006 only serves to postpone the project. The ROD was created and signed for the U.S. Highway 160 from Durango to Bayfield Environmental Impact Statement.


The "No Action Alternative" isn't a realistic alternative since studies have shown the tremendous need for the improvement of this section of highway. The completion of the proposed project at the earliest date will serve the greatest number of people, minimize impacts, allow for impact mitigation, and provide for the safety of the traveling public.

The SDEIS evaluation of the current environment and the impacts on each resource reaffirms CDOT's decision to identify the preferred alternative and proceed with this project. The mitigation measures proposed in the document are adequate to protect resources and allow for the construction of this project with limited impacts. The impacts to all resources are minimized by the selection of the preferred alternative.

The impacts to private landowners are minimized with the preferred alternative—it isn't the least expensive alternative, but it is by far the most advantageous to the greater number of people and ranches. There will be impacts no matter what alternative is selected. The socio-economic impacts to the public, from the preferred alternative, have the least impact to the fewest number of people.

Public safety along this stretch of highway is a major consideration adjacent to the current intersection at U.S. 550/U.S. 160. The volume of traffic will only increase as Three Springs is developed and the number of commuters from Bayfield increases. The delay of this construction along the preferred alternative only serves to endanger the public.

We support CDOT's decision to select the "Revised G Modified Alternative" as the preferred alternative in this difficult matter. The analysis of impacts on all resources and the excellent work in the preparation of this SDEIS are commendable. The document is technically and factually correct. The scientific information and interpretation is accurate. Overall the SDEIS appears to be an unbiased attempt to determine the best alternative for the proposed action.

  
 C&J GRAVEL PRODUCTS

Response to Comment IND 2

Comment noted.

Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.

The response to Common Comment 8 provides information describing the activities that CDOT has been proceeding with to finalize the NEPA process.

The SFEIS evaluates the No Action Alternative because the Council on Environmental Quality regulations require a lead agency to do so, to serve as a baseline for the evaluation of environmental impacts.

No business or residential relocations would be required for Revised G Modified, thus minimizing its impact to private landowners. The other two build alternatives both require business and residential relocations. Acres of right-of-way needed are less with Revised G Modified than with the other alternatives

Section 1.6.2 of the SFEIS discusses the safety issues associated with the increasing volume of traffic as Three Springs is developed.

Comments

Responses

Source:	Letter	Name:	Kenneth Young	<b>Response to Comment IND 3</b>
Document Number:	IND 3	City, Zip Code:	Bayfield, 81122	
<p>Kenneth Young                  P.O. Box 16                  Bayfield, CO, 81122</p> <p>October 29, 2011</p> <p>CDOT                  Durango, CO</p> <p>RE: SDEIS U.S. 550 South Connection to U.S. 160</p> <p><b>A</b> CDOT did a commendable job in complying with NEPA in relation to the above referenced project. The identification of alternatives, including the preferred alternative and no action alternative, demonstrates the agency's effort to comply with the law. The evaluation of resources, along with the impacts and mitigation, complies with the law and reflects an honest effort to describe the existing environment, potential impacts, and mitigation. The conclusion reached through the NEPA process clearly identifies the preferred alternative as the best possible alternative.</p> <p><b>B</b> The NEPA process allows the public to review the document and determine if CDOT evaluated this project without bias. The agency has a preferred alternative and the evaluation of each resource and potential impacts allows CDOT to justify their proposed actions. The evaluation of the information collected for this document reflects the professional and scientific analysis of large quantities of data. The conclusions are supported by the data and the document clearly shows that CDOT is in compliance with NEPA and they should proceed with their project.</p> <p><b>C</b> There is nothing unique or special about the property this project will affect other than it is owned by individuals who can afford an attorney. Thank goodness all the roads in this county, state, and country didn't have to go through property with owners like these or we would all still be riding horses down narrow unimproved trails. Nobody likes to have a public project interrupt their life, property, or livelihood, but thankfully enough individuals recognize these projects are for the benefit of the community.</p> <p><b>D</b> The continued objection of this project serves nobody but the attorneys that have figured out how to get money from the public by dragging these actions out as long as possible. The road is going to be built exactly like CDOT has proposed; it may be next year or in 10 years, but it will be built. Meantime the constructions costs continue to increase and the only ones to make any money will be the attorneys that have no personal stake in the project. We have a perfect example right here in LaPlata County: the Animas LaPlata projects was proposed over 30 years ago and was finally completed last year. The cost to build this water project escalated from an initial couple of million dollars to hundreds of millions. The project was constructed pretty much the way it was originally proposed.</p>				<p>A. Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.</p> <p>B. Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.</p> <p>C. Right-of-way for the Preferred Alternative is needed from several properties. Two of these are properties that have been determined eligible for inclusion on the National Register of Historic Places (the Webb Ranch and the Craig Limousin Ranch). Because of this special status, these properties are subject to requirements of the National Historic Preservation Act and Section 4(f) of the DOT Act. The SFEIS describes how the requirements of these two laws have affected the decision making process.</p> <p>D. Anticipated construction costs associated with large public works projects typically increase over time. For the US 550 South Connection to US 160 project, the estimated cost is \$79.68 million in 2011 dollars. A three percent per year inflation rate is included in all cost estimates.</p>

Comments

Responses

<b>Source:</b>	Letter	<b>Name:</b>	Kenneth Young	<b>Response to Comment IND 3</b>
<b>Document Number:</b>	IND 3	<b>City, Zip Code:</b>	Bayfield, 81122	
<p>I'm thankful for the opportunity to express my comments in this matter, but I'm more thankful for a number of things.</p> <p><b>E</b> First, that the majority of the railroads, power lines, pipelines, and roads were constructed in this country before NEPA. If the environmental movement would have been here during the Homestead Act none of these farms would have been here, this would all still be Indian land.</p> <p><b>F</b> Second, I am grateful that others were not selfish when it came to public work projects, thus allowing the progress we have today with the highway system we have. My ancestors were an example of this. When the school district came to my great-grandfather for property to build a school in his town, he donated it, not because he was rich or could afford to but because it was right and because it was for the benefit of the community. I'm proud of those who went before who had the vision of helping their fellowman and progress.</p> <p>Finally, I am thankful that we have the right to oppose the government when we think their decision is wrong or that it will adversely affect us. Thank God for America and our freedom.</p>				<p>E. Comment noted.</p> <p>F. Comment noted.</p>

Comments

Responses

Source:	E-mail	Name:	Christi Zeller
Document Number:	IND 4	City, Zip Code:	Durango, 81303

**From:** Christi Zeller [<mailto:czeller@gobrainstorm.net>]  
**Sent:** Monday, October 31, 2011 10:31 AM  
**To:** Shanks, Nancy  
**Subject:** Another question

I was reviewing the 550/160 document and correspondence. I did not see our email within the documentation. After the Economic Alliance flier I contacted you regarding natural gas wells. Is that correspondence a part of the EIS?

Christi Zeller  
 Executive Director  
 La Plata County Energy Council  
 970-259-1301

Response to Comment IND 4

See response to TRA 20 and IND 40 for responses to Ms. Zeller's concerns about natural gas wells, including her question about what correspondence is a part of the SFEIS.

Comments

Responses

Source:	Comment Form	Name:	Peg Ochsenreiter
Document Number:	IND 5	City, Zip Code:	Durango, 81303



OPEN HOUSE AND PUBLIC HEARING  
 November 2, 2011

US 550 South Connection to US 160  
 Supplemental Draft Environmental Impact Statement  
 Colorado Project FC-NH (CX) 160-2 (048)

PUBLIC COMMENT FORM

Your comments and/or suggestions for the public record are encouraged regarding this Supplemental Draft Environmental Impact Statement. Please turn in the sheet at the public hearing, or you may mail it before November 28, 2011, to the following address: Colorado Department of Transportation, 3803 North Main Avenue, Suite 300, Durango, CO 81301, ATTN: Sandra Taylor (or fax to: 970-385-1410).

Revised G. Purple is the  
 least impact to property owners  
 and homes and historic ranches.  
 It is the most logical!!

NAME: Peg Ochsenreiter  
 ADDRESS: 3710 CR 232 Durango  
 REPRESENTING: myself and my family

Response to Comment IND 5

Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.



Comments

Responses

Source:	Comment Form	Name:	Michelle Gilleland
Document Number:	IND 6	City, Zip Code:	Durango, 81303



OPEN HOUSE AND PUBLIC HEARING  
 November 2, 2011

US 550 South Connection to US 160  
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PUBLIC COMMENT FORM

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We love in the Eastern Alignment. It would be wonderful if, as you move to use the "G Modified" or some form of it, if you could eliminate the other alignments. The financial impact to our family has been substantial - not to mention the fact that we LOVE our HOME!! Thanks

NAME: Michelle Gilleland  
 ADDRESS: 630 Dreamy Draw  
 REPRESENTING: Self

Response to Comment IND 6

As noted in the response to Common Comment 4, the Eastern Realignment Alternative is not the Preferred Alternative, but no final decision will be made until a Record of Decision is signed in the summer of or fall of 2012. The response to Common Comment 3 contains information about why CDOT considers the Revised G Modified Alternative to be the preferred alternative. CDOT acknowledges the financial impact NEPA processes have on individual property owners and is working diligently to complete this process, to address the uncertainties associated with alignment choices.



Comments

Responses

Source:	Comment Form	Name:	Greg and Lanae Mann
Document Number:	IND 7	City, Zip Code:	Durango, 81303

Response to Comment IND 7

Please see response to Comment IND 5.

OPEN HOUSE AND PUBLIC HEARING  
 November 2, 2011

US 550 South Connection to US 160  
 Supplemental Draft Environmental Impact Statement

PUBLIC COMMENT FORM

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We have land off of CR 220. Our land is situated on Dreamy Draw (about 10 acres) when we bought our land it was our dream location. Somewhere we'd raise our children, have a garden, plant an orchard. Later, retire and enjoy our posterity as the years go by. There are other families on Dreamy Draw that we know and care about very much. They have the same goals and dreams that we have.

A highway through Dreamy Draw would be detriable to say the least. No one wants a large highway going through their living room (the Gillelands) For our property it would be right outside our front door when if we could build our home. The highway proposal routing through this area would altar our future greatly. Please do not let this go through.

NAME: Greg and Lance Mann  
 ADDRESS: 573 Florida Meadows Lane, Durango, CO. 81303  
 REPRESENTING: self

400 Dreamy Draw.

Comments

Responses

Source:	Comment Form	Name:	Eric Hjermstad
Document Number:	IND 8	City, Zip Code:	Durango, 81303

Response to Comment IND 8

Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.

OPEN HOUSE AND PUBLIC HEARING  
 November 2, 2011

US 550 South Connection to US 160  
 Supplemental Draft Environmental Impact Statement  
 Colorado Project FC-NH (CX) 160-2 (048)

PUBLIC COMMENT FORM

Your comments and/or suggestions for the public record are encouraged regarding this Supplemental Draft Environmental Impact Statement. Please turn in the sheet at the public hearing, or you may mail it before November 28, 2011, to the following address: Colorado Department of Transportation, 3803 North Main Avenue, Suite 300, Durango, CO 81301, ATTN: Sandra Taylor (or fax to: 970-385-1410).

*My family would like to support the Modified G  
 S50 Allignment. Modified G poses the least impact  
 on properties & people on the mesa.*

NAME: *Eric Hjermstad*  
 ADDRESS: *311 Dreamy Draw*  
 REPRESENTING: *Hjermstads*

Comments

Responses

Source:	Comment Form	Name:	S. Kawell
Document Number:	IND 9	City, Zip Code:	Durango, 81303

Response to Comment IND 9

Please see response to Comment IND 5.

OPEN HOUSE AND PUBLIC HEARING  
 November 2, 2011

US 550 South Connection to US 160  
 Supplemental Draft Environmental Impact Statement  
 Colorado Project FC-NH (CX) 160-2 (048)

PUBLIC COMMENT FORM

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I do Not support the Eastern  
 Realignment, it effects too  
 many land owners and property  
 values.

Please remove this alternative  
 from your consideration.

Thank you,

NAME: Skawell  
 ADDRESS: 310 Craig Lane  
 REPRESENTING: Self

Comments

Responses

Source:	E-mail	Name:	William and Jill Tripp
Document Number:	IND 10	City, Zip Code:	Durango, 81303

**From:** WCMS Notify  
**Sent:** Wednesday, November 02, 2011 1:25 PM  
**To:** Taylor, Sandra  
**Cc:** Shanks, Nancy  
**Subject:** US 550/US 160 Supplemental Draft EIS Comments

First Name  
 William and Jill  
 Last Name  
 Tripp  
 Representing  
 affected landowners  
 Address, City, Zip  
 29010 Highway 160  
 Durango, CO 81303  
 Your E-Mail Address  
[trippwh@frontier.net](mailto:trippwh@frontier.net)

Comments  
 We are writing to voice our support for Alternative G Modified as it appears to have the least impact on several important criteria, as noted in the Supplemental EIS. This alternative would affect fewer individual home owners due to fewer relocations, less noise and fewer visual impacts. It is safer and could handle more capacity, and has an already existing workable interchange with Highway 160. This route would have a lesser impact on irrigated farmlands and wetlands which are important to recharging groundwater levels for domestic wells.

Response to Comment IND 10

Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.

Comments

Responses

Source:	E-mail	Name:	Bernard Heath
Document Number:	IND 11	City, Zip Code:	Durango, 81303
<p><b>From:</b> <a href="mailto:WCMS_Notify@dot.state.co.us">WCMS_Notify@dot.state.co.us</a> [<a href="mailto:WCMS_Notify@dot.state.co.us">mailto:WCMS_Notify@dot.state.co.us</a>]</p> <p><b>Sent:</b> Monday, November 07, 2011 4:15 PM</p> <p><b>To:</b> Taylor, Sandra</p> <p><b>Cc:</b> Shanks, Nancy</p> <p><b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name Bernard</p> <p>Last Name Heath</p> <p>Representing Axis Health System</p> <p>Address, City, Zip 281 Sawyer Drive, Durango, CO 81303</p> <p>Your E-Mail Address <a href="mailto:bheath@axishealthsystem.org">bheath@axishealthsystem.org</a></p> <p>Comments</p> <p>Axis Health System has a facility on the hospital campus at Grandview. We have plans to expand and to bring a fully integrated healthcare system (primary care, behavioral health and wellness) to La Plata County but cannot do so until a second means of access/egress is brought to Grandview via Wilson Gulch Rd. Not only do limited ADTs at the sole entrance constrain our growth, but the growth of the Hospital and supporting offices and businesses as well, possible only with a second means of access/egress. The single route into and out of the hospital also poses a danger should there be an event that would close both lanes. Though unlikely, it is not impossible and could result, if poorly timed, in delayed emergency care or even death.</p> <p>I attended the hearing at Escalante Middle School and staff present were most helpful in describing the preferred and two alternative routes for the restructured connection between 160 and 550. The preferred option, with 550 joining 160 at the newly constructed bridge, appears far preferable to us as it is most simple and straight forward in its design and does not result in a complicated connection at the sole entrance to Grandview. While CDOT is extraordinarily sensitive to land owners, no matter what plan is approved there will be land owner objections. This preferred route has been thoroughly analyzed, well planned and I encourage CDOT to make it their final choice. The completion of the 550/160 connection will support economic development in the Three Springs area, manage the growth in traffic in the area we are already seeing, and most importantly will save lives by its design.</p> <p>Thank you for the opportunity to offer my comments and our organization's input.</p> <p>Bern Heath, Ph.D.                  CEO, Axis Health System</p>			

A

B

<p><b>Response to Comment IND 11</b></p> <p>A. As noted in the response to Common Comment 7, the completion of the US 550 and US 160 interchange will improve access to the Axis Health System Complex, which is within the Three Springs area.</p> <p>B. Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.</p>
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Comments

Responses

Source:	Comment Form	Name:	Mary Oswald
Document Number:	IND 12	City, Zip Code:	Durango, 81301

Response to Comment IND 12

DEPARTMENT OF TRANSPORTATION

**OPEN HOUSE AND PUBLIC HEARING**  
November 2, 2011

**US 550 South Connection to US 160**  
**Supplemental Draft Environmental Impact Statement**  
Colorado Project FC-NH (CX) 160-2 (048)

**PUBLIC COMMENT FORM**

Your comments and/or suggestions for the public record are encouraged regarding this Supplemental Draft Environmental Impact Statement. Please turn in the sheet at the public hearing, or you may mail it before November 28, 2011, to the following address: Colorado Department of Transportation, 3803 North Main Avenue, Suite 300, Durango, CO 81301, ATTN: Sandra Taylor (or fax to: 970-385-1410).

**A** *I arrived late to the mtg, so would like my comments noted:  
 Thank you for your inclusion of multi-modal considerations into your planning. It is so important that the new interchange between 550 & 160 include bike/ped access. It is exciting to think of finishing SMART 160. The abandoned section of Hwy 550 should be made into a bike route/path.*

*Thank you!*

**B** *PS I can't help but think of the line "if you build it they will come" from Field of Dreams. So many people are chomping at the bit to ride bikes to 3 Spgs but are presently holding off, as the highway is too dangerous.*

NAME: *Mary Oswald*  
 ADDRESS: *585 E 31st St Durango*  
 REPRESENTING: *Bicycle Friendly Durango*

- A. Comment noted. As discussed in Comment Response LO1, CDOT has adopted the Bike and Pedestrian Procedural Directive 1602.1 which directs CDOT staff on the importance of accommodating all forms of transportation and the development of a true multi-modal transportation system. This Procedural Directive will be implemented and utilized during final design to ensure that multi-modal concerns are addressed by the alternative selected within the SFEIS. As stated in Table 4-14 Summary of Mitigation Measures under Visual Resources, CDOT has committed to obliteration of the existing US 550 (i.e. Farmington Hill) between US 160 and CR 220 under the Preferred Alternative. The existing roadway would be revegetated with native species vegetation including trees and shrubs. CDOT will consider agreements with third party entities to develop a multi-modal trail system within the right of way along the former US 550 alignment as demand, funding, and opportunity arises.
- B. Yes, shoulders are included in all the designs to bring the roadway up to current standards that could be used by cyclists to access the Three Springs Development. CDOT is also working closely with the City of Durango to accommodate future connections to shared use paths in the Grandview area.

Comments

Responses

Source:	Comment Form	Name:	Phil Craig
Document Number:	IND 13	City, Zip Code:	Durango,

DEPARTMENT OF TRANSPORTATION  
**OPEN HOUSE AND PUBLIC HEARING**  
 November 2, 2011

**US 550 South Connection to US 160**  
**Supplemental Draft Environmental Impact Statement**  
 Colorado Project FC-NH (CX) 160-2 (048)

PUBLIC COMMENT FORM

Your comments and/or suggestions for the public record are encouraged regarding this Supplemental Draft Environmental Impact Statement. Please turn in the sheet at the public hearing, or you may mail it before November 28, 2011, to the following address: Colorado Department of Transportation, 3803 North Main Avenue, Suite 300, Durango, CO 81301, ATTN: Sandra Taylor (or fax to: 970-385-1410).

*The owners of the Craig Ranch support the modified G alternative as it does the least damage to the ranch. If a route through the Webb ranch could be found that would make it more acceptable to the Webbs, we would support that as well. We do feel however, that the route must connect to the bridge to nowhere, so that it is not a total waste of money.*

NAME: Phil Craig  
 ADDRESS: 9361 Hwy 550, Durango, CO 81303  
 REPRESENTING: \_\_\_\_\_

Response to Comment IND 13

Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative. The response to Common Comment 7 includes information about the functionality of the Grandview Interchange even if no connection is made to a reconstructed US 550.

RECEIVED BY:  
 NOV 08 2011  
 PROGRAM ENG.

Comments

Responses

Source:	E-mail	Name:	Ed Lehner
Document Number:	IND 14	City, Zip Code:	Durango, 81303
<p><b>From:</b> <a href="mailto:WCMS_Notify@dot.state.co.us">WCMS_Notify@dot.state.co.us</a> [<a href="mailto:WCMS_Notify@dot.state.co.us">mailto:WCMS_Notify@dot.state.co.us</a>]</p> <p><b>Sent:</b> Wednesday, November 09, 2011 11:48 AM</p> <p><b>To:</b> Taylor, Sandra</p> <p><b>Cc:</b> Shanks, Nancy</p> <p><b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name Ed</p> <p>Last Name Lehner</p> <p>Representing self</p> <p>Address, City, Zip 63 Terra Lane Durango, CO 81303</p> <p>Your E-Mail Address <a href="mailto:elehner@frontier.net">elehner@frontier.net</a></p> <p>Comments</p> <p>In regards to the proposed new intersections of Hwy. 550 and Hwy. 160, it seems to be a no brainer that you would do your level best to hook Hwy. 550 into the new 45 million dollar interchange that is now in place and is presently totally useless. That is what the interchange was intended for. It would be wise to work out your issues with Mr. Webb and reach a mutually agreeable solution to using his land for the 550 reroute.</p> <p>To now even consider to move the intersection of 550/160 to the Three Springs intersection is absurd at best. That idea makes no sense as it would accomplish nothing to what was originally intended and would do nothing to make the traffic issues any better than the present situation at the bottom of Farmington Hill. Of course unless you built another 45 million dollar interchange there as well.</p> <p>Thank you for your consideration.</p>			

<p><b>Response to Comment IND 14</b></p> <p>Revised G Modified, which is the Preferred Alternative identified in the SDEIS, will hook into the interchange at US 550 and US 160. Rerouting US 550 to connect to the Three Springs interchange as part of the Revised F Modified and Eastern Realignment alternatives was also assessed to cover a reasonable range of possible alternatives as part of the NEPA analysis.</p> <p>The response to Common Comment 7 contains information about the functionality of the Grandview Interchange even without a connection to a reconstructed US 550.</p>
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Comments

Responses

Source:	E-mail	Name:	Sally Bellerue	Response to Comment IND 15
Document Number:	IND 15	City, Zip Code:	Durango, 81301	Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.
From:	Sally Bellerue [bellerue@frontier.net]			
Sent:	Saturday, November 12, 2011 8:27 PM			
To:	Taylor, Sandra			
Subject:	Revised G Modified/550-160 Connection			
<p>I'm writing in support of the Revised G Modified alignment because the intersection would flow. Safety is a primary concern. It would not create a T Bone intersection with the stop light and the danger of horrible collisions as the alternatives to the East would have. (Those would also add distance from Durango and would impact more people. These are two additional negatives for the eastern alignments which I spoke about at your Hearing on 11/2/11).</p> <p>I've been aware of and are very appreciative of the changes you've made to the intersections in Durango to provide for better safety. They have made me more aware of the dangers of intersections where the traffic is moving at high speeds and needs to come to a stop at a light.</p> <p>If CDOT is able to arrive at an agreement with Mr. Webb to move the preferred alignment to the west as he has asserted, then the interchange again should be one that would flow and not be a signal. The existing bridge makes sense to use and would solve the basic problems of an intersection that flows (no signal), fewer people being affected and less distance between Durango and New Mexico.</p> <p>Thank You</p> <p>Sally Bellerue                      72 So. Hermosa Acres Drive                      Durango, CO 81301                      970-385-0848</p>				

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	John Hopkins	<b>Response to Comment IND 16</b>
<b>Document Number:</b>	IND 16	<b>City, Zip Code:</b>	Durango, 81303	
<p><b>From:</b> <a href="mailto:WCMS_Notify@dot.state.co.us">WCMS_Notify@dot.state.co.us</a> [<a href="mailto:WCMS_Notify@dot.state.co.us">mailto:WCMS_Notify@dot.state.co.us</a>]  <b>Sent:</b> Wednesday, November 16, 2011 9:27 AM  <b>To:</b> Taylor, Sandra  <b>Cc:</b> Shanks, Nancy  <b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name                  John                  Last Name                  Hopkins                  Representing                  myself                  Address, City, Zip                  2111 County Rd 301, Durango, CO 81303                  Your E-Mail Address  <a href="mailto:elfdurango@aol.com">elfdurango@aol.com</a></p> <p>Comments                  After the public meeting, I still think that Alternative G Modified has the least impact and cost. I am concerned that the new alternative presented by Mr. Webb's engineers would shut down Farmington Hill for a year and create havoc for commuters. His revised plan would also have significant impact from blasting, etc.</p>				<p>Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.</p> <p>Also please refer to the response to Common Comment 5 for information about Alternative R, which was suggested by Mr. Webb.</p>

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Mike Jordan	<b>Response to Comment IND 17</b>
<b>Document Number:</b>	IND 17	<b>City, Zip Code:</b>	Ignacio, 81137	
<p><b>From:</b> <a href="mailto:WCMS_Notify@dot.state.co.us">WCMS_Notify@dot.state.co.us</a> [<a href="mailto:WCMS_Notify@dot.state.co.us">mailto:WCMS_Notify@dot.state.co.us</a>]  <b>Sent:</b> Wednesday, November 16, 2011 6:40 AM  <b>To:</b> Taylor, Sandra  <b>Cc:</b> Shanks, Nancy  <b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name Mike                  Last Name Jordan                  Representing Myself                  Address, City, Zip 864 CR 515 Ignacio, CO 81137                  Your E-Mail Address <a href="mailto:mikej997@vahoo.com">mikej997@vahoo.com</a></p> <p>Comments                  I think the proposed rework on the existing 550 at Farmington hill should be seriously considered. I also think that who ever decided to do this project and who ever approved it BEFORE the right of way was secured should be fired. This has been a huge waste of money and seems typical of government saying that "if we spend enough on this project we can simply claim imminent domain and take the rest we need". Not a good way to win any fans, and a great example of government waste at a time when we least need it.</p>				<p>See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS</p> <p>CDOT is prohibited from acquiring right-of-way for a project prior to the NEPA decision.</p>

Comments

Responses

Source:	E-mail	Name:	Antonia Clark
Document Number:	IND 18	City, Zip Code:	Durango, 81303

-----Original Message-----  
 From: Jepson, Daniel  
 Sent: Wednesday, November 16, 2011 1:47 PM  
 To: Shanks, Nancy  
 Cc: Cady, Tony  
 Subject: FW: US 550/160 Supplemental DEIS Consulting Party Meeting Minutes

Hi Nancy -

Earlier today I sent Florida Mesa resident (and Section 106 consulting party for the US 550/160 SDEIS) Antonia Clark information regarding the November 2nd consulting party meeting we held at the Durango Maintenance facility. In response she sent me the following message, which appears to be intended as a general comment on/for the SDEIS (instead of comments on the materials I forwarded to her specific to historic properties issues). Please file this as an "official" comment, per Ms. Clark's wishes. Thanks -

Dan

-----Original Message-----  
 From: Antonia Clark [mailto:antonia@frontier.net]  
 Sent: Wednesday, November 16, 2011 1:22 PM  
 To: Antonia Clark; Jepson, Daniel  
 Subject: Re: Read: US 550/160 Supplemental DEIS Consulting Party Meeting Minutes

Thanks, Dan, for forwarding these minutes. I had to leave the meeting early to drive to Denver for a Navajo rug auction so would like to add my comments here. I'd appreciate it if you would forward them for me.

I live 1/2 mile from the top of Farmington Hill. I've driven that stretch of road almost daily since 1997. The morning of our meeting I left my home at 10 minutes before 9 and walked into the CDOT building at 9 a.m. I have never spent 30 minutes getting to town, regardless of the time of day, even in a snow storm. When I have an 8 a.m. meeting I need to leave my house at 20 minutes before 8. My opinion is that the preferred alignment would unnecessarily waste natural, historical and monetary resources. I think it would be tragic if a landowner who has chosen to not sub-divide and develop his land, (resisting the millions he would make if he did), is forced to allow the State and Federal governments to destroy parts of it, especially if other options are available. The idea that drivers can't safely slow down from 60 to 35 mph is a flawed argument. Colorado drivers do that every day. I hope CDOT will work with Webb to examine the possibility of widening Farmington Hill by expanding to the East rather than building such an extravagant project.

Thank you again for the opportunity to attend your meetings and to add my comments.  
 Sincerely,  
 Antonia Clark  
 589 CR 220, Durango, CO 81303  
 970-749-5345

**Response to Comment IND 18**

See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS

Also please see the response to Common Comment 9 for additional information about the safety problems with drivers needing to slow down to accommodate curvy roads.

The traffic projections used to evaluate alternatives are future volumes, in the Year 2030. The amount of time needed to drive Farmington Hill is projected to take much longer in the future.

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Melissa Maloney
<b>Document Number:</b>	IND 19	<b>City, Zip Code:</b>	Not provided
<p><b>From:</b> Melissa Maloney [mailto:melissaknightmaloney@gmail.com]  <b>Sent:</b> Wednesday, November 16, 2011 6:02 AM  <b>To:</b> Shanks, Nancy  <b>Subject:</b> 550/160 realignment</p> <p>I would like to add my comments about the realignment. I live just off CR 302 and the current proposed realignment and I have a couple of concerns. One is the increased drive time to get into town if the intersection is move to the hospital. I would prefer Farmington hill on a snowy day than to have that awful drive. That would make this area much more isolated. I am not totally opposed to the bridge option, but have concerns about traversing that bridge downhill on snowy, slick days. Taken slowly Farmington Hill is not that bad as long as the road is taken care of... it would be the same with the bridge. So just to add my two cents I would encourage examination of the Webb reworking of Farminton Hill and discourage any option that adds more drive time to the commute that those of use who live off of HWY 550 South already have to get into town.                  Thank You,                  Melissa Maloney</p>			

**Response to Comment IND 19**

See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment.

Also please see the response to Common Comment 9 for additional information about the safety problems with drivers needing to slow down to accommodate curvy roads.

The traffic projections used to evaluate alternatives are future volumes, in the Year 2030. The amount of time needed to drive Farmington Hill is projected to take much longer in the future.

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Elizabeth Adams
<b>Document Number:</b>	IND 20	<b>City, Zip Code:</b>	Durango, 81301
<p><b>From:</b> WCMS_Notify@dot.state.co.us  <b>Sent:</b> Thursday, November 17, 2011 8:41 AM  <b>To:</b> Taylor, Sandra  <b>Cc:</b> Shanks, Nancy  <b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name                  Elizabeth                  Last Name                  Adams                  Representing                  self                  Address, City, Zip                  818 Valentine Dr, Durango, CO 81301                  Your E-Mail Address                  Comments                  Please please work with the Webb proposal and give it, and any viable alternative to the current proposed alignment, serious consideration. The Webb proposal is safe, doable, and much more environmentally and historically preferred. Thank you!</p>			

**Response to Comment IND 20**

See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Susan Davies	<b>Response to Comment IND 21</b>
<b>Document Number:</b>	IND 21	<b>City, Zip Code:</b>	Durango, 81301	
<p>-----Original Message-----                  From: Susan A. Davies [<a href="mailto:jaguar@frontier.net">mailto:jaguar@frontier.net</a>]                  Sent: Friday, November 18, 2011 8:59 PM                  To: Shanks, Nancy                  Subject: CDOT and Webb Ranch</p> <p>Dear Ms. Shanks,                  I've been concerned about this project for a long time. I've looked at the cdot map and it seems to me that the proposals are costly and inappropriate.                  Since I drive that section of road every day I can't see why it wouldn't be more cost effective and responsible to merely straighten out the Farmington hill road. Certainly lots of dirt would have to be moved on two curves, but that is true with all the proposals to this point. However it will leave undisturbed most of the Webb ranch and so much more.                  I'm old. I have not trouble, winter or summer on Farmington Hill. This seems to me to be construction where improvement isn't necessary, the cost and the disturbance of several fine pieces of property is such violation especially when there are other approaches to be considered. Please do not damage this archeological area.                  Susan Davies                  P.O. Drawer F                  Durango, CO                  970-259-1294</p>				<p>See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.</p>

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Gail Ellsworth	<b>Response to Comment IND 22</b>
<b>Document Number:</b>	IND 22	<b>City, Zip Code:</b>		
<p><b>From:</b> Galvez, Tara  <b>Sent:</b> Friday, November 18, 2011 9:02 AM  <b>To:</b> Shanks, Nancy  <b>Subject:</b> FW: IC3 Form Submission \$mapping</p> <p>Title: Bridge to Nowhere, Durango                  E-Mail Address: <a href="mailto:gail@saulscreek.com">gail@saulscreek.com</a>                  First Name: Gail                  Last Name: Ellsworth                  Contact Number: 970-759-9034                  Date of Occurrence: Jan 01, 2011 12:00 AM                  Location: Bridge to nowhere - durango co                  Comment: Whoever were the employees who did this project should be FIRED!! No matter how you spin this project it was blatant incompetence. APPALLING.....your the worse in State, and yet you tell the Durango Herald it's OPEN - are you KIDDING?                  Response Necessary: No</p>				<p>This project has been and will continue to be conducted in full compliance with NEPA and with FHWA regulations (23 CFR 771). Please see the response to Common Comment 7 related to the independent functionality of the Grandview Interchange.</p>

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Don Weinig	<b>Response to Comment IND 23</b>
<b>Document Number:</b>	IND 23	<b>City, Zip Code:</b>		
<p><b>From:</b> Don Weinig [<a href="mailto:dweinig@hotmail.com">mailto:dweinig@hotmail.com</a>]  <b>Sent:</b> Saturday, November 19, 2011 11:57 AM  <b>To:</b> Shanks, Nancy  <b>Subject:</b> hwy 550</p> <p>I believe the proposed US Hwy550/160 realignment south of Durango Colorado has serious flaws, including monetary waste, historic destruction and environmental damage. I suspect that the proposal is largely an attempt to cover up the mistake of the "bridge to nowhere" that was built at great cost. Please do not throw good money after bad. Please examine carefully the alternatives, such as the Webb proposal for redesigning the Wilson Gulch hill ("Farmington Hill") within the current right-of-way.</p> <p>Thanks.                  Don Weinig</p>				<p>See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS</p> <p>Please also see the response to Common Comment 7 related to the independent functionality of the Grandview Interchange even if no connection to a reconstructed US 550 is made.</p>

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Luann Andrews	<b>Response to Comment IND 24</b>
<b>Document Number:</b>	IND 24	<b>City, Zip Code:</b>	Durango, 81301	
<p><b>From:</b> Luann Andrew [<a href="mailto:luann.andrew@gmail.com">mailto:luann.andrew@gmail.com</a>]  <b>Sent:</b> Saturday, November 19, 2011 12:21 PM  <b>To:</b> Shanks, Nancy  <b>Subject:</b> US 550 at US 160</p> <p><b>"I am concerned about the monetary, environmental and historical expense of the proposed US Hwy 550/160 realignment in SW Colorado. Please give the Webb Proposal for redesigning Farmington Hill in the current right-of-way thorough consideration"</b></p> <p><b>Luann Andrew</b>                  1781 CR 205                  Durango, CO                  81301</p> <p>970 259 2305</p>				<p>See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.</p> <p>Please see response to Common Comment 6 about the cost for the Revised G Modified (Preferred) Alternative.</p>



Comments

Responses

Source:	E-mail	Name:	Frank and Linda Tikalsky	<b>Response to Comment IND 25</b>
Document Number:	IND 25	City, Zip Code:	Bayfield, 81122	
<p><b>From:</b> LindaFrank Tikalsky [<a href="mailto:Lftikalsky@msn.com">mailto:Lftikalsky@msn.com</a>]  <b>Sent:</b> Sunday, November 20, 2011 3:41 PM  <b>To:</b> Shanks, Nancy  <b>Subject:</b></p> <p><b>I am concerned about the monetary, environmental and historical expense of the proposed US Hwy 550/160 realignment in SW Colorado. Please give the Webb Proposal for redesigning Farmington Hill in the current right-of-way thorough consideration. We do not need to do something that is considerably out of line in expense.</b></p> <p>Thank you,</p> <p><b>Frank and Linda Tikalsky</b>                  2488 CR 500                  Bayfield, CO 81122                  884-6092  <a href="mailto:lftikalsky@msn.com">lftikalsky@msn.com</a></p>				

See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.

Please see response to Common Comment 6 about the cost for the Revised G Modified Alternative.

Source:	E-mail	Name:	Kelly Rubin	<b>Response to Comment IND 26</b>
Document Number:	IND 26	City, Zip Code:	Durango, 81301	
<p><b>From:</b> <a href="mailto:WCMS_Notify@dot.state.co.us">WCMS_Notify@dot.state.co.us</a> [<a href="mailto:WCMS_Notify@dot.state.co.us">mailto:WCMS_Notify@dot.state.co.us</a>]  <b>Sent:</b> Sunday, November 20, 2011 8:30 AM  <b>To:</b> Taylor, Sandra  <b>Cc:</b> Shanks, Nancy  <b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name                  Kelly                  Last Name                  Rubin                  Representing                  self/concerned citizen                  Address, City, Zip                  1801 CR 205, Durango, Colorado 81301                  Your E-Mail Address  <a href="mailto:karubin@orionzone.net">karubin@orionzone.net</a></p> <p>Comments                  I am a long time resident that is concerned w/ the proposed designs for connecting the Bridge to No-Where and Hwy 550. I strongly appose the current designs for monetary and environmental reasons. I urge CDOT to further explore the new Web proposal - widening the current Farmington Hill road and connecting it w/ the Bridge, rather than the more extreme measures that are being considered. Widening the existing Farmington Hill will address safety, while minimizing environmental impacts and financial expenditures.</p>				

See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.

Please also see the response to Common Comment 7 for information about the independent functionality of the Grandview Interchange even if no future connection to a reconstructed US 550 is made.

Please see response to Common Comment 6 about the cost for the Revised G Modified Alternative.



Comments

Responses

Source:	E-mail	Name:	Roberta Eickman
Document Number:	IND 27	City, Zip Code:	Durango, 81303
<p><b>From:</b> WCMS_Notify@dot.state.co.us [mailto:WCMS_Notify@dot.state.co.us]  <b>Sent:</b> Monday, November 21, 2011 10:24 PM  <b>To:</b> Taylor, Sandra  <b>Cc:</b> Shanks, Nancy  <b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name                  Roberta                  Last Name                  Eickman                  Representing                  myself                  Address, City, Zip                  325 Trout Springs Trail                  Durango, Co 81303                  Your E-Mail Address  <a href="mailto:robertajean@frontier.net">robertajean@frontier.net</a></p> <p>Comments                  As a resident of the Florida Mesa south of Durango I am very familiar with the perceived and real problems of the Farmington Hill interchange and the road leading into and out of it. I am appalled at the current proposal that will spend over \$76 million dollars to realign Hwy 550 so that we can all spend more time, gas and consequently money going out of our way to miss "congestion" and a so called dangerous interchange and southern approach.</p> <p>The loss of archeological and historic ranch lands I can deal with, but the absolute waste of resources and extreme destruction of the mesa to accomplish a largely unnecessary realignment is the ultimate in irresponsible management and actual stupidity. I drive this road every day at least twice in the past 19 years and can count on one hand the number of accidents or vehicle incidents I have seen. Virtually everyone who drives this route knows to be careful, and they are. It is not safer to continue driving at 60mph than to slow to 35 and negotiate the corner. I would say it is safer for people to be aware of the road and adjust accordingly, which they do.</p> <p>To remove 1.6 million cubic yards of dirt requiring over 800,000 trips of a belly dump truck to create a horrific trench that then requires yet another bridge (not included in the price) to connect to Hwy 160, is outrageous! Who comes up with these ideas? It appears there are even more costs that are not included in the \$76 million; the relocation of all that dirt, gravel and/or additional bridges across the ravines.</p> <p>Yes, some modifications to Farmington Hill should be made. Fortunately there is another much more reasonable option that has been put forth by the Webb Ranch owners and engineers that would rectify the safety issues with less destruction and at a lower cost. I urge you to seriously consider this proposal.</p> <p>Please step back and look at the reality of our overextended state and federal budgets, the extensiveness of the current proposal under consideration, and what the real needs are. I think there are much better ways to address any safety issues at Farmington Hill. And if the purpose is to accomplish something else, you need to be straightforward and let the public know what that is. We do not need a repeat of a \$47 million u-turn bridge in the middle of nowhere.</p>			

**Response to Comment IND 27**

See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS

The response to Common Comment 9 also includes information about the safety problems of drivers needing to slow down to accommodate curvy roads.

The response to Common Comment 7 contains information about the independent functionality of the Grandview Interchange.

The cost estimate for Revised G Modified, included in Appendix F of the SFEIS, does include the costs for the referenced bridge. The cost estimates included in this appendix include all costs, including the bridge over US 160 and any additional ramp improvements necessary for a 4-lane US 550 connection to the Grandview Interchange.

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Lawrence Johnson	<b>Response to Comment IND 28</b>
<b>Document Number:</b>	IND 28	<b>City, Zip Code:</b>	Durango, 81302	
<p><b>From:</b> <a href="mailto:WCMS_Notify@dot.state.co.us">WCMS_Notify@dot.state.co.us</a> [<a href="mailto:WCMS_Notify@dot.state.co.us">mailto:WCMS_Notify@dot.state.co.us</a>]  <b>Sent:</b> Monday, November 21, 2011 3:53 PM  <b>To:</b> Taylor, Sandra  <b>Cc:</b> Shanks, Nancy  <b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name Lawrence                  Last Name Johnson                  Representing Taxpayer                  Address, City, Zip P.O. Box 385 Durango, CO 81302                  Your E-Mail Address <a href="mailto:ljohnson@frontier.net">ljohnson@frontier.net</a>                  Comments                  I am concerned about the monetary, environmental and historical expense of the proposed US Hwy 550/160 realignment in SW Colorado. Please give the Webb Proposal for redesigning Farmington Hill in the current right-of-way thorough consideration.</p>				<p>See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.</p> <p>Please see response to Common Comment 6 about the cost for the Revised G Modified Alternative.</p>

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Pat Lebs	<b>Response to Comment IND 29</b>
<b>Document Number:</b>	IND 29	<b>City, Zip Code:</b>	Bayfield, 81122	
<p><b>From:</b> <a href="mailto:WCMS_Notify@dot.state.co.us">WCMS_Notify@dot.state.co.us</a> [<a href="mailto:WCMS_Notify@dot.state.co.us">mailto:WCMS_Notify@dot.state.co.us</a>]  <b>Sent:</b> Monday, November 21, 2011 12:49 PM  <b>To:</b> Taylor, Sandra  <b>Cc:</b> Shanks, Nancy  <b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name Pat                  Last Name Lebs                  Representing N/A                  Address, City, Zip 6685 CR 228, Bayfield, Co. 81122                  Your E-Mail Address <a href="mailto:beartail@q.com">beartail@q.com</a>                  Comments                  First of all, I believe that the person responsible for allowing a \$47 million dollar project to be started without all property access issues completely resolved, should have been fired. I know that I am beating a dead horse here, but it goes toward credibility. So to propose spending an additional \$76 million should be absolutely rejected. If the state has that kind of money, spend it to widen Hwy 160 from Grandview to Bayfield, Hwy 550 to the state line, or repair some of the decaying roads already built. I would ask that you (Colorado DOT) work with the Webb proposal and give it or any viable alternative in the current alignment, serious consideration.                  Thank You!</p>				<p>See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.</p> <p>Also, please see the response to Common Comment 7 for information about the independent functionality of the Grandview Interchange.</p> <p>The design, right of way process and construction of the Grandview Interchange is proceeding in phases. CDOT cannot purchase right-of-way prior to a NEPA decision.</p>

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Andrea Lyle	<b>Response to Comment IND 30</b>
<b>Document Number:</b>	IND 30	<b>City, Zip Code:</b>	Pagosa Springs, 81147	
<p><b>From:</b> <a href="mailto:WCMS_Notify@dot.state.co.us">WCMS_Notify@dot.state.co.us</a> [<a href="mailto:WCMS_Notify@dot.state.co.us">mailto:WCMS_Notify@dot.state.co.us</a>]  <b>Sent:</b> Monday, November 21, 2011 10:21 PM  <b>To:</b> Taylor, Sandra  <b>Cc:</b> Shanks, Nancy  <b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name                  Andrea                  Last Name                  Lyle                  Representing                  myself                  Address, City, Zip                  52 Bross Place                  Pagosa Springs, CO 81147                  Your E-Mail Address  <a href="mailto:alyle56@gmail.com">alyle56@gmail.com</a></p> <p>Comments                  I am extremely concerned about the monetary, environmental and historical expense of the proposed US Hwy 550/160 realignment in SW Colorado. It is my understanding that there are other alternatives to this very expensive and controversial proposal. Please give the Webb Proposal for redesigning Farmington Hill in the current right-of-way thorough consideration.</p>				<p>See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.</p> <p>Please see response to Common Comment 6 about the cost for the Revised G Modified Alternative.</p>

Comments

Responses

<b>Source:</b>	Petition Letter	<b>Name:</b>	Mary and Doug Ervin	<b>Response to Comment IND 31</b>
<b>Document Number:</b>	IND 31	<b>City, Zip Code:</b>	Durango, 81303	
<p>November 21, 2011</p> <p style="text-align: center;">RECEIVED BY: NOV 22 2011 PROGRAM ENG.</p> <p>Sandra Taylor,</p> <p>I am writing this letter to support CDOT's decision to link HWY 550 to the Bridge to Nowhere and in <b>STRONG OPPOSITION to any eastern realignment.</b></p> <p>CDOT and FHWA's recent environmental impact study once again confirmed the findings that were made in 1996. Any eastern realignment would be exceedingly more costly and cause irreparable damage to historic ranch lands, archeological sites and wildlife habitat.</p> <p><b>We STONGLY OPPOSE the eastern realignment.</b></p> <p>Thank you,</p> <p>Mary and Doug Ervin              430 Craig Lane              Durango, CO 81303              M3kervin@gmail.com</p> <p>NOTE: Letter submitted with 88-page petition form.</p> <p>NOTE: Comments below submitted via electronic mail is the same as above comment received via postal mail.</p> <p><b>From:</b> mary ervin [mailto:m3kervin@gmail.com]  <b>Sent:</b> Monday, November 21, 2011 6:49 AM  <b>To:</b> Shanks, Nancy  <b>Subject:</b> Bridge to Nowhere Project</p> <p>November 21, 2011</p> <p>I am writing this letter to support CDOT'S decision to link HWY 550 to the Bridge to Nowhere and in strong opposition to any eastern realignment that would cause irreparable damage to historic ranch lands, archeological sites and wildlife habitat.</p> <p>CDOT and FHWA'S recent environmental impact study once again confirmed the findings that were made in 1996. That being, any eastern realignment would be exceedingly more costly and impact the community more in every way.</p> <p>We oppose the eastern alignment.</p> <p>Mary and Doug Ervin              430 Craig Lane              Durango, CO 81303</p>				
<p>As noted in the response to Common Comment 4, the Eastern Realignment Alternative is not the Preferred Alternative.</p> <p>Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.</p> <p>The response to Common Comment 7 contains information about the independent functionality of the Grandview Interchange.</p>				

The following are names from the petition form that was received along with the letter from Mary and Doug Ervin (see page 114, IND 31).

**Name:** Not legible  
**City, Zip Code:** Not provided  
**Name:** Sean Borris  
**City, Zip Code:** Not provided  
**Name:** Thomas Quinn  
**City, Zip Code:** Not provided  
**Name:** Not legible  
**City, Zip Code:** Not legible  
**Name:** Dan Soltan  
**City, Zip Code:** Not provided  
**Name:** Marvin D. Voss  
**City, Zip Code:** Not provided  
**Name:** Nancy Voss  
**City, Zip Code:** Not provided  
**Name:** Mike Clemecto  
**City, Zip Code:** Hesperus,  
**Name:** Fred Grebb  
**City, Zip Code:** Hesperus,  
**Name:** Leela Gill  
**City, Zip Code:** 81303  
**Name:** Linda Munch  
**City, Zip Code:** Durango, 81301  
**Name:** Dan Beucker  
**City, Zip Code:** Not provided  
**Name:** Laura Hall  
**City, Zip Code:** Durango, 81301

**Name:** Brandon Coley  
**City, Zip Code:** Durango, CO  
**Name:** Wendy Cox  
**City, Zip Code:** Not provided  
**Name:** Sandra Robison  
**City, Zip Code:** Not provided  
**Name:** Edgar Westbrook  
**City, Zip Code:** Ignacio,  
**Name:** Dennis Cox  
**City, Zip Code:** Not provided  
**Name:** Christi Reid  
**City, Zip Code:** Bayfield, 81122  
**Name:** Mary Klein  
**City, Zip Code:** Bayfield,  
**Name:** Dean Klein  
**City, Zip Code:** Bayfield,  
**Name:** Molly Yates  
**City, Zip Code:** Bayfield,  
**Name:** John A. Beebe  
**City, Zip Code:** Not provided  
**Name:** Selena K. Weissbeck  
**City, Zip Code:** Not provided  
**Name:** Mary Swapp  
**City, Zip Code:** Bayfield,  
**Name:** Crystal L. Ross  
**City, Zip Code:** Not provided

The following are names from the petition form that was received along with the letter from Mary and Doug Ervin (see page 114, IND 31).

**Name:** Susan McMillan  
**City, Zip Code:** Not provided  
**Name:** Stephanie Koelling-Smith  
**City, Zip Code:** Not provided  
**Name:** Cotton Mowier  
**City, Zip Code:** Not provided  
**Name:** Catherine Lambert  
**City, Zip Code:** Durango, 81301  
**Name:** Tricia Bayless  
**City, Zip Code:** Not provided  
**Name:** Wendy Bailey  
**City, Zip Code:** Durango,  
**Name:** Denise Swansen  
**City, Zip Code:** Durango, 81301  
**Name:** Matt Levy  
**City, Zip Code:** Not provided  
**Name:** Sherrainne Watson  
**City, Zip Code:** Durango, 81301  
**Name:** Patrick Garey  
**City, Zip Code:** Not provided  
**Name:** Koleman Blake  
**City, Zip Code:** Not provided  
**Name:** Janelle K. Blake  
**City, Zip Code:** Not provided  
**Name:** Stewart Blake  
**City, Zip Code:** 81303  
**Name:** Brad Blake  
**City, Zip Code:** Not provided

**Name:** William Swapp  
**City, Zip Code:** Bayfield,  
**Name:** Tobia Green  
**City, Zip Code:** Bayfield,  
**Name:** Eugene Burditti  
**City, Zip Code:** Not provided  
**Name:** Ron Hale  
**City, Zip Code:** Not provided  
**Name:** Rusty Connor  
**City, Zip Code:** Bayfield,  
**Name:** Alan McComas  
**City, Zip Code:** Not provided  
**Name:** Paul Romere  
**City, Zip Code:** Bayfield, 81122  
**Name:** Elizabeth Romere  
**City, Zip Code:** Not provided  
**Name:** Kevin Robel  
**City, Zip Code:** Bayfield, 81122  
**Name:** Gail Robel  
**City, Zip Code:** Bayfield, 81122  
**Name:** Terry J. Beebe  
**City, Zip Code:** Bayfield, 81122  
**Name:** Ruth Schwartz  
**City, Zip Code:** Not provided  
**Name:** Not legible  
**City, Zip Code:** Not provided  
**Name:** Scott Schwartz  
**City, Zip Code:** Not provided

The following are names from the petition form that was received along with the letter from Mary and Doug Ervin (see page 114, IND 31).

**Name:** Jack Davison  
**City, Zip Code:** Durango, 81301  
**Name:** Lauren Ngo  
**City, Zip Code:** Durango, 81301  
**Name:** Jim Bryson  
**City, Zip Code:** Durango,  
**Name:** John Malakie  
**City, Zip Code:** Not provided  
**Name:** E. C. Brennon  
**City, Zip Code:** Durango,  
**Name:** Dennis Brennon  
**City, Zip Code:** Not provided  
**Name:** Marie Malarsie  
**City, Zip Code:** Not provided  
**Name:** Judith Schmidt  
**City, Zip Code:** Not provided  
**Name:** Barbara L. Jackson  
**City, Zip Code:** Not provided  
**Name:** Linda H. Frazee  
**City, Zip Code:** Not provided  
**Name:** Chris Frazee  
**City, Zip Code:** Not provided  
**Name:** Spehie Mohr  
**City, Zip Code:** Not provided  
**Name:** Blane Dawson  
**City, Zip Code:** Not provided  
**Name:** H. Prescott Blake  
**City, Zip Code:** Not provided

**Name:** William Klone  
**City, Zip Code:** Not provided  
**Name:** David C  
**City, Zip Code:** Not provided  
**Name:** Pablo Alleyne  
**City, Zip Code:** Not provided  
**Name:** Oscar Paviglianiti  
**City, Zip Code:** Not provided  
**Name:** Patricie Holly  
**City, Zip Code:** Durango, 81301  
**Name:** Louis Rancotti  
**City, Zip Code:** Durango, 81301  
**Name:** Patricia A. Rancetti  
**City, Zip Code:** Durango, 81301  
**Name:** Daniel Erkkila  
**City, Zip Code:** Bayfield,  
**Name:** Chris B  
**City, Zip Code:** Not provided  
**Name:** Scott Hamer  
**City, Zip Code:** Not provided  
**Name:** John Jackson  
**City, Zip Code:** Ignacio,  
**Name:** Will Kelley  
**City, Zip Code:** Durango, 81301  
**Name:** Garret Minfer  
**City, Zip Code:** Not provided  
**Name:** Marvin Moncriga  
**City, Zip Code:** Not provided

The following are names from the petition form that was received along with the letter from Mary and Doug Ervin (see page 114, IND 31).

**Name:** Billy Bond  
**City, Zip Code:** Not provided  
**Name:** Spike Bond  
**City, Zip Code:** Not provided  
**Name:** William Hoffman  
**City, Zip Code:** Not provided  
**Name:** Marissa Hoffman  
**City, Zip Code:** Durango, 81303  
**Name:** Callie Bond  
**City, Zip Code:** Not provided  
**Name:** Joey Padilla  
**City, Zip Code:** Not provided  
**Name:** Donnie Moffit  
**City, Zip Code:** Durango,  
**Name:** Mike Cavanaugh  
**City, Zip Code:** Not provided  
**Name:** Dylan Foreman  
**City, Zip Code:** Not provided  
**Name:** W. Gary Robison  
**City, Zip Code:** Not provided  
**Name:** Pamela J. Krufft  
**City, Zip Code:** Durango, 81301  
**Name:** Debbie Casto  
**City, Zip Code:** Not provided  
**Name:** Jon Gregory Mann  
**City, Zip Code:** Not provided  
**Name:** Michelle Rodri  
**City, Zip Code:** Not provided

**Name:** S. Gordon  
**City, Zip Code:** Not provided  
**Name:** LeManual Yazzie  
**City, Zip Code:** Not provided  
**Name:** Paige Cushmon  
**City, Zip Code:** Durango, 81301  
**Name:** Wesley Hartman  
**City, Zip Code:** Not provided  
**Name:** Dorwin Hawn  
**City, Zip Code:** Durango,  
**Name:** Jorg Monch  
**City, Zip Code:** Not provided  
**Name:** Dillon Eggar  
**City, Zip Code:** Not provided  
**Name:** Jordan Steinaszek  
**City, Zip Code:** Not provided  
**Name:** Sam Schmidt  
**City, Zip Code:** Not provided  
**Name:** Not legible  
**City, Zip Code:** Not provided  
**Name:** Not legible  
**City, Zip Code:** Not provided  
**Name:** Travis Cribbs  
**City, Zip Code:** Ignacio, 81137  
**Name:** Matt Barth  
**City, Zip Code:** Durango, 81301  
**Name:** Nick Sues  
**City, Zip Code:** Durango,



The following are names from the petition form that was received along with the letter from Mary and Doug Ervin (see page 114, IND 31).

**Name:** Janice Lewis  
**City, Zip Code:** Not provided  
**Name:** Katie Zafelt  
**City, Zip Code:** Bayfield, 81122  
**Name:** K. L. Randy  
**City, Zip Code:** Not provided  
**Name:** Ryan Roelker  
**City, Zip Code:** Not provided  
**Name:** Sarah Peterson  
**City, Zip Code:** Not provided  
**Name:** Ryan Siggins  
**City, Zip Code:** Not provided  
**Name:** Corey R. Klosack  
**City, Zip Code:** Bayfield,  
**Name:** Jason Schmidt  
**City, Zip Code:** Durango,  
**Name:** Brian Meyers  
**City, Zip Code:** Not provided  
**Name:** Charlie Brennan  
**City, Zip Code:** Not provided  
**Name:** Kelly Brennan  
**City, Zip Code:** Not provided  
**Name:** Terry Cartwright  
**City, Zip Code:** Not provided  
**Name:** Curt Marlatt  
**City, Zip Code:** Not provided  
**Name:** Sandie Marlatt  
**City, Zip Code:** Not provided

**Name:** Robert Bisinger  
**City, Zip Code:** Not provided  
**Name:** Diane Emmanuel  
**City, Zip Code:** Not provided  
**Name:** Cathy Roulstin  
**City, Zip Code:** Not provided  
**Name:** Anita Jackson  
**City, Zip Code:** Not provided  
**Name:** John Glennon  
**City, Zip Code:** Not provided  
**Name:** Greg Harmon  
**City, Zip Code:** Not provided  
**Name:** Jeremiah Aukesonel  
**City, Zip Code:** Durango,  
**Name:** John Fitzspelli  
**City, Zip Code:** Not provided  
**Name:** Justin McMillon  
**City, Zip Code:** Durango,  
**Name:** Nathan S.  
**City, Zip Code:** Bayfield,  
**Name:** William B.  
**City, Zip Code:** Not provided  
**Name:** Not legible  
**City, Zip Code:** Not provided  
**Name:** Bill Burns  
**City, Zip Code:** Durango,  
**Name:** Scott Quimby  
**City, Zip Code:** Not provided

The following are names from the petition form that was received along with the letter from Mary and Doug Ervin (see page 114, IND 31).

**Name:** George Mayberry  
**City, Zip Code:** Not provided  
**Name:** Jim Etzler  
**City, Zip Code:** Not provided  
**Name:** Tony Hermesman  
**City, Zip Code:** Not provided  
**Name:** Larry Hackler  
**City, Zip Code:** Not provided  
**Name:** Mark Jenkins  
**City, Zip Code:** Durango, 81301  
**Name:** Jan M. Sweetin  
**City, Zip Code:** Ignacio, 81137  
**Name:** Robert W. Garey, Jr.  
**City, Zip Code:** Ignacio, 81137  
**Name:** Addie L. Garey  
**City, Zip Code:** Ignacio, 81137  
**Name:** Kelly Kennedy  
**City, Zip Code:** Bayfield,  
**Name:** Marjorie C. Murphy  
**City, Zip Code:** Durango, 81303  
**Name:** T. Mike Murphy  
**City, Zip Code:** Durango, 81303  
**Name:** Not legible  
**City, Zip Code:** Not legible  
**Name:** Leslie H. Chatham Jr.  
**City, Zip Code:** Ignacio, 81137  
**Name:** Gary Gomez  
**City, Zip Code:** Durango, 81303

**Name:** Tim Karp  
**City, Zip Code:** Bayfield,  
**Name:** Thad Turner  
**City, Zip Code:** Not provided  
**Name:** Robert Cross  
**City, Zip Code:** 81302  
**Name:** Julie Ward  
**City, Zip Code:** Durango, 81301  
**Name:** Edward J. Lehner  
**City, Zip Code:** Not provided  
**Name:** Chris S  
**City, Zip Code:** Not provided  
**Name:** Gene Carlson  
**City, Zip Code:** Not provided  
**Name:** John T. Carroll  
**City, Zip Code:** Durango,  
**Name:** Marchell Fletcher  
**City, Zip Code:** Durango, 81301  
**Name:** Mary Ocken  
**City, Zip Code:** Durango  
**Name:** Chris Eckhardt  
**City, Zip Code:** Not provided  
**Name:** Jim Piccoli  
**City, Zip Code:** Not provided  
**Name:** Diana Piccoli  
**City, Zip Code:** Bayfield,  
**Name:** Pict Blakerlee  
**City, Zip Code:** Not provided

The following are names from the petition form that was received along with the letter from Mary and Doug Ervin (see page 114, IND 31).

**Name:** Deborah Webber  
**City, Zip Code:** Bayfield,  
**Name:** Jessie Sanchez  
**City, Zip Code:** Ignacio,  
**Name:** Debbie A. Hull  
**City, Zip Code:** Not provided  
**Name:** C. White  
**City, Zip Code:** Not provided  
**Name:** Darlene Martinez  
**City, Zip Code:** Not provided  
**Name:** David Kohler  
**City, Zip Code:** Durango, 81303  
**Name:** Kim Cotta  
**City, Zip Code:** Durango, 81301  
**Name:** Lisa Speaker  
**City, Zip Code:** Durango, 81303  
**Name:** Nancy Tucker  
**City, Zip Code:** Not provided  
**Name:** Donna L. Ford  
**City, Zip Code:** Durango, 81303  
**Name:** Joan Gilliland  
**City, Zip Code:** Durango,  
**Name:** Matt Wynant  
**City, Zip Code:** Not provided  
**Name:** Charlie Harris  
**City, Zip Code:** Not provided  
**Name:** Stanley Steele  
**City, Zip Code:** Not provided

**Name:** H. L. Rielle  
**City, Zip Code:** Durango, 81301  
**Name:** Bonnie Baker  
**City, Zip Code:** Not provided  
**Name:** Cameron Baker  
**City, Zip Code:** Durango,  
**Name:** Frank Waggoner  
**City, Zip Code:** Durango, 81303  
**Name:** Dave Crawford  
**City, Zip Code:** Not provided  
**Name:** Linda Knipp  
**City, Zip Code:** Not provided  
**Name:** Thomas L. Paez  
**City, Zip Code:** Not provided  
**Name:** Thomas Hiles  
**City, Zip Code:** Bayfield,  
**Name:** Dennis Hillyer  
**City, Zip Code:** Bayfield, 81122  
**Name:** Troy Felker  
**City, Zip Code:** Not provided  
**Name:** Art Evans  
**City, Zip Code:** Not provided  
**Name:** Joshua L. Wagner  
**City, Zip Code:** Arboles, 81121  
**Name:** Rich Shilaikis  
**City, Zip Code:** Not provided  
**Name:** Derek Dodd  
**City, Zip Code:** Arboles, 81121

The following are names from the petition form that was received along with the letter from Mary and Doug Ervin (see page 114, IND 31).

**Name:** Roger Klinger  
**City, Zip Code:** Durango, 81303  
**Name:** Michael Green  
**City, Zip Code:** Not provided  
**Name:** Ron Kinsd  
**City, Zip Code:** Ignacio,  
**Name:** David Pelton  
**City, Zip Code:** Durango,  
**Name:** Earl Sobley  
**City, Zip Code:** Bayfield,  
**Name:** West Allen  
**City, Zip Code:** Not provided  
**Name:** Mike Fitch  
**City, Zip Code:** Durango,  
**Name:** Not legible  
**City, Zip Code:** Cortez,  
**Name:** Not legible  
**City, Zip Code:** Not legible  
**Name:** Hank Berchent  
**City, Zip Code:** Durango, 81303  
**Name:** George Moon  
**City, Zip Code:** Bayfield, 81122  
**Name:** Not legible  
**City, Zip Code:** Not provided  
**Name:** Not legible  
**City, Zip Code:** Not provided  
**Name:** Mike Miller  
**City, Zip Code:** Durango,

**Name:** Eric Witt  
**City, Zip Code:** Arboles, 81121  
**Name:** Mary Ervin  
**City, Zip Code:** Not provided  
**Name:** John R. Madden  
**City, Zip Code:** Not provided  
**Name:** R. P. Maxedon  
**City, Zip Code:** Not provided  
**Name:** Pamela Maxedon  
**City, Zip Code:** 81303  
**Name:** Ron Fincker  
**City, Zip Code:** Bayfield, 81122  
**Name:** Joe Crossno  
**City, Zip Code:** 81303  
**Name:** Paulette Giambettista  
**City, Zip Code:** Not provided  
**Name:** Meredith Giambettista  
**City, Zip Code:** Not provided  
**Name:** Tyler Wheelock  
**City, Zip Code:** Not provided  
**Name:** Carol Martin  
**City, Zip Code:** Not provided  
**Name:** Mark Chesnut  
**City, Zip Code:** Hesperus,  
**Name:** Robert J. Thorburn  
**City, Zip Code:** Not provided  
**Name:** Billy Hawkins  
**City, Zip Code:** Not provided

The following are names from the petition form that was received along with the letter from Mary and Doug Ervin (see page 114, IND 31).

**Name:** Not legible  
**City, Zip Code:** Not provided  
**Name:** Brian Little  
**City, Zip Code:** Not provided  
**Name:** Jeff Bart  
**City, Zip Code:** Ignacio, 81137  
**Name:** John Petrucka  
**City, Zip Code:** Durango,  
**Name:** Kimberly A. Shaw  
**City, Zip Code:** Ignacio, 81137  
**Name:** Sue C. Herrera  
**City, Zip Code:** Not provided  
**Name:** Geoff Reynolds  
**City, Zip Code:** Not provided  
**Name:** Charley Taylor  
**City, Zip Code:** Not provided  
**Name:** Tiffany Kennedy  
**City, Zip Code:** Bayfield,  
**Name:** Bobbi Rakita  
**City, Zip Code:** Not provided  
**Name:** Joe G.  
**City, Zip Code:** 81301  
**Name:** Peter Mann  
**City, Zip Code:** Not provided  
**Name:** Marlin Krause  
**City, Zip Code:** Not provided  
**Name:** Lucy Johnson  
**City, Zip Code:** Not provided

**Name:** Don Jefer  
**City, Zip Code:** 81303  
**Name:** Jeff Sornsin  
**City, Zip Code:** Not provided  
**Name:** John W. Leonard  
**City, Zip Code:** Not provided  
**Name:** Eugene Bonds  
**City, Zip Code:** Not provided  
**Name:** Lance Donajan  
**City, Zip Code:** Hesperus,  
**Name:** Lori Bonds  
**City, Zip Code:** Durango, 81301  
**Name:** Not legible  
**City, Zip Code:** Not provided  
**Name:** Daril Tomberlin  
**City, Zip Code:** Not provided  
**Name:** Ray Ollier  
**City, Zip Code:** Not provided  
**Name:** Gary D. Hillyer  
**City, Zip Code:** Bayfield,  
**Name:** Jeff Lehnus  
**City, Zip Code:** Not provided  
**Name:** Doug Ervin  
**City, Zip Code:** Durango, 81303  
**Name:** Lorraine M. Berenz  
**City, Zip Code:** Not provided  
**Name:** Michelle Moliveira  
**City, Zip Code:** 81303-6632

The following are names from the petition form that was received along with the letter from Mary and Doug Ervin (see page 114, IND 31).

**Name:** Sarah Mann  
**City, Zip Code:** Not provided  
**Name:** Brian Norsom  
**City, Zip Code:** Not provided  
**Name:** Pam Cook  
**City, Zip Code:** 81303  
**Name:** Rick Phillips  
**City, Zip Code:** Bayfield,  
**Name:** Not legible  
**City, Zip Code:** Not legible  
**Name:** Mike Zink  
**City, Zip Code:** Bayfield,  
**Name:** Thomas J. Zink  
**City, Zip Code:** Bayfield,  
**Name:** Alice Robinson  
**City, Zip Code:** Bayfield,  
**Name:** Linda Kole  
**City, Zip Code:** Bayfield, 81122  
**Name:** Charles Stull  
**City, Zip Code:** Not provided  
**Name:** Thomas Price  
**City, Zip Code:** Not provided  
**Name:** Joey Padilla  
**City, Zip Code:** Not provided  
**Name:** Mark Isham  
**City, Zip Code:** Durango, 81303  
**Name:** Peter Meisler  
**City, Zip Code:** Not provided

**Name:** Mary Thompson  
**City, Zip Code:** Durango, 81303  
**Name:** Steve Ricke  
**City, Zip Code:** Not provided  
**Name:** Katie Ervin  
**City, Zip Code:** Not provided  
**Name:** Dale Baker  
**City, Zip Code:** Durango, 81301  
**Name:** Noel Tambre  
**City, Zip Code:** Not provided  
**Name:** Pete Tambre  
**City, Zip Code:** Not provided  
**Name:** Not legible  
**City, Zip Code:** Not legible  
**Name:** Courtney Elwell  
**City, Zip Code:** Not provided  
**Name:** Lindsay Russell  
**City, Zip Code:** Not provided  
**Name:** Taylor Ottara  
**City, Zip Code:** Durango, 81301  
**Name:** David Larocco  
**City, Zip Code:** Durango, 81303  
**Name:** David Elwell  
**City, Zip Code:** Not provided  
**Name:** Aaron Beyer  
**City, Zip Code:** Durango,  
**Name:** Bronson Fry  
**City, Zip Code:** Not provided

The following are names from the petition form that was received along with the letter from Mary and Doug Ervin (see page 114, IND 31).

**Name:** Louis Ulrich  
**City, Zip Code:** Durango,  
**Name:** Gerald Wels  
**City, Zip Code:** Not provided  
**Name:** David Wagner  
**City, Zip Code:** Not provided  
**Name:** Jim Meyer  
**City, Zip Code:** Not provided  
**Name:** Debbie K. McVean  
**City, Zip Code:** Not provided  
**Name:** Larry Garner  
**City, Zip Code:** Ignacio,  
**Name:** Cheryl Byington  
**City, Zip Code:** Durango, 81302  
**Name:** Charles McCoy  
**City, Zip Code:** Not provided  
**Name:** David Brown  
**City, Zip Code:** Not provided  
**Name:** Roy Brown  
**City, Zip Code:** Not provided  
**Name:** Duane Kinney  
**City, Zip Code:** Durango,  
**Name:** Ashley Desko  
**City, Zip Code:** Not provided  
**Name:** Brittany Ervin  
**City, Zip Code:** Not provided  
**Name:** Megan Piazza  
**City, Zip Code:** Not provided

**Name:** Steve Scheid  
**City, Zip Code:** Not provided  
**Name:** Nancy Peed  
**City, Zip Code:** Not provided  
**Name:** Tarah Gackowski  
**City, Zip Code:** Not provided  
**Name:** Jordan Ashby  
**City, Zip Code:** Not provided  
**Name:** Jordan Blea  
**City, Zip Code:** Not provided  
**Name:** Erin McCormack  
**City, Zip Code:** Not provided  
**Name:** Ashley Darnell  
**City, Zip Code:** Not provided  
**Name:** Jasmine Johnson  
**City, Zip Code:** Not provided  
**Name:** Sarah Bongert  
**City, Zip Code:** Not provided  
**Name:** Garrett Campbell  
**City, Zip Code:** Not provided  
**Name:** Alex Norell  
**City, Zip Code:** Not provided  
**Name:** Sam Zuckerman  
**City, Zip Code:** 81301  
**Name:** Aline Tissannier  
**City, Zip Code:** Durango, 81301  
**Name:** Brent Peterson  
**City, Zip Code:** 81303

The following are names from the petition form that was received along with the letter from Mary and Doug Ervin (see page 114, IND 31).

**Name:** Not legible  
**City, Zip Code:** Not legible  
**Name:** Gwenna Ferris  
**City, Zip Code:** Not provided  
**Name:** Hank Berenz  
**City, Zip Code:** Not provided  
**Name:** Pat Page  
**City, Zip Code:** Not provided  
**Name:** Linda Eve  
**City, Zip Code:** Not provided  
**Name:** William Schwab  
**City, Zip Code:** Durango, 81301  
**Name:** Anna Rockhold  
**City, Zip Code:** Hesperus, 81326  
**Name:** Antonia J. Engle  
**City, Zip Code:** Not provided  
**Name:** Todd Sharp  
**City, Zip Code:** Not provided  
**Name:** Earl R. Reese  
**City, Zip Code:** Bayfield, 81122  
**Name:** Marsha Allen  
**City, Zip Code:** Durango,  
**Name:** Larry Allen  
**City, Zip Code:** Not provided  
**Name:** Larry Latimer  
**City, Zip Code:** Not provided  
**Name:** Paul M. Cormill  
**City, Zip Code:** Not provided

**Name:** Kevin McDevitt  
**City, Zip Code:** Durango,  
**Name:** Justin James  
**City, Zip Code:** Durango,  
**Name:** Tracy R. Mass  
**City, Zip Code:** Not provided  
**Name:** Pamela L. Thomas  
**City, Zip Code:** Durango,  
**Name:** Frank Thomas  
**City, Zip Code:** Durango,  
**Name:** Keith E. Buyington  
**City, Zip Code:** Durango, 81303  
**Name:** Melissa Coey  
**City, Zip Code:** Bayfield, 81122  
**Name:** Nicole Martinez  
**City, Zip Code:** Not provided  
**Name:** Cathy Sugnet  
**City, Zip Code:** Durango, 81301  
**Name:** John Robb  
**City, Zip Code:** Durango, 81301  
**Name:** James Robb  
**City, Zip Code:** Durango, 81301  
**Name:** James Howell  
**City, Zip Code:** Durango, 81301  
**Name:** Vonna Howell  
**City, Zip Code:** Not provided  
**Name:** Vienna Sours  
**City, Zip Code:** Ignacio, 81137



The following are names from the petition form that was received along with the letter from Mary and Doug Ervin (see page 114, IND 31).

**Name:** Not legible  
**City, Zip Code:** Not legible  
**Name:** Donna Hales  
**City, Zip Code:** Not provided  
**Name:** Jake Zini  
**City, Zip Code:** Bayfield,  
**Name:** Sarah Dunham  
**City, Zip Code:** Durango, 81301  
**Name:** Briana Simberk  
**City, Zip Code:** Not provided  
**Name:** Hanna Yates  
**City, Zip Code:** Durango, 81303  
**Name:** Troy Yates  
**City, Zip Code:** Bayfield, 81122  
**Name:** Patricia Zinx  
**City, Zip Code:** Not provided  
**Name:** Rick (last name not legible)  
**City, Zip Code:** Not provided  
**Name:** Paige (last name not legible)  
**City, Zip Code:** Bayfield,  
**Name:** Molly Yates  
**City, Zip Code:** Bayfield,  
**Name:** Not legible  
**City, Zip Code:** Not legible  
**Name:** Emil K. Maxton  
**City, Zip Code:** Not provided  
**Name:** Janet Jurgens  
**City, Zip Code:** Not provided

**Name:** Richard S. Barnes  
**City, Zip Code:** Ignacio, 81137  
**Name:** Jackson D. Yellow  
**City, Zip Code:** Durango, 81301  
**Name:** Marie Lagerstrom  
**City, Zip Code:** Ignacio, 81137  
**Name:** Brian M. Brock  
**City, Zip Code:** 81301  
**Name:** Valerie M. Brock  
**City, Zip Code:** 81301  
**Name:** Robert T. Hott  
**City, Zip Code:** 81137  
**Name:** Toben Roderick  
**City, Zip Code:** 81137  
**Name:** Pamela King  
**City, Zip Code:** Not provided  
**Name:** Janette L. Nickerson  
**City, Zip Code:** Durango, 81303  
**Name:** Carole Valdez  
**City, Zip Code:** Bayfield, 81122  
**Name:** Brian B.  
**City, Zip Code:** Not provided  
**Name:** Brian Ide  
**City, Zip Code:** Not provided  
**Name:** Dannell Jefferson  
**City, Zip Code:** Ignacio,  
**Name:** Rhonda Torres  
**City, Zip Code:** Durango, 81303

The following are names from the petition form that was received along with the letter from Mary and Doug Ervin (see page 114, IND 31).

**Name:** Aden Veraet  
**City, Zip Code:** Bayfield,  
**Name:** Anne Veraet  
**City, Zip Code:** Bayfield,  
**Name:** Robert G. Pope  
**City, Zip Code:** Not provided  
**Name:** Jon A. Robison  
**City, Zip Code:** Not provided  
**Name:** Debbie Gurncin  
**City, Zip Code:** Bayfield, CO  
**Name:** Not legible  
**City, Zip Code:** Not legible  
**Name:** John G. VanSchalk  
**City, Zip Code:** Bayfield,  
**Name:** Paul M. Cormill  
**City, Zip Code:** Not provided  
**Name:** William G. Plostod  
**City, Zip Code:** Not provided  
**Name:** Ann McCoy Harold  
**City, Zip Code:** Bayfield,

**Name:** Keith Correira  
**City, Zip Code:** Durango, 81301  
**Name:** Scott Stephenson  
**City, Zip Code:** Bayfield, 81122  
**Name:** Adam Bergal  
**City, Zip Code:** Bayfield, 81122  
**Name:** Not legible  
**City, Zip Code:** Not provided  
**Name:** Charlie Speno  
**City, Zip Code:** Not provided  
**Name:** Margaret Philpott  
**City, Zip Code:** Not provided  
**Name:** Pat Speno  
**City, Zip Code:** Not provided  
**Name:** Jean Costello  
**City, Zip Code:** Not provided  
**Name:** Joni Ditzler  
**City, Zip Code:** Not provided

Comments

Responses

Source:	Letter	Name:	Nancy Greib
Document Number:	IND 32	City, Zip Code:	Durango, 81303

Response to Comment IND 32

Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative. The response to Common Comment 7 provides information about the functionality of the Grandview Interchange even without a connection to a reconstructed US 550.



RECEIVED BY:  
 NOV 21 2011  
 PROGRAM ENG.

Nancy & Vernon Greif  
 250 Goldeneye Lane  
 Durango, Colorado 81303

nancyg@hispced4u.com  
 vgreif@hispced4u.com  
 970-382-5917

SANDRA TAYLOR  
 CDOT  
 3803 NORTH MAIN AVE.  
 SUITE 300  
 DURANGO, CO 81301

RE Hwy 160 + US 550  
 CONNECTION

DEAR Ms. TAYLOR

MY WIFE & I ATTENDED THE "ORIGINAL" PUBLIC MEETINGS YEARS AGO ON THIS SUBJECT. WE STRONGLY SUPPORT THE OPTION THRU THE WEIBS RAMP & CONNECTING WITH THE BRIDGE, (THE YELLOW ROUTE & RAMP A IN THE NOV. 3 HERALD ARTICLE).

THIS OPTION SEEMS TO BE THE MOST DIRECT AND EFFICIENT - ALWAYS WAS AND ALWAYS WILL BE!

REGARDS


*Vernon Greif*  
 Nancy Greif

Comments

Responses

Source:	Comment Form	Name:	Mary Anne Griffin
Document Number:	IND 33	City, Zip Code:	Durango, 81303

Response to Comment IND 33


  
 OPEN HOUSE AND PUBLIC HEARING  
 November 2, 2011

NOV 2 1 2011  
 PROGRAM ENG.

US 550 South Connection to US 160  
 Supplemental Draft Environmental Impact Statement  
 Colorado Project FC-NH (CX) 160-2 (048)

PUBLIC COMMENT FORM

Your comments and/or suggestions for the public record are encouraged regarding this Supplemental Draft Environmental Impact Statement. Please turn in the sheet at the public hearing, or you may mail it before November 28, 2011, to the following address: Colorado Department of Transportation, 3803 North Main Avenue, Suite 300, Durango, CO 81301, ATTN: Sandra Taylor (or fax to: 970-385-1410).

*Thanks for allowing the public to comment on the US 550 South connection to US 160. As a landowner on the Florida Mesa bordering CR 220 and the historic Craig ranch I believe the most simple and practical solution is one that affects the least amount of homes and private properties. Florida Mesa is a huge part of the agricultural community and culture of La Plata County and the faster dividing roads/highways the healthier. Please think and study the idea of keeping the mesa intact. The "Web team" proposal makes sense to me as for as using what we have and making it better, therefore bettering the lives of everyone involved, as well as being more cost effective which is so important in this decision making process. Just because the "Bridge to Nowhere" was built without being a known definite solution doesn't mean it has to be used in such an impractical manner. I strongly urge you*

NAME: Mary Anne Griffin  
 ADDRESS: 488 CR 220 Durango CO 81303  
 REPRESENTING: a concerned citizen,

*to consider making the current right of way work better. The only other alternative that comes close to being the least destructive to the community of Florida Mesa would be proposal "G". Thank you for listening.*  
*Mary Anne Griffin*

See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.

Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.

The response to Common Comment 7 contains information about the functionality of the Grandview Interchange even without a connection to a reconstructed US 550. FHWA has reviewed and approved of the independent utility of this interchange.

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Patrick Morrissey	<b>Response to Comment IND 34</b>
<b>Document Number:</b>	IND 34	<b>City, Zip Code:</b>	Durango, 81301	
<p><b>From:</b> <a href="mailto:WCMS_Notify@dot.state.co.us">WCMS_Notify@dot.state.co.us</a> [<a href="mailto:WCMS_Notify@dot.state.co.us">mailto:WCMS_Notify@dot.state.co.us</a>]  <b>Sent:</b> Tuesday, November 22, 2011 2:10 PM  <b>To:</b> Taylor, Sandra  <b>Cc:</b> Shanks, Nancy  <b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name Patrick                  Last Name Morrissey                  Representing GRVP, LLC/Three Springs                  Address, City, Zip 175 Mercado Stree, Suite 240 Durango CO 81301                  Your E-Mail Address <a href="mailto:pmorrissey@sugf.com">pmorrissey@sugf.com</a></p> <p><b>Comments</b>                  GRVP, LLC, ("GRVP") is a wholly-owned enterprise of the Southern Ute Indian Tribe and the owner and developer of the 681 acre Three Springs Planned Development. GRVP/Three Springs has an access permit to us160 at the intersection of CR 233 and Three Springs Blvd in which two (2) of the three (3) Supplemental Draft Environmental Impact Statement ("SDEIS") alternative us550 alignments connect with us160. GRVP is also the legal entity contracted to purchase approximately 37 acres from Rowean Crader and the Crader family (collectively "Craders"). The Craders property lies directly north and east of and adjacent to the third SDEIS alternative us550 alignment connection with us160.</p> <p>GRVP emphatically supports the current preferred Revised G Modified Alignment as defined in the SDEIS.</p> <p>This corridor has been studied since 2001, a Record of Decision was published in November 2006 which included a connection with US 550 and the current interchange, and now has been verified in the current SDEIS published in October 2011.</p> <p>GRVP does not support any further evaluation of the location of the proposed intersection or us550 highway corridor. GRVP will vigorously oppose any proposed connection at the existing Farmington Hill intersection becoming an alternative alignment in the Final Draft Environmental Impact Statement.</p>				<p>Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.</p>

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Tim Wheeler	<b>Response to Comment IND 35</b>
<b>Document Number:</b>	IND 35	<b>City, Zip Code:</b>	Durango, 81301	
<p><b>From:</b> WCMS_Notify@dot.state.co.us [mailto:WCMS_Notify@dot.state.co.us]  <b>Sent:</b> Tuesday, November 22, 2011 9:06 AM  <b>To:</b> Taylor, Sandra  <b>Cc:</b> Shanks, Nancy  <b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name                  Tim                  Last Name                  Wheeler                  Representing                  Self/Local Voter                  Address, City, Zip                  189 Verde Lane                  Durango, CO 81301                  Your E-Mail Address  <a href="mailto:t_wheeler@hotmail.com">t_wheeler@hotmail.com</a></p> <p>Comments                  I am concerned about the monetary, environmental and historical expense of the CDOT proposed US Hwy 550/160 realignment in SW Colorado. Please give the Webb Proposal for redesigning Farmington Hill or any reasonable proposal to utilize the current right-of-way thorough consideration. We really don't need another huge costly new construction project to justify already wasted taxpayer dollars spent on a useless bridge in this area.                  Thanks.</p>				<p>See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.</p> <p>The response to Common Comment 7 contains information about the functionality of the Grandview Interchange even without a connection to a reconstructed US 550. FHWA has reviewed and approved of the independent utility of this interchange.</p> <p>Please see the response to Common Comment 6 about the cost for the Revised G Modified Alternative.</p>

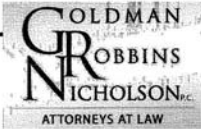
Comments

Responses

Source:	E-mail	Name:	Jeffery P. Robins
Document Number:	IND 36	City, Zip Code:	Durango, 81302

Response to Comment IND 36

Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative. Response to Common Comment 4 identifies the primary disadvantages of the Eastern Realignment Alternative.

MICHAEL A. GOLDMAN JEFFERY P. ROBBINS LINDSEY K. S. NICHOLSON JOSH W. MACK		679 E. 2ND AVENUE, SUITE C PO BOX 2270 DURANGO, CO 81302 970/259.8747 FAX 970/259.8790
November 21, 2011		
Sandra Taylor Colorado Department of Transportation 3803 North Main Avenue, Suite 300 Durango, CO 81301		
<b>Re: Colorado Department of Transportation Project NH 5501-11                  New Mexico State Line to Durango                  Comment on Supplemental Environmental Impact Statement/4(f) Evaluation (SDEIS)                  Our File No. 2212.001</b>		



Dear Ms. Taylor:

This firm represents a group of landowners in the Grandview Area of La Plata County near Durango consisting of: John and Michelle Gilleland, Kristina and Matthew Hartley, Margaret and Larry Hjermsstad, Doug and Mary Ervin, Greg and Lanae Mann, Brad and Janelle Blake and Robert and Patty Genualdi. Please accept this letter as a public comment on the SDEIS on their behalf. On October 2, 2009, after the Webb Ranch was determined to be eligible for the National Register of Historic Places but before initiation of the SDEIS process, we sent a letter outlining our concerns with the proposed "Eastern Realignment" route. Our clients own property along this route and wanted to ensure that their concerns about the impacts of this route were considered just as the owners of the Webb Ranch had adamantly voiced their concerns.

First and foremost, we would like to commend you and your staff on the comprehensive report that you have produced. After a thorough reading of the SDEIS, it is apparent that great care was taken to address all statutorily required factors and to address these issues each in an accurate manner. Our 2009 letter focused on a few different points. First, we discussed the issues noted in the original EIS that pertained to Alternative F Modified, under the reasoning that this alternative would involve an interchange with Highway 160 at Three Springs, just like the Eastern Realignment. We reasoned that the issues that weighed against Alternative F Modified in the original EIS would similarly create problems for the Eastern Realignment. Second, with information obtained from the Colorado Historical Society we attempted to identify specific historic and cultural resources that would be impacted by the Eastern Realignment. Finally, we reasoned that given the dispersed nature of 4(f) resources (cultural, historic, social and environmental) on Grandview mesa, the Eastern Realignment would have a greater impact due to the much greater swath of land that would have to be condemned and disturbed. Your careful study of the various 4(f) resources that lie along the Eastern Realignment route has, for the most part, confirmed our belief in this regard.

Generally, a 4(f) evaluation consists of a multi-factor balancing test, where the various impacts of one alternative must be weighed against the impacts of others. This can involve a sometimes subjective decision about disparate factors. Here though, no such painstaking decision must be



Comments

Responses

Source:	E-mail	Name:	Jeffery P. Robins
Document Number:	IND 36	City, Zip Code:	Durango, 81302

Colorado Department of Transportation  
 November 21, 2011  
 Page 2

subjective decision about disparate factors. Here though, no such painstaking decision must be made because the vast majority of the factors weigh in the same direction. When compared to the Revised Alternative G Modified, the Eastern Realignment would impact substantially more wildlife habitat (49.1 acres versus 36.6 acres), and exponentially more wetlands (3.2 acres versus .03 acres). See SDEIS, Table 2-6. The Eastern Realignment is the only alternative with any impact on an endangered or threatened species, as it would affect 1.1 acres of suitable habitat for the Southwest Willow Flycatcher. Executive Summary, at 10.


The Eastern Realignment would also cause more disruption to social resources. It would destroy much more irrigated farmland (35.1 acres versus 11.5 acres), and displace six homes and one business as opposed to no homes and no businesses for Revised Alternative G Modified. See SDEIS, Table 2-6. With respect to historic resources, Revised Alternative G Modified would have the least impact (only six NRHP-eligible archeological sites), as compared to the Eastern Realignment and Revised Alternative F Modified, which contain eight and nine such sites respectively. Executive Summary, at 12. The Eastern Alignment would also cost more to construct than Revised Alternative G Modified (\$93,106,000 versus \$77,598,000).

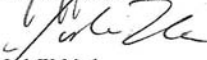
Based on the factual findings contained in the SDEIS, all major factors in the 4(f) evaluation dictate a finding that Revised Alternative G Modified is the preferred alternative. Thus, CDOT's conclusion in this regard is unassailable and will serve as a sound basis to move forward with the Highway 550 South connection to Highway 160 via this route. This conclusion is supported by not only the sound methodology contained throughout the SDEIS, but also shown by the alteration made to Alternative G Modified to avoid the gas well which would have been affected. We believe that this shows the CDOT approached this issue with an open mind towards problem solving and finding the best solution.

In conclusion, our clients applaud the effort that has been expended to create the SDEIS and agree with its conclusions. We fully support the preferred route as the best way to modernize and improve the Highway 550 South connection to Highway 160.

Sincerely yours,

GOLDMAN, ROBBINS & NICHOLSON, P.C.

  
 Jeffery P. Robins  
 Direct email: jrobins@gm-law.com

  
 Josh W. Mack  
 Direct email: mack@gm-law.com

JPR/nb



Comments

Responses

Source:	E-mail	Name:	Jeffery P. Robins
Document Number:	IND 36	City, Zip Code:	Durango, 81302

Colorado Department of Transportation  
 November 21, 2011  
 Page 3

cc: Ms. Karla Petty, Division Administrator  
 U.S. Department of Transportation  
 Federal Highway Administration – Colorado  
 12300 West Dakota Avenue, Suite 180  
 Lakewood, Colorado 80228

Mr. Richard Reynolds  
 Region Five Transportation Director  
 Colorado Department of Transportation  
 3803 North Main Avenue, Suite 306  
 Durango, CO 81301

Kerrie Neet, CDOT Region 5 RPEM

Larry Tannenbaum, Esq., Senior Assistant Attorney General

Eric Meyer, Esq., Assistant Attorney General

Clients (via email)

Comments

Responses

Source:	E-mail	Name:	Anne Jackson	<b>Response to Comment IND 37</b>
Document Number:	IND 37	City, Zip Code:	Not provided	
<p><b>From:</b> Anne Jackson [<a href="mailto:AJackson@durangosportsclub.com">mailto:AJackson@durangosportsclub.com</a>]  <b>Sent:</b> Tuesday, November 22, 2011 7:44 AM  <b>To:</b> Shanks, Nancy  <b>Subject:</b> \$76 million dollar waste</p> <p>"I am concerned about the monetary, environmental and historical expense of the proposed US Hwy 550/160 realignment in SW Colorado. Please give the Webb Proposal for redesigning Farmington Hill in the current right-of-way thorough consideration"</p> <p><b>Please don't go through with the current plan!</b></p> <p>Anne Jackson</p>				<p>See the response to Common Response 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.</p> <p>Please see the response to Common Comment 6 about the cost for the Revised G Modified Alternative.</p>

Source:	E-mail	Name:	Tim Turner	<b>Response to Comment IND 38</b>
Document Number:	IND 38	City, Zip Code:	Durango,	
<p><b>From:</b> Tim Turner [<a href="mailto:tt8813@yahoo.com">mailto:tt8813@yahoo.com</a>]  <b>Sent:</b> Tuesday, November 22, 2011 8:25 AM  <b>To:</b> Shanks, Nancy  <b>Subject:</b> highway 550 alignment</p> <p>Dear Nancy -</p> <p>please consider some alternatives for the Hwy 550 alignment - it seems to be a black hole in which we've already thrown a bunch of money... let's try to act responsibly and consider the Webb Ranch Proposal..</p> <p>thank you.</p> <p>Tim Turner                  Durango, Colorado                  970 / 749-4281</p>				<p>See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.</p>

Comments

Responses

Source:	E-mail	Name:	Antonia Clark
Document Number:	IND 39	City, Zip Code:	Durango, 81303
<p><b>From:</b> Antonia Clark [mailto:antonia@frontier.net]  <b>Sent:</b> Wednesday, November 23, 2011 12:57 PM  <b>To:</b> Shanks, Nancy  <b>Subject:</b> Hwy 550/160 realignment</p> <p>I have spoken out in public meetings for years and more recently this past month, but want to confirm that I am very opposed to the proposed modified G alignment across the Webb Ranch, or any alignment across the Webb Ranch. Building this alignment will destroy irreplaceable natural and historic resources and waste a lot of money that we do not have or need to spend. The "Bridge to No Where" was an unnecessary and ill conceived project. Is it necessary to follow it with an even more destructive and expensive project?</p> <p>Can't you find a way to spend money in such a way that it will really benefits us now? Richard Reynolds used to talk about all the highways in Colorado that were in disrepair to the point of being dangerous. Why spend money on projects we MIGHT need 20 years from now when people are driving on dangerous highways today? How is it that CDOT did not have the funds to "fix the Wal Mart" intersection" (until 2 people died there) but did have the money to build the Grandview interchange? Shouldn't dangerous situations demand the money instead of "Pie in the Sky" interchanges that we probably won't need for 20 - 30 years? I think most people agree that The "Bridge" should never have been built without proper right-of-ways and the approval of adjoining projects. It was a clear case of "putting the cart before the horse." The future developer of the Crater (sp?) property should have paid for the ingress and egress lanes to that property but because of CDOT's hasty decisions taxpayers have now footed that bill. Be that as it may be, it seems that CDOT has made the best of a bad situation with that interchange and should leave it be rather than insisting on a connection from the "Bridge" to the top of Farmington Hill.</p> <p>I would really like to see a solution to Farmington Hill that could be created in the current alignment. I know it will be challenging but I think it would be the right thing to do. I realize that CDOT has a string of talented engineers who have looked at this alignment but maybe they could come up with a solution in this alignment if the guidance from the top supported the idea. Too many citizens dismiss the idea that government entities actually care about doing the right thing, but I still have hope that in a small community the government can act in a responsible and considerate manner. I know there are a lot of good people at CDOT who want to do what is best for their community. Now that Kerry Neat is at the helm I hope that this can be a reality.</p> <p>Though I know that the government seldom listens to arguments about personal property rights, I think that it is worth noting that Chris Webb has resisted developing his property and the millions of dollars that it could create for him in order to preserve his ranch and the way of life he grew up with and cherishes. Sentimentality seems to have no influence but it seems criminal to me that a private land owner, who wants to preserve his land, has to fight a government that wants to condemn it....especially when the project involved is not needed, is extravagant, wasteful and expensive in every way.</p> <p>Certainly Farmington Hill has some issues and could use some modification but I hope you will take another hard look at staying in the the current alignment rather than insisting on connecting to the Grandview Interchange.</p> <p>Thank you for listening.                  Antonia Clark</p>			

Response to Comment IND 39

See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.

The funds utilized for the Grandview Interchange were obtained from funding set aside by Senate Bill 1. These funds were voted on by Colorado residents and specifically allocated to be spent on a list of prioritized projects situated throughout the state. The funds set aside by this fund could not have been utilized for the Walmart Intersection, but were only allowed to be spent on the US 160 corridor analyzed by the 2006 US 160 EIS.

The response to Common Comment 7 contains information about the functionality of the Grandview Interchange even without a connection to a reconstructed US 550. FHWA has reviewed and approved of the independent utility of this interchange.

CDOT has carefully analyzed numerous options for using the current alignment. The safety issues inherent in any of these designs preclude them from meeting the project's purpose and need. Given the constraints of the existing geography, acceptable design standards could not be met.

Comments

Responses

Source:	Letter	Name:	La Plata County Energy Council
Document Number:	IND 40	City, Zip Code:	Denver, 80225



November 23, 2011

Sandra Taylor  
<http://www.coloradodot.info/projects/us550-at-160/supplementaldeis/submit-your-comment>  
 Colorado Department of Transportation  
 3803 North Main Avenue  
 Durango, CO 81301

Re: Comments US 550 South Connection to 160 Supplemental Draft Environmental Impact Statement US 550 at US 160 Supplemental Draft Environmental Impact Statement

Dear Ms. Taylor:

The La Plata County Energy Council is a non-profit trade organization that promotes safe and environmentally responsible natural gas development in La Plata County, Colorado on fee, tribal state and federal lands. Our forty individual and company members work to build community relations, increase public understanding, and address public issues relative to the industry. On behalf of The La Plata County Energy Council ("LPCEC"), we are providing the following comments on the US 550 South Connection to 160 Supplemental Draft Environmental Impact Statement ("SDEIS"). LPCEC members are property right owners within these lands and have concerns on the proposed options that may affect oil and gas production.

**General Comments**

- A | Public Involvement was lacking for property right owners such as operators and transporters of natural gas for all alternative locations with current active wells and active pipelines. Additionally, formations are split in La Plata County and operators with a leasehold right in a formation other than what is currently producing may have exploratory wells planned. Within the La Plata County code (Chapter 90), there are requirements to pad share (have more than one well on a single pad); or other requirements that do not allow for more than 4 wells per section, which would place future wells on an existing pad facility. The existing pads could grow in size; based on maps there could be conflicts for access, conflicts for meeting county setbacks of 450 feet from a wellbore, or Colorado Oil and Gas Conservation Commission ("COGCC") setbacks of 150 feet from a wellbore. According to Table 3-12, Oil and Gas Facilities in the Study Area, there are several natural gas wells that are too close to the new alignment to be in compliance with both state and local setbacks. This could be an encroachment and at a minimum anything within 150 feet from the wellbore could become a safety issue for any future drilling rig.
- B |

Response to Comment IND 40

- A. CDOT follows FHWA approved *Procedures for Public Involvement and Participation in the Project Development and Environmental Analysis Process*. CDOT has developed extensive mailing lists that include over a thousand individuals and organizations including federal land management agencies, adjacent states, oil and gas production companies, and agencies responsible for resources protected by federal, state, and local laws. Since the inception of the 2006 US 160 EIS, CDOT has held numerous public meetings, hearings, press releases, and solicited public involvement through various means. For the 2006 US 160 EIS and news of the pending SDEIS, CDOT developed a website that includes the entire document, appendices, and a link that provides updates on the US 550 connection to US 160 including history and background, frequently asked questions, press releases and newsletters (sent to all La Plata Economic Development Alliance members, one of whom is Ms. Zeller from the La Plata County Energy Council). When the SDEIS was published for public review, a Notice of Availability was published in the *Federal Register* and was announced through postcards to nearby residents (in English and Spanish), website, e-mail, press releases and written and oral announcements to regional towns, counties, and elected officials (including the La Plata Economic Development Alliance), as well as publication in the *Federal Register* and local media (print and radio). CDOT has strived to make as much information as possible available to the public including property rights owners.
- B. The Preferred Alternative, Revised G Modified, has been redesigned to avoid impacts to natural gas wells. This alignment does not place the highway within the 150 foot setback criteria mentioned in your letter. As you state in your letter, several natural gas wells, one situated along the Revised F Modified Alternative, and one along the Eastern Realignment Alternative, would potentially be located within 150 feet of the future roadway. The distances provided in Table 3-12 are based on preliminary mapping data, and the accuracy of this data is not exact. If either Revised F Modified Alternative or the Eastern Realignment Alternative is selected as the Preferred Alternative, surveying would be conducted to very specifically locate those resources in relation to the final roadway template. Every effort would be made to ensure that setbacks would be maintained between wellbores and the roadway. If the final road configuration results in clearances of

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C

Additionally, the document does not recognize or have located by maps any natural gas pipelines. Some pipelines are co-located in existing valid rights of way. There appears to be no specific mitigation options contained for any of the proposed alternatives within the document that would provide access to natural gas wells or relocations of natural gas pipelines. An engineer One Call should be conducted for all alternatives to locate all underground pipelines and utilities.

Response to Comment IND 40

B (cont'd)

less than what is stated in Section 603 of the COGCC rules and regulations, CDOT will work closely with the pertinent oil and gas company(s) and the COGCC to negotiate a variance.

- C. The SFEIS addresses design elements that are conceptual in nature. Progressing through the detailed design process will define impacts from specific construction activities. CDOT addresses all utility impacts and potential utility relocations during the final design phase of project development, when right-of-way is being purchased. At that point, utilities will be mapped and avoided if possible. Any relocations required outside of the existing CDOT-owned right-of-way due to the project alignment selection would be initiated by and paid for by CDOT.



Comments

Responses

<b>Source:</b>	<b>Letter</b>	<b>Name:</b>	La Plata County Energy Council
<b>Document Number:</b>	<b>IND 40</b>	<b>City, Zip Code:</b>	Denver, 80225

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**D** Executive Summary – ES-1  
 “This SDEIS is being prepared because of issues that have come to light during preliminary design of the US 550 South connection to US 160 based on the alternative selected in the 2006 US 160 ROD. These issues include (1) a gas well constructed in the US 550 alignment of the preferred alternative from the 2006 US 160 EIS, and (2) in 2008, the portion of the Marie J. Webb Ranch (Webb Ranch) property on Florida Mesa was determined eligible for the National Register of Historic Places (NRHP)”. Comment: Landowners who negotiate Surface Use Agreements (SUA) are recorded for public record in the La Plata County Clerk and Recorder’s office. The SUA was executed August 12, 2003 for the Webb-Reeder Gas Unit A2. Pending oil and gas permits and approved permits for drilling are filed on a public website found on the Oil and Gas Conservation Commission (“COGCC”) website. Additionally, after the well is drilled this information including depths, spud date and other information also is found on the COGCC website for facilities. The spud date for API 05-067-08877, Webb-Reeder Gas Unit A2 was August 20, 2003. Throughout the SDEIS it is implied that one reason for the supplement is a well located within the Colorado Department of Transportation (“CDOT”) road alignment. The final EIS needs to be revised to delete this reason; the well was drilled August 20, 2003 a full three years before the EIS was completed. The 2006 Final EIS may have been in error for current conditions or lacked the accuracy of existing and potential wells in 2006. The Final May of 2006 document does not mention any of the Webb wells that are noted in tables now in this SDEIS. (See 3.15-2 page 3-69 from Final May 2006 document). Additionally, on page 4-163 under section 4.23.5 “Oil and gas development within and outside the Southern Ute Indian Reservation would continue for the foreseeable future. Additional permits would be granted, wells would be drilled, and access roads and pipelines would be constructed.” It should be noted that the 2006 Table 3.15.2, Oil and Gas Facilities Potentially Impacted by the Project, is inaccurate or incomplete.

**E** Executive Summary – ES-3 Revised G Modified Alternative.  
 “The Revised G Modified Alternative is essentially the same alternative as that selected in the 2006 US 160 EIS but has been revised to avoid a gas well that was installed in the alignment selected in the 2006 US 160 ROD.” Comment: Landowners who negotiate Surface Use Agreements are recorded for public record in the La Plata County Clerk and Recorders office. Pending oil and gas permits and approved permits for drilling are filed on a public website found on the Oil and Gas Conservation Commission (“COGCC”) website. Additionally, after the well is drilled this information including depths, spud date is found on the website for facilities. Because the spud date of this well was August 20, 2003 this well was drilled and producing prior to the ROD. CDOT should have known this well was on these lands using public records, even if CDOT had no landowner access to physically see the well placed within the alignment.

Purpose and Need Page1-2 1.2 Proposed Action; 1.3 Background, Pages1-4 and 1-5; Alternatives 2.4.5 and 2.4.6 Page 2-10; Affected Environment Page 3-52  
Comment: Because the spud date of this well was August 20, 2003 this well was drilled and producing prior to the ROD. CDOT should have known this well was on these lands using public records, even if they had no landowner access. The SDEIS should be re-written to reflect the accuracy of language throughout the document that states “a gas well was discovered within the alignment selected...or redesigned to avoid this gas well”. The point is there was no need to

Response to Comment IND 40

- D. As detailed in the SDEIS, the gas well on the Webb Ranch was discovered during the design process which occurred after the 2006 US 160 ROD. CDOT recognizes that the gas well was installed prior to the completion of the ROD, however its existence was not known to CDOT until the design process began, after completion of the ROD. The well in question was placed in 2003, and missed in the analysis since data from 2000 was used. It is common to select a reasonable data set for the analysis with the understanding that data will be updated in final design.
- Table 3.15.2 of the 2006 US 160 EIS addressed the study area relevant for the alternatives presented in that document. New alternatives have been included in the SEIS, and a new study area has been developed to include these new alignments. The change in well information in the mentioned tables is due to this change in scope.
- E. See the response to D, above. Utilities are frequently moved and can typically be relocated or avoided so they are normally addressed during the final design phase of a project. For an EIS level of design (conceptual), the use of aerial mapping and GIS maps and data from other agencies is very common. CDOT was fortunate enough to have detailed land survey data for the study area from 2000. On December 24, 2002, the Notice of Intent for the 2006 US 160 EIS was published. At that time it was decided that this survey data and other collected information was adequate, and the designs from the 2002 environmental assessment (EA) were carried forward into the 2006 US 160 EIS. This data and design information were only modified slightly, if at all, during the 2006 EIS process. The environmental studies and reviews were conducted from the original survey of the study area to in 2000.

Comments

Responses

Source:	Letter	Name:	La Plata County Energy Council
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F

avoid the gas well ("a newly constructed gas well") within the alignment because the 2006 alignment or ROD should have reflected the existing oil and gas well drilled August 20, 2003. This may be true for all Alternatives.

G

3.3.3 Current Conditions, page 3-6

Comment: There are gas wells both north and south of US 160. There are pipelines for gas transmission both north and south of US 160. These should be noted as current conditions and include well names and operator names. At a minimum CDOT should have included letters to these property right owners as part of their public outreach/involvement.

H

3.15 Hazardous Waste Sites Page 3-58

"The MESA provides details on all evaluated sites, and provides details regarding additional issues of concern, including oil and gas facilities." Comment: After review of this section of the 2006 US 160 EIS to determine the specific details on the identified sites of concern, no details are provided for oil and gas facilities. Since there are no detail for hazardous materials and hazardous waste in relation to oil and gas facilities; this language should be deleted for oil and gas facilities.

I

3.15.3 Current Conditions, Pages 3-59 and 3-60

Comment: COGCC approved 160-acre well spacing approximately April of 2000; in certain areas within the county there is also approved 80-acre spacing. On the County GIS maps there are also drilling windows. COGCC provides this information and it is readily available and this is the location where coalbed methane wells must be located unless a location waiver is obtained by the COGCC. The COGCC drilling window can be found on the County GIS map for the Webb-Reeder Gas Unit A2 and this well is located within the COGCC drilling window. There does not appear to be 80-acre well spacing within Section 10; however regarding other alternatives further east this may not be true and additional wells could be placed on the existing pads. At a minimum CDOT maps should include COGCC drilling windows and 80-acre well infill areas.

Response to Comment IND 40

- F. Please see response to Comment D on the previous page. CDOT acknowledges the gas well existed on the Webb property prior to release of the US 160 EIS in 2006.
- G. There are indeed more oil and gas facilities in the area than originally described in Section 3.3.3 and shown on Figure 3-2. Text has been added to Section 3.3.3 to clarify that there are gas wells and pipelines for gas transmission both north and south of US 160 and the gas wells have been removed from Figure 3-2. The text now reads "The area south of US 160 consists primarily of large working ranches, with some residential properties, gas wells, a pipeline for gas transmission, and an operational gravel pit. The area north of US 160 is primarily developed with businesses, residences, mixed use properties (including the Mercy Hospital complex), gas wells, and a gas transmission pipeline. Figure 3-2 shows the location of some of these features. See Table 3-12 and Figure 3-10 for information on the gas facilities. (SDO, 2011)." See Section 3.15, specifically Table 3-12 and Figure 3-10 for the updated information on oil and gas facilities. All property owners and owners of gas facilities will be contacted when an alternative is selected in the ROD for implementation.
- H. Oil and gas facilities are identified as "additional issues of concern" because they have potential impacts on project construction activities. The potential exists for subsurface releases of gas, encountering exploration, development, and production wastes or materials (drilling fluids, etc.) and petroleum or gas products released into surrounding soils and groundwater; however, these releases may not be directly visible at the facility. As a result, oil and gas facilities that may be impacted or disturbed constitute a site of concern and are included in the MESA.
- I. The study area falls within 3 Sections: 10, 11, and 9U. Section 10 currently has 4 wells in operation and one abandoned well site. Section 11 also has 4 gas wells in operation. Section 9U has 6 gas wells in operation, and 1 well permitted but as of yet undrilled. Neither Section 10 nor Section 11 has approved 80-acre infill spacing. It is unnecessary to look at the drilling and spacing units for these Sections as they are at their maximum allowable density.  
  
According to the La Plata County Planning office, Section 9U does have an approved 80-acre infill. This means that the Section can have 1 well/acre or 8 wells/640 acres. Based on this, an operator could drill one more well in this Section. Regardless of this fact, the drilling windows in La Plata County do not dictate the surface locations of the gas wells.

Comments

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J

Additionally, the table mentioned as Table 3.15.2 Oil and Gas Facilities Potentially Impacted by the Project cannot be found within the document and it is not within the Table of Contents. When this table is produced or provided to the Energy Council please include all spud dates for the wells. This information and Table should be revised in the final EIS.

K

Table 3-12. Oil and Gas Facilities in the Study Area Page 3-60  
Comment: This table should have information including well spud dates. All wells listed within this table are currently producing wells. Spud dates have been inserted within this table. Regarding the distance from alignment; Wells 05-067-08877, 05-067-08875, 05-067-07418 and 05-067-06964 are all less than 450 feet from the wellhead or pad area. It is unknown what the measuring distances were for these footages. The distance from the alignment from the wellhead or the edge of the well pad is not described. The setback distances could be encroaching on wells subjecting facilities to non-compliance with rules/codes for either the COGCC or La Plata County.

I (cont'd)

The drilling windows detail the bottom-hole location (bottom of the well). With the use of directional drilling, the surface location does not need to be directly above the bottom-hole. Additionally, the County's oil and gas code requires that operators co-locate wells on common well pads and they limit the number of well pads to 4 per Section. Section 9U has 4 well pads already. Therefore, siting the 80-acre infill spacing areas on the SFEIS mapping is unnecessary.

J.

Table 3.15.2 referenced in the document is referring to the 2006 US 160 EIS, which is now obsolete based on the addition of numerous wells since that time. Table 4-12 in the SFEIS is current as of December 2011 and based on the most recent data available at the time the document was prepared. Future conditions could result in changes to this table based on revisions to well spacing regulations. Addition of the spud dates to this table is not relevant to the alternative selection and transportation decision-making process. It is CDOT's intent to avoid existing and planned wells whenever possible as well as adhering to setback requirements for safe operation of equipment and protection of personnel.

K.

The addition of spud dates to the table is not relevant to the alternative selection process. It is CDOT's intent to avoid existing and planned wells whenever possible as well as adhering to setback requirements for safe operation of equipment and protection of personnel. Addition of spud dates does not provide information to support this goal. The distance of existing wells from the alternative alignments was measured from the edge of proposed right-of-way to the well bore. Two wells appear to have less than the needed setback distance as required by the County, and all four have less than the needed setback distance required by the COGCC. During final design, CDOT will attempt to refine the alignments in order to comply with setback requirements. If design shifts cannot meet the setback requirements, CDOT will work with the well owner to file for variances from setback requirements. Depending on the selected alternative, one or possibly two wells could be affected.



Comments

Responses

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Table 3-12. Oil and Gas Facilities in the Study Area

Owner	Facility Name with spud date	Distance from Alignment	Township, Range,	Section Alignment
BP America Production Company	05-067-08877 Webb-Reeder Gas Unit A2 - 8/20/2003	164 feet	T34N R9W Section 10	Revised G Modified
Chevron Midcontinent LP	05-067-08845 Montoya #10-3 12/18/2003	894 feet	T34N R9W Section 10	Revised G Modified
BP America Production Company	05-067-07424 Webb Reeder Gas Unit A#1 12/31/2001	455 feet	T34N R9W Section10	Revised F Modified
BP America Production Company	05-067-07874 Webb Reeder Gas Unit B#1 12/28/1992	1360 feet	T34N R9W Section 11	Revised F Modified, Eastern Realignment
BP America Production Company	05-067-08885 Webb Reeder Gas Unit B#2 8/21/2003	1175 feet	T34N R9W Section 11	Revised F Modified, Eastern Realignment
BP America Production Company	05-067-08875 Grace P Cowan Trust GU A2 8/21/2003	81 feet	T34N R9W Section 11	Revised F Modified
BP America Production Company	05-067-07418 Webb-Reeder Gas Unit A1 12/31/2001	341 feet	T34N R9W Section 11	Eastern Realignment
BP America Production Company	05-067-09454 Craig, Helen Gas Unit 2 10/9/2007	1530 feet	T34N R9W Section 9	Revised G Modified, Revised F Modified
BP America Production Company	05-067-09458 Craig, Helen Gas Unit 4 10/9/2007	1540 feet	T34N R9W Section 9	Revised G Modified, Revised F Modified
BP America Production Company	05-067-06960 Craig, Helen Gas Unit 1 8/9/1988	1045 feet	T34N R9W Section 9	Eastern Realignment
BP America Production Company	05-067-08484 Dustin Gas Unit 09-01 #2 4/13/2005	1010 feet	T34N R9W Section 9	Eastern Realignment
BP America Production Company	05-067-09637 Dustin Gas Unit 09-01 #4 7/31/2008	1050 feet	T34N R9W Section 9	Eastern Realignment
BP America Production Company	05-067-06964 Joe A Hotter Gas Unit #1 2/3/1991	142 feet	T34N R9W Section 17	Eastern Realignment

Affected Environment – 3.18.3 Current Conditions Page 3-64

“The area is located in a physiographic region that has high-yield natural gas and coalbed methane production.” Comment: The Colorado portion of the San Juan Basin, specifically, La Plata County produces 27% of the State’s total of natural gas. For coalbed methane production, only, La Plata County production constitutes 77% of the State’s total. As mentioned before, there are formations such as the Mancos Shale that contain valid mineral leases as well. The

Response to Comment IND 40

L. Comment noted. The following information was added to this section, “La Plata County produces 27 percent of the States total of natural gas, and produces 77 percent of the total coalbed methane for the state. The county also possesses formations such as the Mancos Shale that contain valid mineral leases as well.”

As explained above, CDOT addresses all utility impacts and potential utility relocations during the final design phase of project development, when right-of-way is being purchased. At that point, utilities will be mapped and avoided if possible. Any relocations required outside of the existing CDOT-owned right-of-way due to the project alignment selection would be initiated by and paid for by CDOT.

Per the state access code, access via right-in/right-out will be provided to any gas well primarily accessed by a US 550 connection road.

Comments

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Source:	Letter	Name:	La Plata County Energy Council
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L	Current Conditions are deficient for natural gas production and transportation. There are no mitigation details for access to existing wells and no description of pipelines or mitigation details for re-routing pipelines within the SDEIS.		
M	<p><u>Environmental Consequences and Mitigation – 4.2.6 Mitigation, Page 4-5</u>  <u>Comment:</u> This section discusses access to natural gas production operations on areas of the ranches; it does not mitigate or define who will pay for access to the natural gas facilities if access routes are re-aligned when the road is constructed. Additionally the document has no information regarding gas pipelines, their locations and potential re-routing.</p>		
N	<p><u>Environmental Consequences and Mitigation – Direct and Indirect Impacts for Revised F Modified – 4.3.4 Page 4-6</u>  <u>Comment:</u> One gas well would have to be replaced as a result of this alternative may not be accurate if there is more than one gas well planned on the existing on the well pad. Language regarding wells should recognize the land use requirements by La Plata County that requires pad sharing or installing more than one well on a well pad.</p>		
O	<p><u>Environmental Consequences and Mitigation – Direct and Indirect Impacts for Revised G Modified (Preferred Alternative) – 4.9.3 Page 4-46</u>  <u>Comment:</u> Avoiding the gas well as discussed in 2.4.5 ties back the well drilled in 2003.</p>		
P	<p><u>Environmental Consequences and Mitigation – 4.15.1 No Action, page 4-75</u>                  “With the exception of several oil and gas wells that lay within the US 550 to US160 south connection project area, all RECs or sites identified as “additional issues of concern” are located in or adjacent to areas which would still be constructed under the No Action Alternative.”  <u>Comment:</u> As long as the additional issues of concern within the connection project area have identified all wells, locations of all pipelines, and include all pending and approved drilling permits, this is true.</p>		
Q	<p><u>Environmental Consequences and Mitigation – 4.15.3 Direct and Indirect Impacts for Revised G Modified (Preferred Alternative) page 4-76</u>                  “As identified in Table 3-12, Oil and Gas Facilities in the Study Area, and depicted on Figure 3-10 in Chapter 3, several oil and gas facilities are located near this alignment. <u>Comment:</u> Figure 3-10 should include drilling windows and 80-acre In Fill orders. Additionally, “although no observable leaks or odors have been observed from the surface of these oil and gas facilities, there is a potential for subsurface releases with no observable indications at the surface.” It is not understood by the reader the purpose of this statement.</p>		
R	<p><u>Environmental Consequences and Mitigation – 4.23.2 Present and Reasonably Foreseeable Future Projects</u>  <u>Comment:</u> The COGCC website should be used for pending and approved natural gas wells. The La Plata County Planning Department does not have a complete list of permitted wells, particularly for wells on tribal lands, federal lands or state lands and also one operator does not permit with La Plata County.</p>		

<b>Response to Comment IND 40</b>	
M.	CDOT’s design will accommodate access to natural gas facilities without requiring companies to negotiate alternate right-of-way requirements. The Preferred Alternative provides right-in/right-out access to the Webb-Reeder Gas Unit A2 production facility. Other alternatives will similarly accommodate production facility access. Natural gas pipelines and other utility issues will be addressed during final design of alternatives. CDOT is responsible for costs associated with utility conflicts except in instances where utilities are placed within existing CDOT ROW.
N.	The text has been revised to state “One well pad site and all gas wells located on that pad would have to be replaced as a result of this alternative.”
O.	It is not understood what this comment is intended to clarify. The conceptual design depicting the Revised G Alternative was made available to the public during the public involvement process associated with the 2006 US 160 EIS. Data gathering for the environmental studies began in 2000. CDOT understands that the well being discussed was drilled in 2003. Regardless of when it was drilled, it was drilled directly within the Revised G Alternative alignment, and this alignment had to be modified to avoid the well.
P.	As stated previously, the potential exists for subsurface releases of gas exploration, development, and production wastes or materials (drilling fluids, etc.) and petroleum or gas products into surrounding soils and groundwater; however, these releases may not be directly visible at the facility. As a result, oil and gas facilities that may be impacted or disturbed constitute a site of concern.
Q.	As explained in responses I, J, and K above, this change was not deemed necessary. It is CDOT’s contention that the potential exists for subsurface releases of gas exploration, development, and production wastes or materials and petroleum or gas products into surrounding soils and groundwater at or near oil and gas facilities. These conditions may not be readily observable from the surface, that care should be exercised when working at or near these sites, and subsurface investigations may be warranted depending on the actual extent of the anticipated impact.
R.	The COGCC website has been reviewed and information related to pending and approved natural gas wells has been added to the SFEIS, Table 4-12. .

Comments

Responses

Source:	Letter	Name:	La Plata County Energy Council
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Table 4-12. Reasonably Foreseeable Future Projects

Project	Description	Resources Affected	Permit Expiration with COGCC and location
Weaselskin #4 Minor Oil & Gas Facility	Minor oil and gas facility on an existing well pad located at 12995 US 550 South. Project status: approved. Project is located on the west side of US 550 approximately 4 miles south of the existing US 550/US 160 intersection	Air quality, mitigation, noise	4/27/2012 SENE 19 34N 9W
Weaselskin GU #3 Minor Oil & Gas Facility	Minor oil and gas facility on an existing well pad located at 12995 US 550 South. Project No. 2009-0126-OG-MN. Project is located on the same parcel as Weaselskin #4 above, located on the west side of US 550 approximately 4 miles south of the existing US 550/US 160 intersection	Air quality, mitigation, noise	4/22/2012 SENE 19 34N 9W
Clary #4 Minor Oil & Gas Facility	Minor oil and gas facility on an existing well pad. Project status: approved. Project is located on the west side of US 550 approximately 3.5 miles south of the existing US 550/US 160 intersection	Air quality, mitigation, noise	8/30/2012 SWSE 18 34N 9W
Craig #3 Minor Oil & Gas Facility	Minor oil and gas facility on an existing well pad. Project status: approved. Project is located on the east side of US 550 approximately 2.5 miles south of the existing US 550/US 160 intersection	Air quality, mitigation, noise	9/16/2012 Lot 4 18 34N 9W

**S** Comment: Expiration dates for permits as well as locations of the approved permits have been added to this table. It is not known if this is a complete route since Sections 18 and 19 are the only pending permits listed. CDOT should determine if this is just for connection or for the entire alignment route to the New Mexico border. From the 2006 Final EIS, Table 3.15.2, Oil and Gas Facilities Potentially Impacted by the Project, has various other Townships, Ranges and Sections and includes XTO Energy Inc. as an owner.

Environmental Consequences and Mitigation, 4.23.3 Land Use Impacts, page 4-91

**T** Comment: As long as the 2006 US 160 EIS includes accurate natural gas wells, pipelines, utilities, then the ongoing oil and gas development would be unchanged from those documented. As noted previously, within the 2006 document, Table 3.15.2 - Oil and Gas Facilities Potentially Impacted by the Project – is inaccurate or not complete.

Response to Comment IND 40

- S. The expiration dates have not been added because this information is not relevant to the cumulative impact analysis. As stated in the SFEIS, this assessment is only for the US 550 South Connection to US 160, and does not re-analyze information outside this area included in the 2006 US 160 EIS, or the 2005 US 550 EA. Table 3-12 of the SFEIS has been updated with COGCC and La Plata County information relevant to the SEIS study area. The additional Townships, Ranges and Sections included in Table 3.15.2 – Oil and Gas Facilities Potentially Impacted by the Project from the 2006 US 160 EIS apply to the longer project area that document analyzed, and do not apply to the project area relevant to the SFEIS. These will be reevaluated as other parts of the 2006 US 160 EIS go to construction.
- T. The COGCC website has been reviewed and information related to pending and approved natural gas wells has been added to Table 4-12.

Comments

Responses

Source:	Letter	Name:	La Plata County Energy Council
Document Number:	IND 40	City, Zip Code:	Denver, 80225

La Plata County Energy Council US 550 at US 160 Supplement to Draft EIS Comments  
 November 23, 2011  
 Page 7

U

Environmental Consequences and Mitigation, 4.23.4 Farmland Impacts, page 4-92  
**Comment:** As noted previously, within the 2006 document, Table 3.15.2 - Oil and Gas Facilities Potentially Impacted by the Project – is inaccurate or not complete.

V

Environmental Consequences and Mitigation, 4.23.8 Noise Impacts  
 "Past projects in the study area have been minimal and except for receptors located immediately adjacent to area roadways, oil and gas development or land use development such as the Three Springs Development, noise has not been an issue." "Cumulative noise impacts in the study area would result from general county development, ....and from oil and gas development."  
**Comment:** These statements seem to imply that oil and gas development causes noise at the receptor. The COGCC has sound limits; and by Memorandum's of Understanding with La Plata County many gas wells in La Plata County are electrified or will be required to electrify future wells in infill areas and therefore gas development produce little or no noise. This language included oil and gas development should be deleted.

W

Environmental Consequences and Mitigation, 4.23-9 Wetlands and Water Resources Impacts, page 4-97  
 "...the amount of surface disturbance associated with oil and gas development (anticipated to be more than 2,000 acres) ..." **Comment:** It is not understood what this comment has to do with Water Resources Impacts and it should be noted that there are currently 3,342 active wells in La Plata County. The surface disturbance has occurred for those active wells; with pad sharing requirements at the state and county levels, future wells will most likely be co-located. Additionally there are many requirements within state stormwater permits for oil and gas activities. This statement is not accurate. This language including oil and gas development should be deleted.

Response to Comment IND 40

- U. Please refer to response D.
- V. The text currently states "The cumulative impacts of reasonably foreseeable future projects, including increased development associated with the Animas-La Plata Water Storage Project and ongoing oil and gas development, would be unchanged from those documented in the 2006 US 160 EIS." The 2006 US 160 EIS indicated that there will be continued and increased oil and gas development, which is not referring to specific locations of natural gas wells, pipelines, or utilities. Table 4-12 in the SFEIS contains an updated list of existing oil and gas facilities in the study area at the time of the document.  
  
 Although many natural gas wellhead operations are not noise intensive, the gas facilities associated with many of the local coal gas wells include hydraulic injection and extraction facilities, including pump jacks. These types of local well site facilities, in addition to permanent compressor and pumping stations, will be persistent long-term sources of noise within the rural setting. In addition, there are noise impacts due to large truck traffic during the development of oil and gas facilities.
- W. The importance of oil and gas development within the San Juan Basin cannot be understated. The industry as a whole contributes numerous employment opportunities provides a tremendous tax base to the County that benefits schools, residents, and local infrastructure. Economic benefits to local communities are provided by increased revenues to local hotels, shops, restaurants and other businesses. The intent of this statement is by no means derogatory to the oil and gas industry.  
  
 The SFEIS has been updated to reflect more recent figures regarding the amount of surface disturbance associated with oil and gas development from 2,000 acres to 9,129 (1,746 acres in the northern basin and 7,383 acres in the Southern Ute Indian Reservation) acres based upon more recent data included in the Northern San Juan Basin Coal Bed Methane Project EIS. Because the oil and gas industry is such a large and important part of the fabric of southwestern Colorado, it is important to include its influence within the cumulative impacts section of the SEIS. Any large scale development of land resources can affect water resources quality and quantity through contributions of sediment, chemical pollutants, and increased runoff unless mitigated.



Comments

Responses

Source:	Letter	Name:	La Plata County Energy Council
Document Number:	IND 40	City, Zip Code:	Denver, 80225

X

Environmental Consequences and Mitigation, 4.23-10 Vegetation Impacts page 4-97  
 "...oil and gas development (future loss of 2,604 acres)..." Comment: This statement does not reflect that oil and gas operations must conduct interim reclamation and final reclamation to offset vegetation losses in La Plata County. There are extensive COGCC rules for both of these topics. This language including oil and gas development should be deleted.

Y

Environmental Consequences and Mitigation, 4.23-12 Wildlife and Fisheries Impacts page 4-98  
 "...oil and gas development ...would all contribute to long-term and severe impacts on wildlife habitat" Comment: This statement does not reflect that oil and gas operations are subject to extensive rules with the COGCC and mitigation efforts with wildlife officials are offsetting many impacts on wildlife and wildlife habitats. This language including oil and gas development should be deleted.

Z

Environmental Consequences and Mitigation, 4.23-14 Historic and Archaeological Resource Impacts page 4-99  
 "Ongoing residential, commercial and industrial development in the area, combined with oil and gas development will continue to have negative effect on historic and archaeological resources in the area..." Comment: While it is noted that NHPA only protects resources from federally funding project or a Federal action; oil and gas operators comply with fee landowner requests and La Plata County Chapter 90 code provisions when siting wells and many times perform

Response to Comment IND 40

W (cont'd)

This statement was added to provide a relative comparison of the disturbances and relative added impervious surfaces that cause increased runoff that could impair water quality of the US 550 connection to US 160 when compared to other development activities in the region. The overall significance of the US 550 South Connection to US 160 impacts on water resources are relatively minor when compared to foreseeable development within the area.

X.

The estimated cumulative impacts for vegetation losses from oil and gas activity include impacts associated with wells, pipelines, and access roads. The Final EIS for the Northern San Juan Basin Coalbed Methane Project estimates impacts to vegetation from oil and gas development at 9,129 acres including 1,746 acres in the northern San Juan Basin which include La Plata and Archuleta Counties, and 7,383 acres on the Southern Ute Indian Reservation. This section of the document (Section 4.23 of the SFEIS) has been revised to reflect more recent estimates. Impacts to vegetation may be mitigated through reclamation but the original vegetation is removed at the onset and is disclosed as an impact.

Y.

Section 4.23 of the SFEIS presents cumulative impacts to wildlife resources from multiple sources and does not discount impacts based on mitigation measures. Highway projects, oil and gas development, and residential/commercial development projects often include measures to reduce impacts to wildlife resources. Although mitigation measures are developed to offset impacts that occur, that does not change the fact that the impacts do occur.

Z.

The text related to oil and gas facility impacts on historic and archaeological resources (Section 4.23.14) has been revised to clarify that these facilities do not have to comply with Section 106 of the National Historic Preservation Act. Language has also been added to this section that acknowledges there may be some mitigation of negative effects due to compliance with La Plata County codes. It should be noted however that landowner "requests" do not equate to requirements under federal laws. Since any archaeological impact is permanent, that impact is negative because it disturbs that resource. Text has been added to soften any implication that oil and gas development has more impacts than other ground disturbing activities such as road building.

Comments

Responses

		Source:	Letter	Name:	La Plata County Energy Council
		Document Number:	IND 40	City, Zip Code:	Denver, 80225
Z cont'd		La Plata County Energy Council US 550 at US 160 Supplement to Draft EIS Comments November 23, 2011 Page 8			
		archaeological clearance and mapping and reporting on fee land historical and archaeological sites. This language including oil and gas development should be deleted.			
AA		<u>Environmental Consequences and Mitigation, 4.23-16 Hazardous Waste Impacts page 4-100</u> <u>Comment:</u> This language including oil and gas development should be deleted. The document purports that hazardous waste impacts were not evaluated as part of the cumulative impacts assessment done for the 2006 US 160 EIS. Apparently facilities along the corridor determined to have hazardous waste or materials contamination could be avoided by CDOT or remediated and have no environmental impact or a positive impact. The following sentences that follow are not tied to any hazardous waste and should be deleted. "Since that time, additional oil and gas development has occurred in the project area. There are thirteen oil and gas facilities in the vicinity of the alternative alignments for the US 550 South Connection to US 160 Project." This section implies that oil and gas contains hazardous waste and could inaccurately inflame the public. There is no data driven analysis to support this statement.			
	BB		<u>Environmental Consequences and Mitigation, 4.23-17 Visual Impacts page 4-100</u> In the 2006 Final document, under 4.23.6.3 "As oil and gas exploration continues, as well as community expansion projects, viewsheds throughout the county will change notably." <u>Comment:</u> This implies that oil and gas development affects viewsheds. This document does not recognize that extensive site specific Visual Mitigation is required as part of COGCC Rules and La Plata County Chapter 90 regulations. This language including oil and gas development should be deleted.		
CC			<u>Environmental Consequences and Mitigation Table 4-14, Summary of Mitigation Measures page 4-103 – Farmland within table</u> "The Revised G Modified (Preferred) Alternative includes two underpasses to allow passage of deer, elk, and other wildlife. One of the underpasses within irrigated pasture will accommodate farm equipment and a cattle crossing to allow continued access to seasonal calving areas, crop production and access to natural gas production operations on western areas of the ranch." <u>Comment:</u> There are no details regarding how the continued access for natural gas production operations will be mitigated. If access roads need to be extended, who will get the landowner right of way, who will construct the road and who will pay for the road maintenance if an extension of the access road is longer than what exists on the ground? Additionally, there are no mitigation details for potential pipeline re-routing; who will get the landowner right of way, who will pay to move the pipelines?		
	DD		<u>Environmental Consequences and Mitigation – 4.15.4 Direct and Indirect Impacts for Revised F Modified page 4-76</u> "Although no observable leaks or odors have been observed from the surface of these oil and gas facilities, there is a potential for subsurface releases with no observable indications at the surface." <u>Comment:</u> It is not understood by the reader the purpose of this statement.		
EE			Section 4(f) Evaluation 5, page 5-5 and page 5-14, Revised G Modified Alternative and page 5-46 Revised G Modified Alternative and Revised F Modified Alternative. <u>Comment:</u> The revision was purported to be as a result of a gas well that was installed in the alignment after the 2006 ROD. The spud date for API 05-067-08877, Webb-Reeder Gas Unit		
	<b>Response to Comment IND 40</b>				
AA. This section addresses both hazardous materials and hazardous wastes, and is solely meant to disclose issues of concern. Oil and gas development involves the use or handling of regulated chemicals or products making them a Recognized Environmental Condition (REC) to consider. The SFEIS, and the information contained within this section, disclose this to allow for an informed decision-making process.					
BB. Any development that is visible, including oil and gas development, will affect the viewshed because they are changes from the visual baseline. Visual quality is the level of appeal associated with a viewshed. Anything that is deemed to reduce the visual quality of an area will therefore have an effect on the viewshed. It is generally accepted that development that reduces the natural quality of a landscape reduce the visual quality of the area. Text has been added in SFEIS Section 4.23.17 to state: "However, oil and gas developers are required to have mitigation for viewshed impacts as part of COGCC Rules and La Plata County Chapter 90 Regulations."					
CC. The gas well access included in the Revised G Modified Alternative would likely be a right-in/right-out from the highway at its existing access location. In this instance there would be very few additional impacts, with the majority of these occurring on CDOT right-of-way. Any underground lines that would be impacted by the highway could be lowered or positioned to follow the highway right-of-way to another location. This is a standard practice that happens throughout the state. CDOT will work with any affected parties once an alternative has been selected, and these costs would be paid for by CDOT. Text was added to Section 4.3.2 and Table 4-14 to acknowledge these potential impacts and indicate that this mitigation includes gas wells, access, utility and pipeline relocations.					
DD. The intent of this section is to identify and disclose any and all potential direct and indirect impacts associated with the alignment. As has been previously stated, it is CDOT's contention that the potential exists for subsurface releases of gas exploration, development, and production wastes or materials and petroleum or gas products into surrounding soils and groundwater at or near oil and gas facilities. These conditions may not be readily observable from the surface, but care should be exercised when working at or near these sites, and subsurface investigations may be warranted depending on the actual extent of the anticipated impact.					

Comments

Responses

Source:	Letter	Name:	La Plata County Energy Council
Document Number:	IND 40	City, Zip Code:	Denver, 80225

La Plata County Energy Council US 550 at US 160 Supplement to Draft EIS Comments  
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EE  
 cont'd

A2 was August 20, 2003. The purported gas well was installed prior to the alignment drawings. The language within the entire SDEIS needs to be reviewed to delete language that suggests that an oil and gas well is part of the avoidance necessitated by CDOT after 2006.

Public Involvement, page 6-1.

FF

Comment: Public involvement activities conducted during the SEIS include a newsletter distribution to property owners in the project area, meeting with the Durango Herald, press releases, SEIS web page, presentations at two La Plata County Alliance meetings, and receipt of four phone calls/emails from members of the public. The La Plata County Energy Council corresponded via email with Nancy Shanks after reading the May 2011 newsletter; there is no record of that correspondence contained within Appendix A. Apparently, BP America has met with CDOT, however other Energy Council members should have been contacted, particularly operators in the Three Springs area (Chevron) and pipeline operators, possibly Red Cedar and/or Williams Energy. Please consider the LPCEC as a resource to help with future meetings or to help identify natural gas property rights owners.

Reference 8.0

GG

Colorado Oil and Gas Conservation Commission (COGCC). 2011. COGCC GIS Online Well Database. < <http://oil-gas.state.co.us>>. Last accessed June 2, 2011.  
 Colorado Oil and Gas Conservation Commission (COGCC). 2005. COGCC GIS Online Well Database. < <http://oil-gas.state.co.us>>. Retrieved May 13, 2005. Comment: This site was also referenced in the 2006 Final document; however, as mentioned before, many wells were spudded beginning in 1991 through 2008.

The members of the La Plata County Energy Council are confident that operators and transporters can develop and transport resources that America needs in a manner that shows the highest regard for vegetation loss, wildlife and the environment. We appreciate the opportunity to provide input on the Supplement to the Draft Environmental Impact Statement.

Sincerely,

*Christi Zeller*

Christi Zeller  
 Executive Director

Response to Comment IND 40

EE. The language on page 5-5, 5-14 and 5-46 of the SDEIS states that the gas well on the Webb Ranch was discovered during the design process which occurred after the 2006 US 160 ROD. CDOT recognizes that the gas well was installed prior to the completion of the ROD, however its existence was not known to CDOT until the design process began, after completion of the ROD. The alternative was revised once CDOT became aware of the gas well.

FF. Christi Zeller sent, via e-mail to Nancy Shanks on May 23, 2011, a chart showing "Webb-Reeder" owned gas wells operated by BP America, Inc. (BP). Nancy referred Christi to Jim Horn, CDOT Region 5 Traffic and Safety division, to discuss past meetings and/or correspondence regarding wells in the Grandview Area. It is unclear if Ms. Zeller had a conversation with Jim Horn. On October 31, Ms. Zeller contacted Nancy Shanks, via e-mail, to ask why the SDEIS did not contain the May 23, 2011 e-mail correspondence. This e-mail is included in this appendix. Ms. Shanks responded by stating the media/public outreach during the SEIS was summarized in the draft document but that any official correspondence within the 45-day public comment period would be documented.

The only formal discussion relating to the SEIS was with BP on July 8, 2011, when CDOT met with BP to specifically discuss the proposed alignments of US 550 to US 160. CDOT shared three alternatives from the draft document and BP responded that they were the primary lease holder in this area of the alignments; BP agreed to give CDOT their GIS files on all their gathering lines and transmission lines to the wells they have in place. BP also informed CDOT they did not have any future well installations planned that would conflict with these alignments. When a final decision has been made, CDOT will work with the LPCEC to help identify gas property rights owners who may be affected by the project.

GG. Table 4-12 of the SFEIS recognizes new information that was gained from review of the COGCC GIS online well database.

Comments

Responses

Source:	E-mail	Name:	Chuck Wales
Document Number:	IND 41	City, Zip Code:	Durango, 81303

**From:** chuck wales [<mailto:chuckwales1@gmail.com>]  
**Sent:** Wednesday, November 23, 2011 11:14 AM  
**To:** Shanks, Nancy  
**Subject:** US 550 at US 160

I live on Florida Mesa, near Farmington Hill, at 484 CR 220. I am concerned about the monetary, environmental and historical expense of the proposed US Hwy 550/160 realignment in SW Colorado.

I understand the desire to tie into The Bridge, near Grandview, but it's not necessary. A more economical option is the revamping of the existing Farmington Hill. This alternative (especially as presented by the Webb engineers) is totally viable (engineering wise and economically) and eliminates most opposition to the other more controversial options (G and F). The Farmington Hill option will be shorter and quicker for commuters, which will save money and time and frustration. Keeping traffic flowing at 65 mph is a moot point, since 3 of the 4 directions of travel (southbound on 550 is the exception) will encounter traffic lights within 1 mile of the intersection (near Home Depot and/or Three Springs). According to information presented at the public hearing, the accident rate on Farmington Hill is quite low, especially when compared to the 160/550 intersection and the CR 220/550 intersection. It ain't broke so we don't need to fix that part of it. Future projections of increased traffic are not based upon realistic growth expectations, with 42,000 vehicles per day being more likely than the CDOT stated expectation of 85,000 per day. Huge difference.

Skirting the archeological sites (as opposed to removing or destroying) is a better long term protection option. The migratory corridor used by large game animals (deer and elk) would be impacted much less by utilizing the existing Farmington Hill rather than the new roads required to tie into The Bridge and interchange near Three Springs. There are still large stands of Ponderosa Pines (some of the - if not THE - southern most intact alpine forests in SW Colorado).

Using the existing Farmington Hill would do less to impact the historical ranches, irrigation ditches, and undeveloped woodlands on Florida Mesa. The Webb and Craig ranches would still be impacted, but much less than Alternative G or F. The fragmentation of rural American is destroying so much of our history. Keeping large blocks of land intact has future rewards and should receive high priority in evaluating options.

Thank you for taking the time to read my comments. I'm hoping that the public comments will be seriously considered. The Webb proposal makes sense.

Chuck Wales  
 484 CR 220  
 Durango CO 81303  
 970-739-0550  
[chuckwales1@gmail.com](mailto:chuckwales1@gmail.com)

Response to Comment IND 41

See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS. The response to Common Comment 5 also contains information about CPW mapped high priority wildlife habitat that would be impacted by Alternative R.

The current posted speed on US 160 through the Grandview Segment is 50 mph. The 2006 US 160 EIS, once fully implemented, will provide for a higher design speed through this area. Three Springs will be a grade-separated Interchange which will allow continuous flow along US 160. Traffic will be required to slow down near the intersection at Home Depot, both the design posted speed are lower in this section and more in-line with the surrounding land-use.

The response to Common Comment 1 includes information describing the methodology used for the traffic projections.

The response to Common Comment 2 includes information about the existing problems the US 550 South Connection to US 160 is intended to address.

The response to Common Comment 7 includes information about the existing Grandview Interchange and the function it serves even if it does not connect to a reconstructed US 550.



Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Louise Teal	<b>Response to Comment IND 42</b>
<b>Document Number:</b>	IND 42	<b>City, Zip Code:</b>	Durango, 81302	
<p><b>From:</b> WCMS_Notify@dot.state.co.us  <b>Sent:</b> Wednesday, November 23, 2011 9:17 PM  <b>To:</b> Taylor, Sandra  <b>Cc:</b> Shanks, Nancy  <b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name louise                  Last Name teal                  Representing myself                  Address, City, Zip p.o. box 3481 durango, co 81302                  Your E-Mail Address                  Comments                  Please re-examine the SW Colorado CDOT project for realignment of Hwy. 50/160. The alternatives being considered, with the exception of The Webb proposal for redesigning the Farmington Hill connection route, are way too expensive and too costly to our environment and wildlife. Plus, they seem based on questionable growth projections and safety assumptions.</p> <p>Please re-examine this project!</p>				<p>See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.</p> <p>The response to Common Comment 1 contains information about the methodology used for projecting traffic growth.</p> <p>The response to Common Comment 2 contains information about the existing problems the US 550 South Connection to US 160 project is intended to address.</p> <p>Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.</p> <p>The response to Common Comment 9 contains information about how speed reductions relate to safety.</p>

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Pamela Hatten	<b>Response to Comment IND 43</b>
<b>Document Number:</b>	IND 43	<b>City, Zip Code:</b>	Durango,	
<p><b>From:</b> Pam Hatten <a href="mailto:PHatten@avabellaspasalon.com">[mailto:PHatten@avabellaspasalon.com]</a>  <b>Sent:</b> Wednesday, November 23, 2011 11:43 AM  <b>To:</b> Shanks, Nancy  <b>Subject:</b></p> <p>"I am concerned about the monetary, environmental and historical expense of the proposed US Hwy 550/160 realignment in SW Colorado. Please give the Webb Proposal for redesigning Farmington Hill in the current right-of-way thorough consideration"</p> <p><i>Pamela Hatten, RN</i></p> <p><i>Avabella Spa and Salon</i>                  970-259-9311 ext 103  <a href="mailto:phatten@avabellaspasalon.com">phatten@avabellaspasalon.com</a></p>				<p>See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.</p>

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Kathryn Lunsford
<b>Document Number:</b>	IND 44	<b>City, Zip Code:</b>	Hesperus, 81326
<b>From:</b>	WCMS_Notify@dot.state.co.us		
<b>Sent:</b>	Thursday, November 24, 2011 11:14 AM		
<b>To:</b>	Taylor, Sandra		
<b>Cc:</b>	Shanks, Nancy		
<b>Subject:</b>	US 550/US 160 Supplemental Draft EIS Comments		
First Name	Kathryn		
Last Name	Lunsford		
Representing	self		
Address, City, Zip	1195 County Road 103, Hesperus, CO 81326		
Your E-Mail Address	<a href="mailto:k.dee.lunsford@gmail.com">k.dee.lunsford@gmail.com</a>		
Comments	<p>Hello, it is my hope that those with decision making responsibilities will indeed read these comments and take them seriously into consideration.</p> <p>I have been following this project and it continues to baffle me. We need, must step back and take a look at other alternatives before we spend another 10 dollars much less the millions that it will take to complete this project.</p> <p>The traffic projection growth figures used in part to justify this massive removal of dirt and yet another structure across the highway do not ring true....4.53%? PLEASE reconsider using a more realistic figure.</p> <p>Just because we can doesn't mean we should or that the bigger the project the better. Please look at the Webb proposal. There is nothing wrong with driving at slower speeds, especially slower speeds over shorter distance vs. higher speeds over longer distance.</p> <p>I realise these projects take on a life of their own and it becomes difficult to step back and look with new eyes but before walking further down this road to a huge amount of money spent, irreparable damage to historic ranchlands, archeological sites and wildlife habitat another look and another decision must be reached.</p> <p>I have lived here for 35 years now and seen much change. I have never written to protest a project prior to this.....but I firmly believe this direction is the wrong choice.</p> <p>Thank you, Kathryn Lunsford</p>		

**Response to Comment IND 44**

See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS

Information contained in the response to Common Comment 1 describes the traffic projection methodology used. CDOT did not use a growth factor of 4.53 percent, rather CDOT used several data sets to predict future traffic growth on US 160 and US 550. The data used was annual short term traffic counts, permanent traffic counters, and land use planning documents from the City of Durango and La Plata County, and actual traffic counts from Three Springs.

The response to Common Comment 9 contains information about alternatives such as Alternative R that force dramatic speed reductions.

Comments

Responses

Source:	E-mail	Name:	Michael Mixter
Document Number:	IND 45	City, Zip Code:	Durango, 81303

**From:** WCMS\_Notify@dot.state.co.us  
**Sent:** Thursday, November 24, 2011 10:02 AM  
**To:** Taylor, Sandra  
**Cc:** Shanks, Nancy  
**Subject:** US 550/US 160 Supplemental Draft EIS Comments

First Name  
 Michael  
 Last Name  
 Mixter  
 Representing  
 Self  
 Address, City, Zip  
 1295 Escalante Dr, Unit 29, Durango, CO, 81303  
 Your E-Mail Address  
[yab@rmi.net](mailto:yab@rmi.net)

Comments  
 Based on the research I've done I understand the following:  
 1. The original "bridge to nowhere" project was hastily implemented with abundant short-term funds; substantiated with questionable growth statistics; not thoroughly planned before implementation; relentlessly driven by the recently retired Richard Reynolds.  
 2. The current outcome is the aforementioned orphan bridge and a quandary for CDOT to retroactively figure out how to connect to it.  
 3. Alternative G is the currently favored realignment option.  
 4. State funds provided by taxpayers should be used sensibly.

My thoughts: While alternative G fulfills the ill-begotten obligation to use the bridge to nowhere, it also requires continued expensive expansion of the original misguided design with additional bridges and an incredibly costly extravagant engineering feat to pass through a canyon up, onto, and through the Webb Ranch.

My suggestion: Depart from the "Reynolds Vision" and consider a modified version of Alternative A that would regrade and straighten the existing Farmington Hill route. It still uses the Bridge to Nowhere and associated infrastructure (sparing CDOT from monumental embarrassment), impacts a significantly smaller portion of the historic Webb Ranch, and perhaps would cost substantially less. Please consider this option --- can an estimate for this option be compared to Alternative G? Let's not rush this project and compound the originally-created problem.

Response to Comment IND 45

See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives (such as Revised Preliminary Alternative A) located along the existing alignment, as described in Section 2.5 of the SFEIS. Section 2.4 of the SFEIS also contains information about the nine different alternatives that were considered for this US 550 South Connection to US 160 project. Part of the information that was developed includes cost estimates for all of these alternatives including the recently suggested Alternative R.

Information contained in the response to Common Comment 1 describes the traffic projection methodology that was used for this project.

Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.

Information contained in the response to Common Comment 7 describes the independent functionality of the Grandview Interchange even if it does not connect to a reconstructed US 550.

The analysis of Revised Preliminary Alternative A, included in Section 2.5 of the SFEIS, indicates that it does not meet the safety aspect of the purpose and need, is noticeably more costly than other alternatives and has other logistical problems.

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Steve Schnarch
<b>Document Number:</b>	<b>IND 46</b>	<b>City, Zip Code:</b>	Durango, 81303
<p><b>From:</b> WCMS_Notify@dot.state.co.us  <b>Sent:</b> Thursday, November 24, 2011 1:37 PM  <b>To:</b> Taylor, Sandra  <b>Cc:</b> Shanks, Nancy  <b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name Steve                  Last Name Schnarch                  Representing Self                  Address, City, Zip 1119 County Road 220 Durango, CO 81303                  Your E-Mail Address <a href="mailto:steve@alivespaces.com">steve@alivespaces.com</a></p> <p><b>Comments</b>                  I attended the public meeting in early November in Durango, as I have attended prior public meetings regarding this highway upgrade. I acknowledge that I have a vested interest in this decision, as both the Revised F Modified Alignment and the Eastern Alignment would have severe impacts on my property. I have a negative view of how CDOT has pursued the improvements to the 160 corridor in the Grandview area. The construction as undertaken so far has changed the nature of the area from being a rural valley to one consumed by the multitude of bridges and ramps that occupy it now. I understand there was an attempt to provide for future traffic growth along a main highway, but perhaps a little more care to work within the existing nature of the area could have been applied, even if it meant a slow-down in the traffic as it passed through. I for one do not agree that future growth trumps all other considerations, and I would prefer more respect be given to the existing nature of the area and the local population who located here because of it.                  The construction of major highway facilities before the acquisition of the complete right-of-way seems an invitation to problematic situations, like we have seen here. As you know, what your maps call the Grandview Interchange is more commonly known as the Bridge To Nowhere. Had it worked out that one of the more eastward alignments were chosen, the full nature of the overstep involved would have been revealed. This is no way to run a major governmental department.                  I agree with the decision to make use of Revised G Modified Alignment. It impacts the fewest property owners, keeps costs to a minimum, and lies closest to the existing alignment. For those of us who purchased property in this area because of it's quiet rural nature, the introduction of a major shift in the highway alignment would cut across years of planning and investment in a particular quality of life. Unfortunately these are exactly the impacts that will be borne by the Webb Ranch, as it's historical nature predates any of these highway considerations. Everything that can be done to lessen the impacts of this re-routing to the Webb Ranch should be undertaken, even if there is an increase in cost. I know that engineers speaking on behalf of the Webb Ranch have challenged the CDOT analysis of the difficulties of moving the alignment of Revised G Modified to the west, to be just off the edge of the mesa, and more in keeping with the existing alignment. These alternatives should be given a fair hearing. While not as simple as cutting across the flat of the Mesa as proposed in Revised G Modified, it would seem that keeping west of the newly introduced gas well would be an alternative worth investigating. I think such consideration is due to the owners of the Webb Ranch, who will bear the brunt of the loss of property value and way of life caused by this construction. The Revised F Modified Alignment has sharper curves than would be required in such a change. Should more construction work</p>			

Response to Comment IND 46

See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.

The response to Common Comment 7 contains information about the functionality of the Grandview Interchange even without a connection to a reconstructed US 550. FHWA has reviewed and approved of the independent utility of this interchange.

Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.

Construction of the US 550 and US 160 interchange has been proceeding in phases, with right-of-way purchases included in each phase, as funding is identified. No right-of-way purchases can be made until after a NEPA decision has been made.

Comments

Responses

Source:	E-mail	Name:	Steve Schnarch
Document Number:	IND 46	City, Zip Code:	Durango, 81303

be incurred by shoring up the roadway as it moved west beyond the edge of the mesa, or to retain the hillside in the event of widening the existing roadway, is that really of any greater extent that what was entailed in the retaining walls and elevated roadways that were willing undertaken in the 160 corridor already?  
 Please undertake these inquiries with an open mind so that whatever impacts must be incurred to the adjacent property owners are minimized.

--



Comments

Responses

Source:	Comment Form	Name:	Ron Klatt
Document Number:	IND 47	City, Zip Code:	Durango, 81303



OPEN HOUSE AND PUBLIC HEARING  
 November 2, 2011

US 550 South Connection to US 160  
 Supplemental Draft Environmental Impact Statement  
 Colorado Project FC-NH (CX) 160-2 (048)

PUBLIC COMMENT FORM

Your comments and/or suggestions for the public record are encouraged regarding this Supplemental Draft Environmental Impact Statement. Please turn in the sheet at the public hearing, or you may mail it before November 28, 2011, to the following address: Colorado Department of Transportation, 3803 North Main Avenue, Suite 300, Durango, CO 81301, ATTN: Sandra Taylor (or fax to: 970-385-1410).

*It is difficult to comment on the proposed action without commenting on the process. From the beginning, this process has been compromised by errors - from grandiose engineering to flawed public involvement and right-of-way acquisition. It has cost taxpayers many times what a more simple and modest solution would have. If half of the funds spent would have been allocated to the funds to Bayfield segment, then much of that four-lane highway would be built at this time.*

*The best alternative for the Fremington Hill connection continues to be a modification of the existing location. Much of the current curvature could be removed and an overpass designed to connect with Hwy 160. After all of the poor decision making related to this project and many features in place, I know that the organizational arrogance will not allow you to do the right thing.*

NAME: Ron Klatt  
 ADDRESS: 681 County Road 220, Durango, CO 81303  
 REPRESENTING: SELF

Response to Comment IND 47

See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.

The response to Common Comment 7 contains information about the functionality of the Grandview Interchange even without a connection to a reconstructed US 550. FHWA has reviewed and approved of the independent utility of this interchange.

The response to Common Comment 8 includes information about the NEPA process that CDOT and FHWA have been following on this project.

Comments

Responses

Source:	E-mail	Name:	Gary Walthall
Document Number:	IND 48	City, Zip Code:	Dillon, zip not provided

**From:** Gary Walthall [<mailto:gwalt@colorado.net>]  
**Sent:** Wednesday, November 23, 2011 3:42 PM  
**To:** Shanks, Nancy  
**Subject:** RE: Hwy 160 Project

Ms. Shanks.  
 I don't even live in Durango anymore, but plan on moving back with a couple of years. My parents live out just east of the "bridge", so I have seen the project proceed throughout the last few years and am appalled at the expense of a project with no direction.  
 What gives CDOT the rights to eminent domain before anyone else is consulted? It is truly a ridiculous waste of money to build such a boondoogle without securing the rights first. Who were the engineers on the project to design such a sculpture without figuring out how it would end up? I am glad the Mr. Webb made his voice heard with regard to this project and hope that he prevails. Durango will still have a huge bridge that makes no sense (I have read and studied many of the proposals over the last few years).  
 I sincerely hope for the sake of the people that this project has affected and will continue to affect for years to come that some of the comments will be heard.  
 I lived there before the new highway (550) was even built and watched that project go awry several ways until it was figured out, but there are still problems with it.  
 I live in Summit County, so we have our own problems with CDOT throughout the county and the arrogance that CDOT displays on a daily basis.

Please take a long look at this boondoogle and listen to the people that live there. You might learn something.

Sincerely,  
 Gary Walthall  
 Dillon, CO  
 (formally of Durango)

Response to Comment IND 48

The right-of-way process for a highway project proceeds after a NEPA process is conducted, with full public and agency involvement in that process. Condemnation of property (or eminent domain) is a last resort option used during the right-of-way process, after all other options of reaching agreement on an acceptable value for the property in question have been exhausted.

Construction of the US 550 and US 160 interchange has been proceeding in phases, with right-of-way purchases included in each phase. The interchange as it is currently built, including the next phase to begin construction, has independent utility even if a southern connection to US 550 is not built. The independent utility of this interchange has been reviewed by FHWA, as described in the response to Common Comment 7.

See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Frank Klein	<b>Response to Comment IND 49</b>
<b>Document Number:</b>	IND 49	<b>City, Zip Code:</b>	Durango, 81303	
<b>From:</b>	WCMS_Notify@dot.state.co.us			As noted in the response to Common Comment 3, the Revised G Modified Alternative, which connects to US 160 at the new bridge, is the Preferred Alternative.
<b>Sent:</b>	Friday, November 25, 2011 10:09 AM			
<b>To:</b>	Taylor, Sandra			
<b>Cc:</b>	Shanks, Nancy			
<b>Subject:</b>	US 550/US 160 Supplemental Draft EIS Comments			
First Name	Frank			
Last Name	Klein			
Representing	self			
Address, City, Zip	75 Anasazi Pl Durango, 81303			
Your E-Mail Address				
Comments	I drive 550 south everyday and feel the only sensible alternative option to eliminate Farmington Hill is to make a direct connection through the Wells ranch and connect to the new bridge. Any other option is ludicrous.			

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Joe Lewandowski	<b>Response to Comment IND 50</b>
<b>Document Number:</b>	IND 50	<b>City, Zip Code:</b>	Durango, 81301	
<b>From:</b>	WCMS_Notify@dot.state.co.us			As noted in Section 4.13 of the SFEIS, only portions of the Webb Ranch would be needed for right of way. The majority of the ranch could continue to function.  See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.  The response to Common Comment 7 contains information about the functionality of the Grandview Interchange even without a connection to a reconstructed US 550. FHWA has reviewed and approved of the independent utility of this interchange.
<b>Sent:</b>	Friday, November 25, 2011 3:02 PM			
<b>To:</b>	Taylor, Sandra			
<b>Cc:</b>	Shanks, Nancy			
<b>Subject:</b>	US 550/US 160 Supplemental Draft EIS Comments			
First Name	Joe			
Last Name	Lewandowski			
Representing	Colorado taxpayers			
Address, City, Zip	708 Obrien Drive, apt. 2, Durango, CO, 81301			
Your E-Mail Address	<a href="mailto:joelewski@hotmail.com">joelewski@hotmail.com</a>			
Comments	The C-dot plan for the new interchange and alignment of Highway 550 has been flawed from the start. There is absolutely no need to destroy a ranch to improve highway access. Do not continue to throw good money -- taxpayer money -- after bad. The plan to make a deep cut through open land and remove millions of cubic yards of soil is absurdly expensive, an environmental travesty and a waste of money. An alternative based on adjustment to the current Farmington Hill alignment should be used. Start over and do the right thing for southwest Colorado.			



Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Caye Geer	<b>Response to Comment IND 51</b>
<b>Document Number:</b>	IND 51	<b>City, Zip Code:</b>	Durango, 81301	
<p>-----Original Message-----                  From: Caye Geer [<a href="mailto:dcelectra@earthlink.net">mailto:dcelectra@earthlink.net</a>]                  Sent: Sunday, November 27, 2011 10:08 PM                  To: Shanks, Nancy                  Subject: Hwy 550 alignment</p> <p>Dear Ms. Shanks:                  Having read about the newest proposal for the realignment of Highway 550 and the massive excavation and bridge building that would be required, I am urging CDOT to reconsider, to redesign and to very seriously consider the proposal of the Webb Ranch owners and engineers.</p> <p>Thank you for your consideration.</p> <p>Caye Geer                  672 Carter Dr.                  Durango CO 81301</p>				<p>See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.</p>

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Dean and Nancy Furry	<b>Response to Comment IND 52</b>
<b>Document Number:</b>	IND 52	<b>City, Zip Code:</b>	Not provided	
<p><b>From:</b> Dean and Nancy Furry [<a href="mailto:deanfurry@gmail.com">mailto:deanfurry@gmail.com</a>]  <b>Sent:</b> Sunday, November 27, 2011 7:35 PM  <b>To:</b> Shanks, Nancy  <b>Subject:</b> Farmington Hill</p> <p>Please consider the Webb proposal for the Farmington hill situation. We are very much against the CDOT suggestion thru the Webb and Craig ranches. What a mess CDOT has made of this situation!! How can so much taxpayers money be wasted.</p> <p>Dean Furry, M.D.                  Nancy Furry</p>				<p>See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.</p> <p>The response to Common Comment 7 contains information about the functionality of the Grandview Interchange even without a connection to a reconstructed US 550.</p> <p>The response to Common Comment 8 describes the process CDOT has been following for this project.</p>

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Doug Parmentier and Sara Carver	<b>Response to Comment IND 53</b>
<b>Document Number:</b>	IND 53	<b>City, Zip Code:</b>	Durango, zip not provided	
<p><b>From:</b> Doug [<a href="mailto:mtns2oceans@gmail.com">mailto:mtns2oceans@gmail.com</a>]  <b>Sent:</b> Sunday, November 27, 2011 9:55 AM  <b>To:</b> Shanks, Nancy  <b>Subject:</b> Opposition to proposed 550/160 alignment</p> <p>We are writing this e-mail to notify you of our opposition to CDOT's proposed alignment to the 550/160 interchange area. Please enter this objection into the record.</p> <p>We feel that CDOT's current proposal is overkill for the amount of traffic that is currently involved in the area or is anticipated in the future. CDOT has mismanaged the existing "Bridge to Nowhere" project and now is proposing to spend more taxpayers' money to correct their error.</p> <p>Enough is enough. CDOT should not move forward with their proposal plans to correct their deficiency. The funds for this project can be better spent elsewhere, and a smaller option to make use of the bridge can be made.</p> <p>Please reply to verify receipt of this e-mail.</p> <p>Doug Parmentier                  Sara Carver                  Durango, CO</p>				<p>As noted in the response to Common Comment 1, the interchange at US 550 and US 160 and the current proposal to connect US 550 in that vicinity was based on traffic projections that have been verified from different sources. It is needed to accommodate projected growth in the area.</p> <p>The response to Common Comment 2 contains a description of the existing problems the interchange is intended to address</p> <p>The response to Common Comment 7 includes information about the existing Grandview interchange and the function it serves even if it does not connect to a reconstructed US 550.</p>

Comments

Responses

<b>Source:</b>	<b>E-mail:</b>	<b>Name:</b>	Will Harjes	<b>Response to Comment IND 54</b>
<b>Document Number:</b>	IND 54	<b>City, Zip Code:</b>	Durango, zip not provided	
<p><b>From:</b> Will Harjes [mailto:wharjes@rmi.net]  <b>Sent:</b> Sunday, November 27, 2011 11:12 PM  <b>To:</b> Shanks, Nancy  <b>Cc:</b> Janis Buckreus; antonia@toh-atingallery.com; Antonia Clark  <b>Subject:</b> 550 / 160 interchange</p> <p>Dear Ms. Shanks,</p> <p>I don't live anywhere near the proposed new 550/160 interchange and the final configuration will have little effect on me directly; a half dozen times a year perhaps. But I have considered myself lucky enough to have lived in Durango for the last 16 years and I know the way most of us think and feel about our town and community. We have a small town and enjoy the perks and quiriness Durango provides us. We aren't slick, fast or all too efficient sometimes, but that is what makes this place so special a place to live. We are NOT front range.</p> <p>After looking at the proposed routes to connect 550 to 160 and walking around a bit up near the Webb ranch and listening to the engineers the Webbs hired as consultants and thinking about other Colorado mountain towns and their traffic situations, I urge you to step back and consider some other possibilities. What about cutting into the cliffside and following the "Farmington Hill" existing route. So what if that means a stop light at that intersection as there is now? Or have a one lane flyover to connect with westbound 160 traffic. Maybe thats not as slick and fast a road system as what's proposed, but I repeat; So what? There are numerous Colorado towns where traffic has to slow or stop as it enters the area. Ever been to Ouray or Telluride? I'm sure the engineers at CDOT are experts at efficient movement of vehicles from point to point. But how about esthetics and sensitivity towards the residents along those points?</p> <p>Please consider these and other alternatives to a "Face saving" or "Career saving" push through the heart of the Webb ranch. Having to remove millions of cubic yards of dirt, destroying archeological sites and cutting hundreds of old Ponderosa pines down is not the best, cheapest or most practical solution. It might look slick on maps, but that is not what Durangoans are about.</p> <p>Thank you for your time and considerations on this matter.</p> <p>Sincerely,                  Will Harjes, Durango, Co.</p>				<p>Other alternatives that follow the current alignment of US 550 were considered in the SFEIS and were eliminated because they did not meet the project purpose and need. This is documented in Chapter 2, Section 2.5.</p> <p>The response to Common Comment 5 contains information about Alternative R, the proposal suggested by the Webbs and their consultants. A one lane flyover to connect with westbound US 160 traffic was considered with the Partial Interchange at the Existing US 550 and US 160 Intersection Alternative, which is included in Section 2.4.3 of the SFEIS. This design did not meet the project purpose and need due to safety issues. The alignment requires a tight upper curve that requires a 35 mph reduction in speed in a short distance. This creates an unsafe condition that is unacceptable. Additional safety issues include multiple sharp curves, an 8 percent cross slope along the curves, four percent vertical grades and north facing steep slopes, which all combine to produce unacceptable safety problems.</p> <p>Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.</p> <p>Sections 4.13 document the historic impacts of the reasonable alternatives and Section 4.9 of the SFEIS document impacts to vegetation, including ponderosa pines.</p>

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Adam Howell	<b>Response to Comment IND 55</b>
<b>Document Number:</b>	IND 55	<b>City, Zip Code:</b>	Durango, 81301	
<p><b>From:</b> WCMS_Notify@dot.state.co.us  <b>Sent:</b> Sunday, November 27, 2011 7:13 PM  <b>To:</b> Taylor, Sandra  <b>Cc:</b> Shanks, Nancy  <b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name Adam                  Last Name Howell                  Representing myself                  Address, City, Zip 1206 Avenida Del Sol, #321 Durango, CO 81301                  Your E-Mail Address <a href="mailto:athowell@gmail.com">athowell@gmail.com</a></p> <p>Comments                  Please consider modifying the existing alignment on Farmington Hill as a means of connecting US 550 with US 160. Furthermore, I suggest working with Chris Webb and the plans suggested by Russell Engineering and Kathleen Krager for modifying the current approach of US 550 with US 160. I no longer think that the alternatives that would connect US 550 with US 160 at Three Springs Boulevard are financially, socially or environmentally reasonable. Additionally, the plan to connect US 550 with US 160 at the Bridge to Nowhere (Grandview Interchange) would have environmentally devastating consequences and would severely damage the view shed and rural character of the Grandview area.</p> <p>Thank You, Adam Howell</p>				
				<p>See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.</p> <p>As noted in the response to Common Comment 4, the Eastern Realignment Alternative is not considered to be the Preferred Alternative.</p> <p>Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.</p> <p>Please see the response to Common Comment 6 about the cost for the Revised G Modified (Preferred) Alternative.</p> <p>Please see the response to Common Comment 7 about the functionality of the Grandview Interchange even without a connection to a reconstructed US 550.</p>

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Jackson Clark	<b>Response to Comment IND 56</b>
<b>Document Number:</b>	IND 56	<b>City, Zip Code:</b>	Durango, 81302	
<p><b>From:</b> Jackson Clark [<a href="mailto:jackson.jc2@gmail.com">mailto:jackson.jc2@gmail.com</a>]  <b>Sent:</b> Monday, November 28, 2011 10:18 AM  <b>To:</b> Shanks, Nancy  <b>Subject:</b> 550/160 realignment</p> <p>Dear Ms. Shanks,                  I would like to voice my opposition to the the plans to re-route 550/160 as it is currently proposed and to encourage you to examine the alternate plans proposed by Chris Webb.                  The idea that we should spend the amount of money that will be necessary to complete the project as it is currently proposed when there is a less expensive and equally safe route that would avoid tearing up important archeological sites and an historic ranch, at a lower cost, just does not make sense.</p> <p>Throwing good money after bad has never been a good idea, although it is all to common in government. I understand that you are a reasonable and concerned government representative and I hope you will take a serious look at the alternatives.</p> <p>Thank you,                  Jackson Clark</p> <p>Jackson CLark  <a href="mailto:jackson.jc2@gmail.com">jackson.jc2@gmail.com</a>                  970- 946-0882                  P.O. Box 2168                  Durango, CO 81302</p>				<p>See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.</p> <p>Please see the response to Common Comment 6 about the cost for the Revised G Modified (Preferred) Alternative.</p>

Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Chuck Wanner
<b>Document Number:</b>	IND 57	<b>City, Zip Code:</b>	Durango, 81303

----- Original Message -----  
 From: Chuck Wanner [<mailto:cwanner@frontier.net>]  
 Sent: Monday, November 28, 2011 02:11 PM  
 To: Shanks, Nancy  
 Subject: 550 Realignment

Ms. Shanks:  
 I live at 706 Cty Rd. 220. in my opinion the Webb recommendation is the best alignment.  
 My second choice would be the recommended alternative as previously proposed.  
 I am also strongly in favor of removing any abandoned roadway, but want to see access to Eagle Valley Block remain.  
 Charles Wanner

<b>Response to Comment IND 57</b>
A. See the response to Common Comment 5 for additional information about the Webb recommendation. Please see response to Common Comment 3, which provides information about why CDOT is recommending Revised G Modified as the Preferred Alternative.
B. All of the CDOT alternatives presented at the public meeting provide an access to Eagle Valley Block. One of the options being proposed for the existing US 550 is that it could be abandoned once US 550 is routed elsewhere. The Alternative R proposals would all require acquiring and relocating the Eagle Block commercial building.

A  
 B

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Louise N. Edwards
<b>Document Number:</b>	IND 58	<b>City, Zip Code:</b>	Durango, 81301

**From:** Louise N. Edwards [<mailto:dlounamaste@gobrainstorm.net>]  
**Sent:** Monday, November 28, 2011 4:07 PM  
**To:** Shanks, Nancy  
**Subject:** Hwy 550 realignment in Durango

I am a resident of Durango, in La Plata County.

I am writing about the proposed Hwy 550/Farmington Hill realignment across the Webb Ranch to connect with the "Bridge to Nowhere".

PLEASE, STUDY THIS FURTHER BEFORE YOU REACH A FINAL DECISION to spend \$76 million and unnecessarily destroy irreplaceable natural and historic resources.

The **Webb Ranch owners and engineers have submitted a new proposal to modify Farmington Hill** and rectify its safety issues with less destruction and at a lower cost.

PLEASE CONSIDER THIS OPTION. Give the Webb proposal or any other viable alternative to the current alignment, serious consideration.

Thank you, Louise N. Edwards

Louise N. Edwards, ND, L.Ac  
 554 E. 6th Ave  
 Durango, CO 81301

C) 970-946-5942

<b>Response to Comment IND 58</b>
See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.
The response to Common Comment 7 has information relative to the "Bridge to Nowhere."
Please see the response to Common Comment 6 about the cost for the Revised G Modified (Preferred) Alternative.

Comments

Responses

Source:	E-mail	Name:	Janis Buckreus
Document Number:	IND 59	City, Zip Code:	Durango

**From:** Janis Buckreus [<mailto:rangerj29@earthlink.net>]  
**Sent:** Monday, November 28, 2011 1:05 AM  
**To:** Shanks, Nancy  
**Subject:** US Hwy 550/160 realignment in SW Colorado

Dear Ms. Shanks,

I am writing in regards to the realignment of the intersection of US Highways 160 and 550 in Durango, Colorado. I believe that the current proposal is an overextended and wasteful use of taxpayer dollars that does not take into consideration the wishes of the majority of Durango residents or the affects on the natural and cultural resources of the area. While some changes to this intersection may be needed to accommodate an increasing population over the next 20-30 years, by CDOT's own standards the projections for this project have been unduly exaggerated. The current proposal does not reflect a reasonable solution to the issues.

As a resident of Durango, I value the qualities of this town's character, culture, and natural environment. I know that my friends and neighbors value these same aspects, hence why we (and more to come) have moved here. The proposed realignment of US Highways 160 and 550 would irreparably harm those cherished qualities of that area. In an effort to alleviate some of that harm and to accommodate some of the changes, one resident who would be directly affected by the realignment has spent his own time and money to present a more reasonable solution. Therefore, I strongly urge you to consider the Webb Proposal for redesigning Farmington Hill in the current right-of-way. I believe that it more accurately reflects the wishes of the Durango community, it saves taxpayer dollars that can be put to better use elsewhere, and it better preserves the cultural and natural resources of the area.

Thank you for your time and attention.

Sincerely,

Janis M. Buckreus  
 Durango, Colorado

Response to Comment IND 59

Please see response to Common Comments 1, 3 and 5 for information about traffic projections, Revised G Modified (Preferred) Alternative and Alternative R, which was proposed by the Webbs.



Comments

Responses

Source:	E-mail	Name:	Jade Halterman
Document Number:	IND 60	City, Zip Code:	Navajo Dam, NM 87419

**From:** WCMS\_Notify@dot.state.co.us  
**Sent:** Monday, November 28, 2011 8:06 AM  
**To:** Taylor, Sandra  
**Cc:** Shanks, Nancy  
**Subject:** US 550/US 160 Supplemental Draft EIS Comments

First Name  
 Jade  
 Last Name  
 Halterman  
 Representing  
 myself  
 Address, City, Zip  
 PO Box 6388, Navajo Dam, NM 87419  
 Your E-Mail Address  
[spinfly1@hughes.net](mailto:spinfly1@hughes.net)

Comments  
 From the beginning of the 160 at 550 project, as I would drive into town from NM, my comment was that someone was making big bucks off of this overdone project. Now that I read what the rest of the plan is that will destroy more habitat, historic ranches and archeological sites, I would like to state as a US tax paying citizen that enough is enough. There are obviously less expensive and less destructive solutions.

Response to Comment IND 60

It is assumed you are referencing the proposals along the existing US 550 alignment as being "less expensive and less destructive." See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.

After a thorough analysis of alternatives, three reasonable alternatives were defined and are fully analyzed in the SFEIS. Revised G Modified (Preferred) Alternative has the least effect on historic ranches and archaeological sites, impacts the fewest acres of wetlands and impacts the fewest total acres of wildlife habitat.



Comments

Responses

<b>Source:</b>	<b>E-mail</b>	<b>Name:</b>	Joan Rhoades	<b>Response to Comment IND 61</b>
<b>Document Number:</b>	IND 61	<b>City, Zip Code:</b>	Durango, 81301	
<p><b>From:</b> WCMS_Notify@dot.state.co.us  <b>Sent:</b> Monday, November 28, 2011 11:50 AM  <b>To:</b> Taylor, Sandra  <b>Cc:</b> Shanks, Nancy  <b>Subject:</b> US 550/US 160 Supplemental Draft EIS Comments</p> <p>First Name Joan                  Last Name Rhoades                  Representing self                  Address, City, Zip 3015 Hillside Ave Durango, CO 81301                  Your E-Mail Address <a href="mailto:joanrhoades@gmail.com">joanrhoades@gmail.com</a></p> <p>Comments                  I am so disappointed by the amount of money that has been spent and that is planning on being spent of fixing this non-problem of Farmington Hill. I am concerned about the monetary, environmental and historical expense of the proposed US Hwy 550/160 realignment in SW Colorado. Please give the Webb Proposal for redesigning Farmington Hill in the current right-of-way thorough consideration.</p> <p>Thank you!</p>				

See the response to Common Comment 5 for information about Alternative R which has recently been proposed. This alternative has similar challenges to the other alternatives located along the existing alignment, as described in Section 2.5 of the SFEIS.

Comments

Responses

Source:	E-mail	Name:	Shannon Bennett	Response to Comment IND 62
Document Number:	IND 62	City, Zip Code:	Durango, 81303	
<p>-----Original Message-----                      From: Shannon Bennett [<a href="mailto:shannondog@mindspring.com">mailto:shannondog@mindspring.com</a>]                      Sent: Monday, November 28, 2011 6:15 PM                      To: Shanks, Nancy                      Subject: Highway 550/160 alignment</p> <p>For the last 10 to 12 years each and every year I have voiced my concerns about the 550/160 alignment either in person or over the phone. Each year the same old story came out of CDOT. Farmington Hill is too steep, too many switchbacks, ice in the winter and Indian ruins. Each and everyone of these problems could be mitigated with few problems and people's private property would not be destroyed. CDOT has bullied their way thru this process without the concern of private property rights. You have a corridor and you should stay in it no matter what you have to mitigate. CDOT has acted irresponsibly to the private property owners. This realignment is a waste of tax payers money. One half mile, a Grand Dig of 800,000 truck loads, another bridge and a valley to fill with 60 ft Ponderosa pines in it. What about the traffic studies? Turns out according to a private traffic engineer at the Consulting Parties meeting your percentage of traffic increase was off by 2.71 %. This clearly dishonest! In short all your problems you have with not using Farmington Hill are bogus. Ice- Deal with it by slowing down traffic with signage. Curves - There curves and switchbacks all over Colorado. Signage. Indian Ruins - You are getting ready to run over the oldest on the Webb property south of the bridge to nowhere.</p> <p><b>WIDEN FARMINGTON HILL AND STAY IN THE RIGHT OF WAY YOU ALREADY HAVE!! SHOW SOME RESPECT FOR PRIVATE PROPERTY!!</b></p> <p>Shannon Bennett ( The Clark Property)                      511 C.R. 220                      Durango,CO 81303</p>				<p>The response to Common Comment 1 contains information related to future traffic projections.</p> <p>The information provided in the SFEIS (in Sections 2.5.3.2 and 2.5.3.3) relates to any of the on- or nearly on-alignment alternatives and illustrates that the safety issues inherent with utilizing this alignment are not able to be mitigated. There are numerous signs warning of the reduced speeds and severe curves on US 550 as it approaches Farmington Hill. CDOT has conducted safety assessments of the existing condition on this alignment, and has determined that signage alone does not sufficiently alleviate the safety issues associated with Farmington Hill. US 550 is being improved to a 4-lane highway with a uniform roadway template and minimal curvature. This increases the safety issues with the existing Farmington Hill due to the large disparity in roadway safety between the two immediately abutting roadway segments.</p> <p>Impacts to Indian ruins are addressed in the SFEIS in Section 4.13. The Revised G Modified (Preferred) Alternative impacts the fewest archaeological properties, when compared to the other reasonable alternatives. CDOT has committed to mitigation for impacted archaeological sites.</p> <p>The information provided in the SFEIS (in Sections 2.5.3.2 and 2.5.3.3) related to any of the on- or nearly on-alignment alternatives illustrates that the safety issues inherent with utilizing this alignment are not mitigate-able.</p> <p>There will be increased impacts to individual property owners by staying on the existing alignment rather than constructing the Revised G Modified (Preferred) Alternative. These impacts are apparent in the CDOT Revised Preliminary Alternative A and in the Russell Planning and Engineering (RPE) report provided by Mr. Webb. The RPE report neglects to include the impacts to all private properties that would be impacted by their proposal and it neglects to show an intersection at CR 220 that would have additional impacts.</p>

Comments

Responses

Source:	E-mail	Name:	John Purser
Document Number:	IND 63	City, Zip Code:	Durango, 81301

**From:** WCMS\_Notify@dot.state.co.us  
**Sent:** Monday, November 28, 2011 8:30 PM  
**To:** Taylor, Sandra  
**Cc:** Shanks, Nancy  
**Subject:** US 550/US 160 Supplemental Draft EIS Comments

First Name  
 John  
 Last Name  
 Purser  
 Representing  
 Self  
 Address, City, Zip  
 2488 CR 250  
 Durango CO 81301  
 Your E-Mail Address  
[j\\_purser@yahoo.com](mailto:j_purser@yahoo.com)

Comments  
 I have several concerns regarding the "US 550 to 160 Connection".  
 When was the last time the traffic estimates were reviewed? Are they still realistic? Were they based on historic trends? The latest issue of The Economist quoted federal government figures that showed US vehicle miles peaked in 2006. This downturn in vehicle miles preceded the current economic downturn. As the economy regains momentum I think we can expect gas process to increase and we will not see vehicle miles increase at historic rates. The 2nd historic trend that is questionable is the rate of growth in La Plata County. Growth has in large part been driven by the development natural gas mining. We have seen in the last few years that we are now in a maintenance mode of existing well and new wells are not being introduced at the historic rates. I think both of these changing trends may have a significant impact on the traffic estimates used as requirements for the engineering alternatives.  
 I'm also concerned with the safety of the preferred alternative. I'm a big fan of traffic circles, but I'm not sure they are the best alternative for the termination of a four lane road with significant truck and tourist traffic. I also have concerns regarding the safety of the bridges in the winter time. The number of overpasses seems to create difficulties for snow removal and it also has the potential for increased ice problems. As well as the inherent problem of ice buildup on overpasses we have a situation where the major overpasses has a north facing grade and is in a braking zone for the off ramps and traffic circle. I would expect one of the busiest off ramps would be the north bound 550 to west bound 160; this ramp has a bridge that is curved. I'm thinking this ramp could have significant problem with ice and snow buildup over the bridge portion, resulting in significant vehicle control problems.  
 I know that the "US 550 to 160 Connection" has a long painful history, but I'm hoping the momentum to get it finished will not overwhelm changing conditions and requirements.

Response to Comment IND 63

Traffic projections have been very recently reviewed. See the response to Common Comment 1 for this information.

CDOT performed a safety analysis of the No Action Alternative, the Preferred Alternative, and the other proposed alternatives in the SFEIS. The response to Common Comment 5 contains safety information relevant to the alternatives along the existing US 550 alignment.

The termination of a 4 lane roadway to a roundabout is not uncommon. As US 550 approaches the interchange, the downhill grade will flatten out as the highway approaches the bridge crossing before reaching the roundabout. The flattening of the grade along with the approaching bridge structure will impart a feeling to motorists to slow down as they approach this connection. CDOT will also reduce the speed limit as motorists begin to approach the bridge and roundabout. The design of the interchange will provide a specific northbound to westbound ramp (roundabout bypass ramp) for motorists who are making this turning movement. The "bypass" ramp will be separate from the roundabout so those vehicles making this movement to US 160 will not have to travel through the roundabout.

Regarding the northbound to westbound ramp bridge, this bridge has been designed to accommodate trucks and vehicles even during snow conditions. The ramp and bridge are super elevated (banked) to help vehicles traverse it safely without sliding to the outside of the lane. This is designed according to the American Association of State Highway and Transportation Officials design criteria. In addition, conduits have been added to all the structures to accommodate the addition of an automated deicing system in the future to help prevent roadway icing on all of the bridges.

The potential for accidents exists for all the alternatives. However, the alternative with the least potential for accidents is the Revised G Modified (Preferred) Alternative. Below is a summary of the accident potentials and the relative ranking of the reasonable alternatives from the safety analysis report.

The response to Common Comment 7 contains information about completion of the Grandview Interchange.

Comments

Responses

Source:	E-mail	Name:	John Purser
Document Number:	IND 63	City, Zip Code:	Durango, 81301

Response to Comment IND 63

(cont'd)

Type of Comparison	No Action Alternative	Revised G Modified Alternative	Revised F Modified Alternative	Eastern Realignment Alternative
Estimated Intersection Crash Frequency at Year 2030 Traffic Volume	31 crashes per year	5.5 crashes per year	13.8 crashes per year	13.8 crashes per year
Relative Safety Rank	4	1	2	2
Estimated Crash Frequency on US 550 at Proposed Width (2-lane or 4-lane) and 2030 Traffic Volume	10.1 crashes per mile per year	7.5 crashes per mile per year	7.5 crashes per mile per year	7.5 crashes per mile per year
Relative Safety Rank	4	1	1	1
Estimated Crash Frequency on US 160 at Year 2030 Traffic Volume	20 crashes per mile per year	18 crashes per mile per year	22 crashes per mile per year	22 crashes per mile per year
Relative Safety Rank	2	1	3	3
Total of Relative Safety Rankings	10	3	6	6
<b>Overall Rank for Potential Safety Benefit</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>2</b>

Comments

Responses

Source:	Letter	Name:	Thomas G. McNeill
Document Number:	IND 64	City, Zip Code:	Detroit, 48226



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November 28, 2011

Kerrie Neet  
 Director, Region 5  
 Colorado Department of Transportation  
 3803 North Main St., Ste. 306  
 Durango, CO 81301

John M. Cater  
 Division Administrator  
 Colorado Division - FHWA  
 12300 West Dakota Avenue, Ste. 180  
 Lakewood, CO 80228

Re: US 550 Connection to US 160, Webb Submission Concerning the October  
 2011 Supplemental Draft EIS (the "SEIS")

Dear Ms. Neet and Mr. Cater:

First and foremost, we view this comment period as an auspicious opportunity to find unifying and enabling solutions to meet the needs of the Durango community now and in the future. It offers a fortunate window of time to engage in a transparent and constructive dialogue on an alignment that respects historical properties, meets transportation needs and is cost effective during these challenging economic times. Our submission is offered in a spirit of collaborative problem solving with these important goals in mind.

**A** Earlier in this 15 year dispute between CDOT and the landowners as to whether historic Webb Ranch (SLP8461) properly may be destroyed to relocate the 1.2 miles of U.S. 550 south of U.S. 160, Russ George, a predecessor CDOT Executive Director, thus articulated to Chris Webb CDOT's guiding principle: "Highway policy should not decide land use policy."

**B** Appropriate application of NEPA Section 106 and DOT Section 4(f) to the NHRP-eligible Webb Ranch provides the means by which CDOT can give full effect to this policy in the instant circumstances. Recent events and our intense technical evaluation (as shown in this submission) demonstrate that prudent and feasible solutions are available to serve community needs, meet CDOT policy, standards and practice and save Webb Ranch from destruction.

Based upon the attached reports of Russell Planning and Engineering ("RPE"), Trautner Geotech and Krager and Associates, we submit that CDOT should select the R Alternative for development from concept to reality in lieu of its presently preferred Revised G Modified

Response to Comment IND 64

- A. The alignment for Revised G Modified (Preferred) Alternative is located on the western most edge of Webb Ranch. Approximately 41.5 acres of land from the 515-acre Webb Ranch would be directly affected. There are substantial portions of the Webb Ranch that would still be available for ranching activities. Section 4.1 of the SFEIS contains information about the compatibility of the reasonable alternatives with existing and future land use.
- B. Chapter 5 of the SFEIS contains a full Section 4(f) Evaluation for this project. An analysis of Alternative R has been conducted by CDOT. The response to Common Comment 5 contains this analysis, along with a conclusion contained in Section 2.5.3.5 of the SFEIS that it does not meet the project purpose and need and is thus not feasible and prudent.

CDOT's intent is to serve the needs of the community now and well into the future. The SFEIS (including the Section 4(f) Evaluation in Chapter 5) documents how this intention is met while also meeting the requirements of Section 106 of the National Historic Preservation Act and Section 4(f).



Comments

Responses

Source:	Letter	Name:	Thomas G. McNeill
Document Number:	IND 64	City, Zip Code:	Detroit, 48226
DICKINSON WRIGHT PLLC			
Kerrie Neet John M. Cater November 28, 2011 Page 2			
alignment. We, therefore, make this formal submission for your review and for entry into the formal record of the Section 106 and Section 4(f) administrative proceedings.			
<b>I. PROCEDURAL HISTORY RELEVANT TO THE WEBB SUBMISSION</b>			
<b>C</b>	On November 7, 2006, FHWA signed the record of decision, which included a then final EIS (dated May 12, 2006) with a stated preferred alignment through the heart of Webb Ranch, denoted as a G alternative. We were very surprised then that CDOT's determination was based upon no more than preliminary concept drawings.		
	In early 2008, CDOT realized that a fundamental mistake had been made: although in 2007 CDOT determined that the entirety of Webb Ranch on top of the Florida Mesa is NHRP-eligible, CDOT had failed to conduct any analysis under Section 4(f) of the U.S. Department of Transportation Act nor had it engaged in any consultation under Section 106 of the National Environmental Policy Act. <sup>1</sup> CDOT and FHWA delayed an additional eight months and then by letter dated September 4, 2008, Karla S. Petty, FHWA's Colorado Division Administrator, declared the administrative proceedings reopened.		
<b>D</b>	By letter dated October 28, 2008, the owners of Webb Ranch submitted for CDOT's consideration, development and evaluation concept drawings for nine additional alternatives for US 550 between US 160 and CR 220. CDOT further developed two of those alternatives, submitted by the Webbs as S1 and S2, and later renamed by CDOT as the Eastern and Western Alternatives. <sup>2</sup> But in the three years since we made those submissions, CDOT has not developed any of the seven alternatives (denoted the T Alternatives) along the existing alignment of US 550. Nor has CDOT engaged in any direct exchange or dialogue with us, or our technical team, concerning the technical merit of and further development potential for the seven T Alternatives. CDOT left them in their preliminary, undeveloped concept state.		
	In its October, 2011 draft SEIS, CDOT has "screened out" all seven of the T Alternatives, and a Revised A Alternative, advanced the No Action "alternative" for baseline comparison		
<b>E</b>	<sup>1</sup> CDOT has made other material mistakes during the EIS and SEIS process. Despite conducting seven archaeological surveys on Webb ranch, CDOT missed 18 archaeological sites, 9 of which would be impacted by the G Alternative and 3 of which would be impacted by the F Alternative (including one also impacted by G). See, SEAS Reports dated July 2008 and April 2009; letter from Thomas G. McNeill to Karla S. Petty dated July 29, 2008, letter from McNeill to Eric Meyer (Assistant Attorney General) dated September 8, 2008. CDOT also missed a gas well within the G Alignment that was constructed several years before FHWA signed the ROD in November 2006. SEIS, pp. ES-1, 1-2.		
	<sup>2</sup> In the evaluation which followed, CDOT "screened out" the Western Alignment but advanced the Eastern Alignment for further study and evaluation.		

<b>Response to Comment IND 64</b>	
C.	CDOT is prohibited by regulation to conduct more than a preliminary level of design prior to a NEPA decision. The alignment of Revised G Modified (Preferred) Alternative lies along the western most edge of Webb Ranch.
D.	In late 2007, as national practices related to eligibility of historic properties changed to encompass entire properties, CDOT determined that the entire Webb Ranch met the National Register of Historic Places eligibility criteria. This initiated compliance with Section 106 and Section 4(f).
E.	All alternatives were considered to determine if they would be considered reasonable under NEPA or feasible and prudent under Section 4(f). This was based on concept engineering, since CDOT is prohibited from doing more than a preliminary level of design prior to a NEPA decision. The safety issues inherent in these alternatives meant they would not be able to meet the project purpose and need. Given their geographic location, necessary design standards to ensure a safe highway were not able to be met. The level of design was appropriate per regulation.
Sections 2.4 and 2.5 of the SFEIS contain information about the "T" series Alternatives. These include the US 550 at US 160 At-Grade Intersection Alternative and the Partial Interchange at the Existing US 550 and US 160 (South) Intersection Alternative. Each alternative was analyzed to determine whether it could meet the project purpose and need. The at-grade alternative was shown to not meet the capacity and safety requirements for the purpose and need. The proposed intersection in this alternative is expected to operate at an LOS E. For both the at-grade intersection "T" alternatives and the partial interchange "T" alternatives, the upper curve geometry creates safety issues due to the large reduction in speed required by the 30 -35 mph design speeds. Additional factors such as logistics and cost preclude the partial interchange "T" Alternatives from being reasonable. Further design could not have eliminated these issues.	

Comments

Responses

Source:	Letter	Name:	Thomas G. McNeill
Document Number:	IND 64	City, Zip Code:	Detroit, 48226

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purposes only and has articulated its determination that, once again, a G Alternative through Webb Ranch is its preferred alignment. After an additional three years of further administrative proceedings, we were shocked that, again, CDOT's determinations are based solely upon preliminary concept drawings.

F

The SEIS is devoid of any evidence that CDOT has attempted to develop, enhance, revise or in any way improve any of the T Alternative concepts; or that CDOT otherwise has engaged in "all possible planning" to develop an alternative in the US 550 ROW that would avoid or minimize harm to Webb Ranch and meet CDOT's criteria as to capacity, safety and access control. Accordingly, to prepare for a consulting party meeting scheduled by CDOT for November 2, 2011, on October 24 and 27, 2011, we submitted requests for additional CDOT documentary support under the Colorado Open Records Act.

G

During the morning of November 1, 2011, with the authorization of Ms. Neet, the newly-appointed Region 5 Director, CDOT design engineers Steven Cross and Anthony Cady met with members of our technical team, Michael Russell, Steven Winters and David Trautner (accompanied by the Webbs' attorneys). During that two hour meeting, in response to our CORA requests, Mr. Cross presented certain preliminary electronic plan, profile and cross section drawings for Revised G Modified (that were not contained in the draft SEIS) and provided us with a copy of his notebook of other working materials. This was the first ever meaningful bilateral design discussion between the Webb and CDOT technical teams, and it was extremely productive.<sup>3</sup>

H

At the November 1 meeting, Mr. Cross indicated that as to Revised A he was instructed to avoid any impact to both: (1) the archaeological site on top of Webb Ranch (5LP2223) along its western rim in the vicinity of existing US 550 alignment, and (2) the archaeological site inclusive of a "sweat lodge" (5LP6670, see Exhibit 1) on the Foster property south of CR 220 and west of US 550. Mr. Cross indicated that he was instructed to "thread the needle" between these two archaeological sites without impacting them. This instruction caused Mr. Cross to develop a design concept for a Revised A Alternative that is impractical and, ultimately, not acceptable to CDOT. Rather than develop, evaluate and refine a design concept with modest impact to 5LP 2223, which the owners of Webb Ranch are legally permitted to authorize, CDOT simply stood pat on its "thread the needle" Revised A. CDOT utilized its declaration of unacceptability of the Revised A Alternative (in that configuration) and the T Alternatives (in the preliminary concept form submitted 3 years ago) as a further basis for selection of Revised G Modified as its preferred alignment.

The Revised G Modified Alternative bisects Webb Ranch, cuts through pristine, virgin

<sup>3</sup> As a follow up, at the beginning of the consulting party meeting on November 2, 2011, Mr. Cross provided us with a CD of the electronic drawings, as we requested and in compliance with CORA.

Response to Comment IND 64

- F. Sections 2.4 and 2.5 and the Section 4(f) Evaluation in Chapter 5 of the SFEIS contain information about the "T" series Alternatives, which were developed and analyzed to the level of engineering that is allowable prior to a NEPA decision. CDOT has identified and analyzed a reasonable range of alternatives.
- G. A meeting was set up with representatives of the Webb family in 2009. It was cancelled at the last minute by the Webbs. CDOT did not receive a follow-up meeting request.
- H. The initial design criteria that Mr. Cross alluded to were set up to determine if a full avoidance alternative was possible. Additional information about the analysis of Revised Preliminary Alternative A is contained in the response to IND 64, W below. A private property owner is not authorized to exempt CDOT and FHWA from federal law protecting archaeological sites.

Comments

Responses

Source:	Letter	Name:	Thomas G. McNeill
Document Number:	IND 64	City, Zip Code:	Detroit, 48226
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I	land located just south of the heart of Grandview <sup>4</sup> , proceeds through central grazing pastures, destroys a large and rare Pueblo II archaeological site (5LP9590), severs the original gravity based irrigation system for the ranch, and arrives near CR 220 in very close proximity to the ranch house, barn and cattle corrals. This made no sense to us -- why destroy the entire historic Webb Ranch rather than design an alternative with modest, and legally permissible, impact to one archaeological site on the western edge of Webb Ranch, and perhaps to the north end of the artifact scatter field on the Foster property? In our view, this single snapshot of facts constitutes a glaring violation of the mandate of Section 4(f) and constitutes arbitrary and capricious decision making, as those legal concepts are discussed below.		
J	With the information received during the morning meeting of November 1, in less than four hours, the Webb technical team prepared a preliminary concept drawing of Alternative R <sup>5</sup> that meets CDOT's criteria for capacity, safety and access control with minimal damage to the historic portion of Webb Ranch. That concept drawing was shown to the representatives of CDOT, FHWA, ACHP and SHPO (and neighbors) who participated in a walking tour of Webb Ranch conducted during the afternoon of November 1 by Chris Webb and Doug Loebig (of SEAS). <sup>6</sup>		
K	Fifteen hours after the conclusion of the ranch tour, at the consulting party meeting convened by CDOT the next morning, the Webb technical team formally presented a further evolved concept design for Alternative R. <sup>7</sup> Now, less than a month later, we have submitted detailed support for four variations of the R Alternative, denoted R1, 2, 3 and 4, each of which: (1) meets CDOT criteria for capacity, safety, access control and construction logistics, (2) at a cost that is less than or comparable to that of Revised G Modified, (3) by which CDOT and FHWA will be able to comply with their legal obligation under Section 4(f) to avoid or minimize		
<p><sup>4</sup> CDOT has estimated that the excavation would be 880 feet at its widest point (the length of three football fields), 1440 feet long (traversing two major ravines) and varying between 120 between 40 feet deep.</p> <p><sup>5</sup> Denoted as R because it is designed by Russell Engineering, in the existing Right-of-way, to save the Ranch.</p> <p><sup>6</sup> The FHWA and CDOT representatives who attended the tour of the ranch have been integral to process of designing the G Alternative but never had set foot on the ranch for a "site visit" to see what they proposed to destroy.</p> <p><sup>7</sup> CDOT scheduled this meeting at the urging of ACHP, only after it concluded all evaluation and analysis and issued the draft SEIS, and then solely for the purpose of discussing an agenda concerning "mitigation" of the "adverse effects" to Webb Ranch that would be caused by construction of the G Alternative. A Webb team of seven (including four engineers) attended the mitigation meeting. To his credit, CDOT's Daniel Jepsen permitted the Webb team to present the R Alternative at the conclusion of the meeting. See, Meeting Minutes prepared by CDOT. Prior to November 1-2, 2011, CDOT did not engage in any meaningful design or development consultation with the owners of Webb Ranch.</p>			

Response to Comment IND 64

- I. The Revised G Modified (Preferred) Alternative uses a portion of the Webb Ranch property, which is protected under Section 4(f) and under Section 106 of the National Historic Preservation Act. The impact to the Webb Ranch was determined to be adverse under Section 106 which is why this alternative is fully analyzed in the Section 4(f) Evaluation in Chapter 5 of the SFEIS. This chapter includes information about why Revised G Modified (Preferred) Alternative is considered to be the least overall harm alternative.
- J. The response to Common Comment 5 provides an analysis of Alternative R that indicates why the alternative does not meet CDOT's criteria for safety (along with other issues) and why it therefore does not meet purpose and need.
- K. The response to Common Comment 5 indicates the safety issues associated with Alternative R. This results in this alternative not determined reasonable under NEPA and not determined feasible and prudent under Section 4(f).



Comments

Responses

Source:	Letter	Name:	Thomas G. McNeill
Document Number:	IND 64	City, Zip Code:	Detroit, 48226
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L	the harm to an historic property.  For at least eight years, and for as many twenty-one years, CDOT has been engaged in concept planning, design and development for the relocation of 1.2 miles of US 550 as it traverses Farmington Hill, including the change of elevation of 200 feet over 0.66 miles. In less than one month after the first substantive dialogue with CDOT project engineers, the Webb technical team has developed four concept variations of an R Alternative in close proximity to the existing US 550 alignment that meet all of CDOT's criteria. That fact would be the cornerstone in any litigation.		
	That said -- and putting aside that circumstances compelled a private citizen to undertake the responsibilities and expense statutorily required of the government -- CDOT and the Webb team are now presented with a unique opportunity to avoid litigation and constructively collaborate and combine ingenuity to further develop the R Alternative to fully meet the needs of the Durango community, now and in the future. We are confident that the R Alternative can be developed, improved, enhanced and refined beyond the work of one privately-retained team in one month. We stand ready to assist, support and collaborate with CDOT in the further development of the R Alternatives that we have proffered with this Report.		
M	<b>II. THE LEGAL FRAMEWORK APPLICABLE TO THE DRAFT SEIS</b>		
	<b>A. FHWA and CDOT have Failed to Meet the Mandate of Section 4(f)</b>		
N	It is beyond purview that a federally funded highway project must comply with Section 4(f) of the Department of Transportation Act, 23 U.S.C. § 138 (previously codified at 49 U.S.C. §303); see <i>North Idaho Community Action Network v. Dept. of Transportation</i> , 545 F.3d 1147, 1158 (9th Cir. 2008). Pursuant to §4(f), "[i]t is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands . . . and historic sites." 28 U.S.C. §138(a). Although the National Historic Preservation Act ("NHPA") and the National Environmental Policy Act ("NEPA") impose only procedural requirements on federal projects, §4(f) imposes a "substantive mandate." See, 28 U.S.C. § 138(c). <i>Accord, Slockish v. FHA</i> , 664 F. Supp. 2d 1192 (D. Or. 2009)		
	Section 4(f) permits approval of a federal transportation project "requiring the use of land of an historic site" <i>only</i> if: (1) there is no prudent and feasible alternative to using that land; and (2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use. 49 U.S.C. § 303(c) (emphasis added). <i>North Idaho Community Action Network v. Dept. of Transportation North Idaho, supra</i> , 545 F.3d at 1158 (9th Cir. 2008). <i>Accord, Davis v. Mineta</i> , 302 F.3d 1104, 1115 (10th Cir. 2002). Section 4(f) provides a "clear and specific directive." <i>Citizens to Preserve</i>		

<b>Response to Comment IND 64</b>	
L.	The response to Common Comment 8 discusses the project timeline. The response to Common Comment 5 contains information about how Alternative R does not meet CDOT's requirements for purpose and need.
M.	Similar to the other existing alignment alternatives, further development of Alternative R is unnecessary. The safety problems inherent with this design preclude it from meeting the project's purpose and need. Given the geographic location, it is not possible to ensure a safe highway that meets required design standards. The level of design provided to CDOT was very preliminary with numerous gaps. Regardless, CDOT knows of no way to improve upon this alternative to achieve the necessary standard of safety.
N.	Chapter 5 of the SFEIS demonstrates that CDOT and FHWA have met the requirements of Section 4(f). It demonstrates that there is no prudent and feasible alternative to the use of the Section 4(f) properties, that Revised G Modified (Preferred) Alternative is the alternative that causes the least overall harm and that all possible planning to minimize harm has been included.

Comments

Responses

Source:	Letter	Name:	Thomas G. McNeill
Document Number:	IND 64	City, Zip Code:	Detroit, 48226

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*Overton Park, Inc. v. Volpe*, 401 U.S. 402, 411 (1971); *North Idaho, supra*, 545 F.3d at 1158. Section 4(f) is a "powerful legal mechanism[] intended to assure that federal agencies analyze the impacts of their projects on the cultural, historical, and environmental resources of our nation." *Heredetary Chief Wilbur Slockish v. FHA*, 664 F.Supp. 2d 1192, 1208 (D. Oregon 2009).

Under the first prong of the Section 4(f) analysis, the agency must identify and consider every feasible and prudent avoidance alternative. 23 C.F.R. §774.3. "A feasible and prudent avoidance alternative avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property." 23 C.F.R. §774.17. "An alternative is not feasible if it cannot be built as a matter of sound engineering judgment." *Id.* This determination requires little administrative discretion. *Overton Park*, 401 U.S. at 411. An alternative is not prudent if it causes "severe" impacts, disruptions, or costs of an "extraordinary magnitude," among other factors. 23 C.F.R. §774.3.

Under the second prong of Section 4(f) analysis, the agency must employ and utilize all possible planning to minimize harm. "All possible planning" means that all reasonable measures identified in the Section 4(f) evaluation to minimize harm or mitigate for adverse impacts and effects must be included in the project." 23 C.F.R. §774.17. "With regard to historic sites, the measures normally serve to preserve the historic activities, features, or attributes of the site." 23 C.F.R. §774.17.

For the reasons set forth below, FHWA and CDOT have failed to comply with the mandate of Section 4(f).

**B. The Draft SEIS will not withstand Judicial Review under the Arbitrary and Capricious Standard**

When an agency decision is challenged under the Administrative Procedures Act ("APA"), a court must set it aside if the decision was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). This means, "of course, any law, and not merely those laws that the agency itself is charged with administering. *See, e.g., Citizens to Preserve Overton Park, Inc. v. Volpe, supra*, 401 U.S. at 413-414 ("In all cases agency action must be set aside if the action was 'arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law' or if the action failed to meet statutory, procedural, or constitutional requirements")." *Accord, Federal Communications Commission v. Nextwave Personal Communications, Inc.*, 537 U.S. 293, 300 (2003).

In applying the arbitrary and capricious standard of review, the U.S. Supreme Court has held that the reviewing court should consider whether:

- O. CDOT has identified and considered feasible and prudent alternatives that could avoid the Section 4(f) properties in the project area. This analysis is described in Section 5.7 of the SFEIS. According to 23 CFR 774.17, an alternative is not feasible if it cannot be constructed as a matter of sound engineering judgment. An alternative is not prudent if it compromises the project to a degree that it is unreasonable to proceed with the project in light of the stated purpose and need or if it results in unacceptable safety or operational problems, in addition to other factors. The information contained in Chapter 5 demonstrates that all feasible and prudent alternatives that meet the project purpose and need have been fully analyzed in compliance with Section 4(f) requirements. This includes the requirement to include all possible planning to minimize harm.

O

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the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

*Motor Vehicles Manufacturers Association v. State Farm Mutual Automobile Insurance Co.* 463 U.S. 29, 43 (1983). *Accord, North Idaho Community Action Network v. Dept. of Transportation North Idaho, supra*, 545 F.3d at 1152-53, *citing, Lands Council v. McNair*, 537 F.3d 981, 987 (9th Cir. 2008) (en banc).

The arbitrary and capricious standard of review governs a federal court's consideration of an agency's decision under NEPA and Section 4(f). *See, Pit River Tribe v. U.S. Forest Serv.*, 469 F.3d 768, 778 (9th Cir. 2006); *Alaska Ctr. for the Env't v. Armbrister*, 131 F.3d 1285, 1288 (9th Cir. 1997). In applying the arbitrary and capricious standard to a final environmental impact study ("FEIS"), another court recently held:

If a preferred alternative identified in an FEIS and Section 4(f) evaluation includes the use of Section 4(f) property, the FEIS must contain a detailed explanation of why that alternative was chosen. It must include a discussion of the basis for concluding that there is no feasible and prudent alternative to the use of Section 4(f) land. *Id.* at 39. This is a high burden and the supporting information must establish that "there are unique problems or unusual factors involved in the use of alternatives that avoid [Section 4(f)] properties or that the cost, social, economic, and environmental impacts, or community disruption resulting from such alternatives reach extraordinary magnitudes." *Id.* It must also discuss the basis for concluding that the proposed action includes all possible planning to minimize harm to the Section 4(f) property.

*Latin Americans for Social and Economic Development v. FHA*, 2010 U.S. Dist. LEXIS 84582, slip op. at pp. 23-24 (E.D. Mich. August 18, 2010).<sup>8</sup>

Although a reviewing court may not engage in de novo review of an issue before an agency, it must engage in a "thorough, probing, in-depth review" of the agency's decision. *Citizens to Preserve Overton Park, Inc. v. Volpe, supra*, 401 U.S. at 41. The judicial inquiry

<sup>8</sup> When an agency is required to prepare an EIS, the Section 4(f) evaluation may be included as a part of that document. *Latin Americans for Social and Economic Development v. FHA, supra*, LEXIS at p. 22. As explained by FHWA's Stephanie Gibson at the consulting parting meeting held on November 2, 2011, CDOT has included its Section 4(f) analysis in the draft SEIS and the title of the document so indicates.

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- P. The SFEIS contains a detailed explanation of why Revised G Modified Alternative has been identified as the Preferred Alternative. Chapter 5 of the SFEIS specifically documents this identification in Section 5.10.6. The Revised G Modified (Preferred) Alternative is considered to be the least overall harm alternative. This conclusion includes the fact that there is no feasible and prudent avoidance alternative and the alternative includes all possible planning to minimize harm.

P

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<p>Kerrie Neet                  John M. Cater                  November 28, 2011                  Page 8</p> <p>must be "searching and careful." <i>National Parks and Conservation Assoc. v. FAA et al.</i> 998 F.2d 1523, 1532 (10th Cir. 1993).</p> <p>For the reasons set forth below, if issued as final, FHWA and CDOT's draft SEIS will not survive judicial scrutiny.</p> <p><b>III. CDOT'S RELIANCE UPON GROSSLY OVERSTATED TRAFFIC PROJECTIONS IS ARBITRARY AND CAPRICIOUS</b></p> <p>CDOT's traffic projections for the year 2030 drive its analysis of existing US 550, the "purpose and need" of making improvements to US 550 and the comparisons of various alternatives for those improvements. We therefore retained Krager and Associates to analyze CDOT's traffic projections and we have attached as Exhibit 2 the firm's report dated November 26, 2011 (the Krager Report).</p> <p>The Krager Report concludes that CDOT's projections are "inflated" because, improperly, they more than double projections prepared by the State Demographer and LaPlata County and the City of Durango. The Krager Report uses the word "inflated" as the terminology of a professional engineer. In litigation parlance, CDOT's traffic projections are grossly overstated and if intentionally done would be false and likely fraudulent.</p> <p>In 2006, LaPlata County and the City of Durango retained the LSA consulting firm to prepare the "2030 Transportation Integrated Plan." This study projected 20-year population growth factors of 1.76 for LaPlata County and 1.93 for Durango. Exhibit 2, Krager Report, p. 2.</p> <p>Based upon the US Census, in 2010 LaPlata County's population was 51,334. Tasked with the responsibility of providing population growth projections for the entire State by county, the Colorado State Demographers Office calculated a 20 year population growth factor for LaPlata County of 1.57, which equates to a population of approximately 80,000 in 2030. <i>Id.</i></p> <p>As explained in the Krager Report, the CDOT analysis starts from a 2009 actual traffic count of 19,000 vehicles per day (vpd) at mile post 84.4 just west of the present US 550/160 intersection. <i>Id.</i> at p. 1; SEIS, p. 1-13. Using the 1.93 growth projection for Durango from the 2006 LSA study, the year 2030 traffic projection would be 36,670 vpd day on US 160. Using the</p> <p><sup>9</sup> The issue of falsified and fraudulent traffic counts to justify arbitrary and capricious decision making with respect to US 550 at Farmington Hill is not new. In connection with traffic projections and capacity analysis for a May 2000 Screening Report, CDOT inexplicably tripled the traffic counts for the turning movement from northbound US 550 to westbound US 160, the single turning movement upon which CDOT predicated a stated need for a new interchange for US 550/160. Letter from Leslie A. Fields to Ken Salazar, Colorado Attorney General, dated September 25, 2000 (previously submitted to the administrative record).</p>			

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Q.	<p>See response to Common Comment 1 regarding CDOT's analysis of traffic projections and a comparison to the City of Durango and La Plata County 2030 TRIP report. The response to Common Comment 1 describes the traffic projection methodology used by CDOT. It also describes the very similar results obtained by CDOT and by a 2006 analysis prepared by the City of Durango and La Plata County.</p> <p>Future La Plata County projections are that by 2030, 79,762 people will be living in La Plata County (see Section 3.3.3 of the SFEIS).</p>

Q



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State Demographer's growth factor of 1.57, the 2030 traffic projection would be only 29,830 vpd on US 160.			
R	CDOT instead uses a 2030 traffic projection of 77,900 vpd on US 160. This constitutes the application of a 4.1 growth factor, which is more than double the factor utilized by the State Demographer and the County and City. To put this in perspective, CDOT's 2030 traffic projections for Durango equate to present traffic counts on I-25 through Colorado Springs, a city of 400,000. The Krager Report opines that CDOT's 2030 traffic projections equate to a LaPlata County population of at least 230,000 people. <i>Id.</i> CDOT's 2030 traffic projections are patently absurd. <sup>10</sup>		
	By improperly doubling the projections, CDOT has incorporated "capacity" specifications that dictate gross overbuilding of highway infrastructure. For example, CDOT's traffic projections serve as the foundational premise for its capacity analysis that in 2030 the present US 550/160 intersection will operate at a level of service (LOS) F, which is below the stated criterion of LOS D. Krager Report, p. 4. But if the traffic projections are revised using Durango's growth rate of 1.93 (the <i>highest</i> of the three growth factors calculated by other governmental bodies), in 2030 that intersection would operate at acceptable LOS D. <i>Id.</i> For 2030, capacity could be increased to LOS B by the relatively simple, and comparatively inexpensive, installation of a dual westbound left-turn lane. <i>Id.</i>		
S	Under normal conditions, an interchange is not even considered as a replacement for a signalized intersection. <i>Id.</i> However, if an interchange is desirable at US 550/160 location for reasons other than capacity, there are at least six interchange designs that, at a fraction of the cost, would function well for 10-15 years at that intersection. Krager Report, p. 4; Exhibit 3, RPE Report, pp. 6-7. <sup>11</sup> And all of those intersection options could be designed and constructed to tie-in to future improvements to US 550 in its present configuration, or to construction of a new highway along that same alignment.		
	We do not understand CDOT's failure to design and develop a much more modest approach to the US 550/160 intersection and the 1.2 miles of US 550 south of US 160 to County Road 220. Ignoring traffic projection data based upon the best credible methodologies, CDOT persists in relying upon grossly overstated projections to justify its commitment to Revised G		
T	<sup>10</sup> CDOT purports to justify this improper doubling affect based upon the erroneous assumption that all approved development plans actually will be built to the full extent of approval. As noted in the Krager Report, this methodology is flawed and would not be utilized by any Metropolitan Planning Organization. <i>Id.</i> at p. 1.		
	<sup>11</sup> In the mid 1990's, CDOT's Region 5 Director, Al Shablo, and his staff considered, but ultimately did not implement, a resolution of traffic flow and capacity issues at the US 550/160 intersection by replacing the at grade intersection with a single lane flyover ramp (for northbound US 550 from Farmington to westbound to US 160 to Durango).		

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- R. The CDOT traffic projections have been compared to the independent traffic projection analysis performed by the City of Durango and La Plata County in 2006 (2030 TRIP report). (See the response to Common Comment 1 for more information.) These two reports were found to be comparable in traffic projections: US 160 year 2030 traffic projections were within 8.46 percent of each other, US 550 year 2030 traffic projections were within 1 percent of each other.
- S. The traffic projections included in the SDEIS were not doubled as stated in your comment. (See the response to Common Comment 1 for more information.) With data received from the Three Springs development in March 2011, CDOT knew that currently there are 5290 trips per day entering and leaving the Three Springs development that could end up being double counted in future traffic trip generation analysis. In the US 550 at US 160 2030 Traffic Volume Verification report CDOT specifically lowered the 2030 trip generation by 5290 trips per day because of the double counting that would have occurred the existing traffic generation that is currently generated by Three Springs was not accounted for.  
  
 A dual westbound turn lane was considered in the Section 4(f) analysis, which is included in Chapter 5 of the SFEIS. This proposal was analyzed and determined to fail the capacity requirement of the project purpose and need. CDOT has determined that any at-grade intersection at this location will fail to meet the project purpose and need.
- T. Interchanges are very frequently developed to be replacements for signalized intersections. This occurs regularly as traffic volumes increase beyond the capacity of a signalized intersection. CDOT disagrees that there are interchange options that would operate effectively at the existing intersection of US 550 and US 160. CDOT has investigated several interchange options, including those presented within this letter. These include the Partial Interchange at the Existing US 550 and US 160 (South) Intersection Alternative which included four design variations, and the Revised Preliminary Alternative A. Those, along with Alternative R are discussed in detail in Chapter 2 of the SFEIS.  
  
 None of the alternatives utilizing the existing intersection meet the purpose and need requirements for the project. As stated in previous comments, safety issues

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Modified. Thus, fundamentally, CDOT's planning and design for this new four lane highway through the Webb Ranch is arbitrary and capricious.

**IV. CDOT'S FAILURE TO DEVELOP ALTERNATIVES IN THE US 550 RIGHT OF WAY VIOLATES SECTION 4(f)**

For more than ten years, the Webb Family has advocated solutions to US 550 concerns that are premised upon feasible options constructed "below the rim" of Florida Mesa, and in the existing ROW. For even longer than that, CDOT has advocated, and attempted to justify, construction of a new highway through Webb Ranch. CDOT's draft SEIS continues CDOT's unwavering commitment to its objective, again supported by self-serving, inaccurate and result oriented "analysis."

As articulated by their representatives at the consulting party meeting and the public meeting held on November 2, 2011, the Webb Family opposes each of the three alternatives advanced by CDOT for further study during the SEIS process: the Eastern Alignment, Revised F Modified and Revised G Modified (CDOT's preferred alternative). Each of these alternatives is unwarranted by present and reasonably foreseeable community needs, and each is destructive to considerable private property, much of which is afforded the protections of Section 4(f).

**U** We note that CDOT's evaluation of all alternatives is based upon its self selected and defined criteria of "purpose and need" (inclusive of three factors: traffic capacity/travel efficiency, safety and access control) and "other criteria" (comprised of construction logistics and cost). In our comparative analysis, we have used these same criteria just as CDOT formulated them. We also are mindful, as CDOT and FHWA must be, of the Section 4(f) mandate that in the application of these criteria CDOT must engage in "all possible planning" to avoid or minimize harm to historic sites, such as Webb Ranch.

Before turning to the Revised G Modified Alternative<sup>12</sup>, we first examine CDOT's determinations to "screen out" all alternatives in the existing ROW. See, SEIS Section 2.5.

**A. The No Action Alternative without a Modest/Conservative Alternative**

**V** In one short paragraph, CDOT summarily concluded that the "No Action" alternative does not meet the purpose and need for the project. CDOT nonetheless advanced No Action for "detailed study" solely to serve as a baseline for comparison with other alternatives. SEIS §2.5.3.1.

<sup>12</sup> In this submission, we do not comment on Revised F Modified or the Eastern Alignments because CDOT did not select either as a preferred alignment. If CDOT issues a second draft SEIS designating either of these alignments as preferred we will comment at that time.

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T (cont'd)

associated with these designs include a large reduction in speed in a short distance, sharp curves, eight percent cross slopes, four percent vertical grades, and north facing steep slopes, among other issues which all combine to produce unacceptable safety problems. None of the interchange options utilizing the existing intersection meet the capacity and safety requirements of the project. The planning horizon for reconstruction projects is 20 years and it is not a good use of public funds to construct something as extensive (and expensive) as a reconstruction that would need to be replaced in 10 to 15 years as traffic volumes grow. CDOT has determined that while alternatives that had a grade separation would work to meet the Purpose and Need requirements for capacity, these alternatives had to be dismissed due to safety issues.

Please see response to Common Comment 1 for more information about CDOT's traffic projections.

- U. CDOT established the project purpose and need based on analysis of existing and projected problems with traffic capacity, safety and access control. The project purpose and need, as documented in Section 1.5 of the SFEIS, has not changed since the 2006 US 160 EIS.
- V. The Council on Environmental Quality (CEQ) regulations at 40 CFR 1502.14(d) require the alternatives analysis in the EIS to include the No Action Alternative.

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W

We note, however, that CDOT did not formulate, let alone evaluate, a “Modest” or “Conservative” Action alternative. As noted above, based upon accurate 2030 traffic projections there are modest capacity and safety solutions available with respect to both the US 550/160 intersection and US 550 as it traverses Farmington Hill. Such improvements are technically feasible and relatively inexpensive and could be effected to immediately address safety considerations now rather than wait ten years, or more, for funding of a major new highway project (a time frame CDOT acknowledged as possible during the consulting party meeting). Moreover, any of the new intersection options could be designed and constructed to accommodate a tie-in with a future highway constructed in the present US 550 ROW or along that alignment. CDOT’s failure to do any of this violates the Section 4(f) mandate to engage in all possible planning.

**B. The T Alternatives**

Turning from *absolutely no* planning to *almost no* planning, we next examine CDOT’s putative evaluation of the seven T Alternatives which by letter dated October 28, 2008 we submitted in barebones concept design. CDOT divided these alternatives into two categories: (1) those that utilize an at-grade, signalized intersection (T.1.4, 1.6 and 4.4; SEIS §§ 2.5.3.2 and Figure 2.2, and 5.7.3.1) ; and (2) those that utilize a partial interchange with a flyover ramp for the left turn movement from northbound US 550 from Farmington to westbound US 160 to Durango (T.2.4, 2.6 and 3.4; SEIS §§ 2.4.3 and Figure 2-3 and 5.7.3.2).

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W. CDOT looked at alternatives on or near the existing alignment. However, none of the alignments on or near the existing US 550 completely avoided impacts to the historic Webb Ranch or other historic properties. (See Section 2.4.2 and 2.4.3 of the SFEIS for more information about these alternatives.) CDOT’s Revised Preliminary Alternative A is an alternative that was designed to stay close to the existing US 550 alignment. It was designed to minimize impacts to property owners (James, Webb, Piccoli, Eagle Block, Hillmeyer, Cohen and Puig), archaeological sites, historic properties, wildlife habitat, wetlands, threatened and endangered species, etc. Even when using sub-standard design criteria, the impacts to the resources listed above increase considerably. Regardless, building a new highway based on sub-standard design criteria is unsafe, and therefore does not meet the purpose and need of the project.

The cost estimates for the on- or near- alignment alternatives are very similar to the off-alignment alternatives. While some are higher and some were lower than the Revised Alternative G Alternative, none of the cost differences were significant enough to make it a deciding factor. More information about cost estimates for the Revised G Modified Alternative and for Alternative R are contained in Appendix F and in Section 2.5.4 of the SFEIS.

For more information about the accuracy of the 2030 traffic projections, please refer to the responses to Common Comment 1 and Comment LO 1C.

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I. The At-Grade Signalized T Alternatives

As to "purpose and need," CDOT screened out the at-grade, signalized variations of the T Alternatives because they fail to meet CDOT's grossly overstated traffic projections and associated capacity specifications. Had CDOT applied reasonable traffic projections, the analysis would show that these alternatives exceed CDOT's LOS criteria.

To screen out the at-grade T Alternatives, CDOT also principally relies upon safety issues regarding grades, radii of curves and design speeds.<sup>13</sup> As discussed below, these safety issues are addressed and resolved by the new R Alternatives. The point, however, is this: CDOT did not in any way develop these conceptual T designs to resolve or mitigate these safety issues. Instead, CDOT was satisfied to stand pat on one page concept drawings submitted three years ago.

Y

As to "other criteria," CDOT concedes that cost is not a basis for screening out these T

<sup>13</sup> CDOT acknowledges that the T Alternatives and the Revised A Alternative adequately provide for access control (the third "purpose and need" factor).

W (cont'd)

CDOT has looked at improving the existing intersection along with all of the other concepts presented by the public, and none of them meet the traffic capacity requirements for the purpose and need. (See Sections 2.5.3.2 and 2.5.3.3 of the SFEIS for more information.) The future connection of US 550 to US 160 will require a grade separation (interchange) regardless of the location where they connect.

X.

See response to Common Comment 1 regarding CDOT's traffic projections and comparison to the City of Durango and La Plata County 2030 TRIP report to validate the traffic projections in the year 2030.

Y.

CDOT relies on the standard design criteria published by AASHTO that relate to grades, radii or curves, and design speeds. When these standards are met, highways are safer. When they are not met, the traveling public will experience unnecessary and elevated safety risks and accidents due to the characteristics of the road. Additional design of the T Alternatives is unnecessary. The safety issues inherent with these designs preclude them from meeting the project's purpose and need, and cannot be considered viable alternatives for consideration. Section 2.5.3.2 of the SFEIS contains additional information about these safety problems. The response to Common Comment 5 has additional information about the safety problems with Alternative R.

Related to the logistics criteria, the construction of retaining walls 85 feet tall is an issue. The reason these were necessary was because the alignment was placed to the west of Farmington Hill to avoid or minimize impacts to wetlands, wildlife habitat, archaeological or historic resources and vegetation.



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Alternatives. But in the "logistics" category, CDOT cites three factors as supporting disqualification. First, CDOT references "technical challenges" associated with building 85 foot retaining walls on the down slope side of these T Alternatives. In this regard, CDOT *did* engage in *some* planning -- to make these alternatives *worse* by swinging them westward thus requiring the down slope walls that CDOT then criticizes. As discussed below, these "wall" issues are addressed and resolved by the new R Alternatives.

Second, CDOT cites "geotechnical issues with known subsurface water problems ("springs which create drainage and slope stability issues"). See, e.g., SEIS, pp. 2-18, 19, 22. CDOT invokes this red herring with respect to every ROW alternative. Accordingly, we retained Trautner Geotech to work with Russell Engineering on a range of potential geotechnical related issues. The RPE Report responds as follows to CDOT's amorphous "geotechnical issues:

... CDOT does not rely upon or cite to any technical study or test results relative to subsurface water conditions in or near the existing US 550 ROW at Farmington Hill. CDOT does not specifically identify the geotechnical issues, or the "known water problems" with which it is concerned. CDOT does not describe the manner in which it has addressed and resolved similar, or more severe conditions, which it has encountered in constructing highways throughout Colorado's mountainous areas.

Z

At Appendix F, we have appended the Report of Trautner Geotech, LLC, dated November 22, 2011, which states that with respect to the construction of any of the alternatives in the existing US 550 ROW which CDOT evaluated, and any of the four R Alternatives presented by RPE Engineering, CDOT would not encounter any significant water and slope stability issues of greater severity than are regularly encountered throughout the mountainous areas of Colorado where highway construction already has occurred. Mr. Trautner's years of proven experience concerning geotechnical issues in the Durango area make him a local and regional expert in the field. He is not aware of any insurmountable geotechnical issues at Farmington Hill and neither are we. If CDOT specifically identifies particular geotechnical issues, or the "known water problems" with which it is concerned, we are confident that Trautner Geotech will address them and that CDOT could resolve them based upon its past substantial experience.

RPE Report, § 4.1.5.

AA

Third, as with every ROW alternative, CDOT contends that during construction of the T Alternatives it would be necessary to utilize CR 220 as a detour, with substantial attendant disadvantages that support screening out these alternatives. As with "subsurface water," CDOT

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Z. The site does have known subsurface water that will require mitigation by design to avoid drainage and slope stability issues. CDOT agrees that the site does not present challenges beyond what has been dealt with in other mountainous locations. These drainage and slope stability concerns can be addressed and were not a reason to eliminate any of these alternatives. The "T" Alternatives did not meet the safety or capacity requirements of the project purpose and need.

AA. CDOT looks at several options for maintaining traffic flows when constructing a roadway. The first option is to look at how to utilize the existing roadway and right-of-way. The second option is to look at shoo-fly detours along the existing roadway. (A shoo-fly is a detour placed next to the existing roadway, usually on the road shoulder). The third option is to look at a detour that takes traffic completely away from the construction site. A fourth option is the use of a combination of the previous three alternatives. The Revised Preliminary A Alternative was analyzed using the above construction/detour options. This analysis shows that for any of the on- or near-alignment alternatives, constructing the new roadway while leaving traffic slightly offset from the existing roadway will require significant temporary retaining walls. As shown on the Russell Engineering report, the profile for R1 and R3 has about 20 feet of elevation difference between the existing roadway and the proposed roadway near the US 160/US 550 intersection, and about five feet of elevation difference between the existing roadway and the proposed roadway near County Road 220. In rough numbers there are about 28,000 square feet of temporary walls required which would exceed \$2,000,000 in throw-away costs, or costs expended for walls used only during construction that are not needed for the final project. There are other costs associated with the walls such as barriers, traffic control, temporary widening, temporary signals, and bridge construction phasing as well.

In conclusion, given these challenges, and with the reduced construction time made possible by allowing construction to occur in the difficult area without the need to maintain traffic immediately adjacent to the construction site, and the fact that the detour will be safer for the traveling public, the detour is a better option.

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<b>AA</b> cont'd	does not describe the manner in which it has addressed and resolved similar, or more severe, construction logistic issues which it has encountered in constructing highways throughout Colorado's mountainous areas. In any event, RPE has addressed and resolved this issue by planning for construction of a ROW Alternative with continuing use of US 550 during construction. RPE Report, § 4.1.6. Specifically, RPE proposes excavation of the upper face of the slope above existing U.S. 550, thus permitting, without detour, construction of the northbound lanes of the new highway as traffic utilizes the old highway below (with attendant safety measures installed). We do not understand why CDOT did not consider this option.		
	<p style="text-align: center;"><b>2. The Partial Interchange T Alternatives with Flyover Ramp</b></p> <p>CDOT acknowledges that based upon its (grossly overstated) 2030 traffic projections these variations of the T Alternatives would achieve LOS A, the highest level of service, and thus exceed CDOT's capacity criteria.</p> <p>CDOT cites the same safety considerations, technical challenges, geotechnical issues and detour concerns addressed above and resolved by the new R Alternatives.</p> <p>For these alternatives, CDOT proffers an estimated cost of \$230.8 million as an additional basis for its finding that these alternatives are "not reasonable." SEIS §2.5.3.3 and Appendix E. The cost difference between the at-grade and partial interchange T Alternatives is CDOT's estimated \$96.8 million for the flyover ramp and associated elements. CDOT, however, did not develop or evaluate at least six other interchange designs that would effect for a <i>much</i> lower cost the left turn movement from northbound US 550 to westbound US 160. See, <i>infra</i>, p. 9. In fact, it is our considered assessment that CDOT has loaded, and over loaded, every possible cost associated with the Partial Interchange T Alternatives in order to make it less attractive, and perhaps prohibitively expensive.<sup>14</sup> Once again, CDOT's failure in this regard violates the Section 4(f) mandate to engage in all possible planning.</p> <p>In summary, three years ago CDOT received our one page concept drawings for each of the seven T Alternatives and then engaged in virtually no planning to develop, improve, enhance and refine them to meet purpose and need and other criteria. CDOT's failure in this regard violates the Section 4(f) mandate to engage in all possible planning to avoid or minimize the harm to Webb Ranch.</p>		
<b>BB</b>	<p><sup>14</sup> As discussed below, conversely, we contend that during the more than five and half years that have elapsed since issuing the original EIS CDOT has retained its preferred G Alignment in an early conceptual stage in order to avoid making an accurate estimate of its actual anticipated, or "true," cost. Even in conceptual form, however, CDOT appears to have intentionally understated the cost of the G Alternative to make it appear to be the least costly at \$77.6 million. Note for example that CDOT estimates that the cost of just the flyover ramp for the Partial Interchange T Alternatives is 25% more expensive than the <i>entirety</i> of Revised G Modified and the construction of at least four more bridges. As a negative rhetorical, we ask, "does that make sense?"</p>		

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BB. Interchanges are selected based on safety and operations, not cost. All CDOT cost estimates are prepared based on best engineering judgment. They are broken out with a US 550 leg cost and a separate interchange cost. This separation makes it easy to compare just the US 550 concepts without the cost of the interchanges.

Further development of these alternatives was deemed unnecessary. The safety issues inherent in any of these designs preclude them from meeting the project's purpose and need. Given the constraints of the existing geography, acceptable design standards could not be met. Sufficient analysis has been done to demonstrate that these alternatives are not reasonable alternatives.

CDOT utilized the same unit costs for all estimates provided in the SFEIS. The costs presented in the SFEIS represent CDOT's expert opinion as to what each proposal would cost to implement. The "T" Alternatives utilize many of the same cost factors that are included in Revised Preliminary Alternative A. The significant cost increase seen in the "T" Alternatives from Revised Preliminary Alternative A is a direct result of the combination of required cut walls and the long bridge sections associated with the alternative.

Further design or development was not deemed necessary for the "T" Alternatives. The alternatives did not meet the purpose and need for the project, failed the capacity and safety requirements, and had significant design deficiencies due to geographic constraints that precluded them from being viable options.

Information about the 2030 traffic projections is contained in the response to Common Comment 1.

In summary, the "T" Alternatives were analyzed to a sufficient level of detail to determine that they were not feasible and prudent alternatives under Section 4(f) because they failed the safety and capacity requirements of the project purpose and need.

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**C. The Revised Preliminary A Alternative**

In the May 2006 EIS, CDOT screened out the A Alternative. In the reopened SEIS process, CDOT enhanced the A Alternative by adding a full grade-separated trumpet interchange at an additional cost of \$94.5 million.<sup>15</sup> SEIS §2.4.4, Figure 2-4 and Appendix E. CDOT does not claim any further development, improvement or enhancement of the A Alternative for purposes of entitling it "Revised," and we are unable to identify any.

CDOT acknowledges that based upon its (grossly overstated) 2030 traffic projections, Revised A would achieve LOS B/C and thus exceeds CDOT's capacity criteria.

CDOT cites the same safety considerations, technical challenges, geotechnical issues and detour concerns raised with respect to the T Alternatives, which are addressed and resolved by the new R Alternatives.

But the most egregious failure in CDOT's "planning" relative to Revised A is what it did not do. First, as pointed out by RPE, CDOT developed Revised A based upon the incorrect assumption that a future highway *could not* impact the NRHP-eligible archaeological site on the western portion of the Webb Ranch (SLP 2223). By "threading the needle" between site SLP2223 on Webb Ranch and site SLP6670 (with the artifact scatter and sweat lodge) on the Foster property, CDOT created a conceptual design and prepared cost estimates for Revised A that are impractical and predictably result in CDOT's determination that Revised A is not a viable option. Conversely, however, CDOT developed its preferred Revised G Modified Alternative based upon the assumption that it *could* substantially adversely impact NRHP-eligible Webb Ranch and three NRHP-eligible archaeological sites on the ranch (including site SLP9590 on the north rim, above the Grandview interchange, which contains the rare Pueblo II artifacts).

Second, CDOT developed Revised A based upon the assumption that it *could not* excavate any material on the west rim of Webb Ranch above existing US 550 but that it *could* excavate 1.6 million cubic yards of material from the north rim of the Webb Ranch to construct Revised G Modified. As detailed in the RPE Report, excavations of comparable amounts of

<sup>15</sup> Importantly, we note that CDOT determined to "screen out" Revised A in part "because it is more expensive than these [other] alternatives because it requires building a new interchange whereas Revised G modified . . . connect[s] to interchanges already planned or built in Grandview." SEIS, p. 2-22. This is an impermissible screening factor. On multiple occasions, FHWA and CDOT have stated in writing that the evaluation of all alternatives will be without regard to the Grandview interchange because it has full independent functionality (SEIS, Appendix B). In conducting an "apples to apples" evaluation of all alternatives, CDOT cannot advance, let alone select, Revised G Modified simply because CDOT already has constructed the Grandview interchange. To do otherwise would be contrary to CDOT's stated policy and thus, as a matter of law, arbitrary and capricious.

**Response to Comment IND 64**

CC. As described in detail in Section 2.4.4 of the SFEIS, Revised Preliminary Alternative A was developed to minimize impacts to archeological sites, historic sites, residences, wetlands, farmlands, businesses and wildlife habitat, among other resources. (The terminology of "Revised" was used to denote any change to an alternative since the 2006 US 160 EIS.) Through the development of this alternative, it was realized that the purpose and need was not met due to unacceptable safety problems. Any attempts at varying the design to achieve a standard design speed (which is required to meet minimum safety standards) caused impacts to the resources listed above to significantly increase. Even if the impacts to these resources were disregarded, modifying the alignment of Revised Preliminary Alternative A would not meet the project purpose and need due to significant safety issues that are associated with all the on-alignment alternatives, as described in Section 2.5 of the SFEIS. These safety issues are similar to those previously discussed for the "T" Alternatives and the newly proposed R alternatives (see responses to Common Comments 5 and 9).

Cost was not a factor in eliminating this alternative from further study. If this alternative had met the purpose and need, it would have been analyzed further in the document.

DD. Avoiding excavating material was not one of the controlling criteria.

EE. This alternative was screened out because it does not meet the safety requirements of the purpose and need. The other factors of cost and logistics are noted as additional items for consideration but were not used for screening of alternatives, as documented in Table 2-3 of the SFEIS. Appendix C of the SFEIS provides information about the independent functionality of the Grandview Interchange regardless if a US 550 connection is made. The evaluation of the alternative is not predetermined by this or any other proposed or existing interchanges on US 160. However, the utilization of planned or existing infrastructure is always used as a consideration when developing alternative cost estimates. (See the response to Common Comment 7 for more information.)

CC

DD

EE



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DD  
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material, or less, on the west rim enables substantial improvements and enhancements to an ROW alignment to resolve safety and construction issues. These features are included in the new R Alternatives.

FF

Third, CDOT developed Revised A based upon the assumption that a hugely expensive trumpet interchange is the only option for the US 550/160 intersection when at least six other, far less expensive, interchanges could be used to achieve the same desired traffic flow benefits and to meet or exceed capacity specifications.<sup>16</sup>

Based upon the text of and appendices to the SEIS, the only planning in which CDOT has engaged is with respect to the addition of full grade-separated trumpet interchange. We are aware of no other planning to develop, improve, enhance or refine this Alternative to meet CDOT's purpose and need and other criteria. Moreover, CDOT used incorrect or inconsistent assumptions in conceptualizing Revised A which it did not use in planning Revised G Modified. CDOT thus has failed to comply with the Section 4(f) mandate to engage in all possible planning.

**V. THE WEBB TECHNICAL TEAM HAS DEVELOPED THE NEW R ALTERNATIVES AS A SURROGATE FOR CDOT'S PLANNING FAILURES IN VIOLATION OF FEDERAL LAW.**

The RPE Report details the salient design features of each of the four R Alternatives and outlines them in its Executive Summary at pages 3-7. For ease of reference in connection with the comparison of the R Alternatives to Revised G Modified which follows, we offer these highlights of the design features of the R Alternatives:

GG

- a new bridge and interchange at the present US 550/160 intersection selected from six viable options but with the recommendation of an elevated partial or hybrid diamond interchange;
- *a tie-in to Ramp A of the new Grandview interchange to optimize the functionality and benefits of that existing transportation infrastructure;*
- grades of 5.0 percent (same as Revised G Modified) and 6.0 percent closely following the existing grades and close to the existing alignment;
- addition of one lane to both the northbound and southbound lanes of US 550 to

<sup>16</sup> As with the Partial Interchange T Alternatives, it is our considered assessment that CDOT has loaded, and over loaded, every possible cost associated with the Revised A Alternative in order to make it appear less attractive and perhaps prohibitively expensive.

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FF. The trumpet interchange was selected because it handles the projected traffic better than an intersection, a diamond interchange, a single point urban interchange, or a partial interchange. Less expensive interchange configurations could have been used, but these would not have provided the functionality of the trumpet interchange. Other configurations would have resulted in substandard designs.

As described in Chapter 2.1 of the 2006 US 160 EIS, this design was selected during the development of the Feasibility Alternatives and Preliminary Alternatives, which were taken primarily from the feasibility study and EA phase of this project. Please refer to that document for further information on the design selection criteria. A discussion of the analysis of the functionality of this interchange is provided in the SFEIS in Appendix D: 2030 Traffic Operations Analysis for the US 550 at US 160 Section 4(f) Alternatives.

GG. See bullet points below:

- The interchange design at the US 160 connection was presented to CDOT incomplete. The alignments do not tie to US 160, but are drawn without catch-points to the existing mainline, there is no consideration in the interchange design for spanning, bridging, or filling Wilson Gulch which would be required based on the extent of physical disturbance, and the designs do not incorporate the inclusion of the wildlife underpass at that Farmington Hill intersection which is required under the 2006 US 160 EIS.
- While the design presented to CDOT states that there will be a tie-in to the existing Grandview Interchange, there is no design provided or ROW consideration for this tie-in.
- There are significant logistical issues associated with maintaining these proposed grades while keeping traffic on the existing alignment. These issues have been discussed at length in other comment responses.
- The addition of lanes as proposed by the Alternative R design is achieved through the inclusion guardrails, center medians, and other barriers.

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<p style="text-align: right; font-size: small;">DICKINSON WRIGHT PLLC</p> <p>Kerrie Neet                  John M. Cater                  November 28, 2011                  Page 16</p> <p style="text-align: center;">expand to four lanes;</p> <ul style="list-style-type: none"> <li>• design speeds of 45 mph (R2/4) and 35 mph (R1/3);</li> <li>• addition of a "climbing lane" on southbound R1/3 to mitigate 6.00% road grade and making US 550 five lanes at that point;</li> <li>• construction of a new intersection at US 550/CR 220 with full auxiliary lanes;</li> <li>• Substantial excavation of the slope above the existing alignment with cut slopes of 3:1, with tiered retaining walls above two of the alternatives (R3/4);</li> <li>• implementation of a multitude of safety enhancements; and</li> <li>• a total construction cost that is less than or comparable to the cost of Revised G Modified.</li> </ul> <p><b>VI. BASED UPON CDOT'S SEIS CRITERIA, THE R ALTERNATIVES ARE SUPERIOR TO CDOT'S PREFERRED ALTERNATIVE, REVISED G MODIFIED</b></p> <p><b>A. Summary Comparison of the New R Alternatives to the G Alternative</b></p> <p>Compared to Revised G Modified, the new R Alternatives provide:</p> <ul style="list-style-type: none"> <li>• traffic capacity that exceeds CDOT's design criteria -- LOS C at CDOT's inflated traffic projections and a higher LOS rating under reasonable traffic projections (the G Alternative provides LOS A, except for the southbound US 550 to eastbound US 160, which would operate at LOS E, which fails CDOT's criteria);</li> <li>• shorter travel distances and shorter travel times and thus superior travel efficiency;</li> <li>• comparable or superior safety;</li> <li>• equal access control;</li> <li>• lower construction costs (R1 and R3) or costs that are not substantially higher, particularly given the benefits achieved (R2 and R4);</li> <li>• construction of the new highway while maintaining traffic on the existing US 550</li> </ul>	
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GG

HH

Response to Comment IND 64

GG (cont'd)

These barriers effectively lower the design speed of the alternative and increase the safety issues associated with the design.

- The dramatic reductions in design speed of 45 mph or 35 mph at the end of a long section at 70 mph is unsafe, as noted in the response to Common Comment 9.
- As explained above, the design proposes to add additional lanes to the roadway, in part, by incorporating design elements such as guardrails, median barriers, etc. While these fixed objects can be used to achieve additional road width, they do add a physical hazard to the roadway and reduce the design speed.
- None of the Alternative R proposals include design details for a CR 220 intersection, nor is ROW considered or additional property impacts from this intersection addressed.
- Tiered walls which are suggested are a good design treatment with any of the alternatives, are typically developed as an option during the final design process.
- As explained above, Alternative R proposes to utilize guardrails, barrier and center median to resolve safety deficiencies inherent with the existing US 550 alignment. While these safety enhancements can reduce safety issues associated with roadside obstacles, Alternative R still does not meet the safety portion of the project purpose and need because of the sharp drop in design speed.
- Construction costs for Alternative R are similar to those developed for the reasonable alternatives evaluated in the SFEIS.

HH. See bullet points below:

- Your assertion that an intersection delay for southbound US 550 to eastbound US 160 left turn movements will cause this intersection to function at an LOS of E or worse, thereby failing CDOT's SEIS LOS Criteria, is incorrect. CDOT performed a level of service analysis for this intersection for Revised G Modified (Preferred) Alternative and looked closely at this specific left turn movement to ensure that it will operate acceptably in the year 2030.

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HH (cont'd)

CDOT analyzed this left turn movement delay in both the AM and PM peak periods and found that this individual movement operates acceptably in the year 2030 with a morning peak LOS of C (17 seconds of delay) and an evening peak LOS of B (12 seconds of delay). Revised G Modified (Preferred) Alternative would meet the capacity requirements of the purpose and need. (See Appendix D for more detail.)

- Information about the travel distances is contained in the response to Comment JJ below. Information about travel times is contained in the response to Comment TRA 6.D.
- CDOT's concerns about the safety of Alternative R are discussed in the response to Common Comment 9.
- According to the data provided, the hybrid diamond interchange with a signal proposed in Alternative R is expected to meet the stated requirement of a LOS D or better. However, the proposed design would impact the only existing access to the La Plata County Gravel Pit situated to the north of the intersection. While an alternate access through several privately owned parcels may be possible for the gravel pit, CDOT would likely seek to consolidate access by bringing a fourth leg into the proposed hybrid diamond interchange. Adding this fourth leg may negatively affect the capacity of this interchange.
- As indicated in Table 2-3 of the SFEIS, costs are not a factor in determining whether or not Alternative R is reasonable.
- CDOT does not concur that maintaining traffic on the existing US 550 alignment is a feasible option. If it is possible to safely construct the highway this way, it would involve \$2 million in throw-away costs, or costs expended for walls used only during construction that are not needed for the final project.
- Alternative R is not an avoidance alternative. It impacts portions of the Webb Ranch, the Craig Limousin Ranch and the Co-op Ditch, including the point where R2 and R4 need to tie into CR 220. Minimization of harm is only relevant if an alternative is feasible and prudent. Alternative R is not feasible and prudent under Section 4(f).

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HH cont'd	alignment without detours;		
	<ul style="list-style-type: none"> <li>no known insurmountable geotechnical issues; and</li> <li><b>most importantly under the Mandate at Section 4(f)</b>, vastly superior results in avoiding or minimizing harm to historic properties.</li> </ul>		
	The foregoing points of comparison are detailed in the attached Reports of Russell Planning and Engineering, Krager and Associates and Trautner Geotech and are summarized briefly in this section.		
<b>B. Capacity and Travel Efficiency</b>			
<b>1. Revised G Modified ("G")</b>			
II	CDOT contends that based upon its 2030 traffic projections G meets LOS A. SEIS § 2.5.3.5. But from the standpoint of travel efficiency, G actually is the least attractive alternative.		
	First, as presently designed (without a traffic signal), CDOT's Grandview interchange for US 550/160 will cause an average delay of 47 seconds for the left turn movement from southbound US 550 to eastbound US 160. This will cause the intersection to function at LOS E or worse, which fails CDOT's SEIS LOS criteria. At a minimum, CDOT will have to add a traffic signal south of the Grandview interchange to improve the left turn movement, the very condition CDOT sought to remedy in the first place with the G Alternative. RPE Report, § 4.5.2.		
JJ	Second, without regard to the above described problem with the left turn movement from southbound US 550, although G has posted speeds that are greater than the R Alternatives (60 mph vs. 35 and 45 mph), G's weighted travel time actually is longer than the R Alternatives by: (a) 11 seconds and 30 seconds for R1/3 and R2/4, respectively, based upon Weighted Travel Time; and (b) by 38 seconds and 57 seconds for R1/3 and R2/4, respectively, between Durango and Farmington, which comprises 76% of all vehicle trips. RPE Report §§4.1.2, 4.2.2, 4.3.2 and 4.4.2 This is because G's 60 mph is achieved only for 1.5 miles (or less) and the travel distance via G between Farmington and Durango is longer by nearly two miles than for the R Alternatives. <i>Id.</i> : Krager Report, p. 4		
	Third, G's longer travel distance and travel time will result in an annual increase of 2.3 million vehicle miles, with additional fuel consumption (\$280,000 per year) and other increased driver costs, increased emissions (and negative impacts to air quality) and increased driver frustration (as railed against Tom Mills at the public meeting). Krager Report, p. 5.		
KK			

<b>Response to Comment IND 64</b>	
II.	Your assertion that the delay for southbound US 550 to eastbound US 160 left turn movements on the Grandview Interchange will cause it to function at an LOS of E or worse is incorrect. As previously stated CDOT performed a level of service analysis for this intersection and looked closely at this specific left turn movement to ensure that it will operate acceptably in the year 2030. CDOT analyzed this left turn movement delay in both the AM and PM peak periods and found that this individual movement operates acceptably in the year 2030 with a morning peak LOS of C (17 seconds of delay) and an evening peak LOS of B (12 seconds of delay). This intersection operation was analyzed without a signal, as CDOT maintains that a signal is not needed at this location.
JJ.	CDOT investigated the travel distance variance between the design variations of Alternative R and the Revised G Modified (Preferred) Alternative. Depending upon which design variation is considered, the distance may vary slightly but overall the length difference among the Alternative R variations would be negligible (less than a couple hundred feet). The estimated distances for Alternative R and the Revised G Modified (Preferred) Alternative from a common point on US 160 west of Farmington Hill to a common point on US 550 south of County Road 220 is as follows: eastbound US 160 to southbound US 550—Alternative R is approximately 5,579 feet and the Revised G Modified (Preferred) Alternative is approximately 11,420 feet; northbound US 550 to westbound US 160—Alternative R is approximately 5,708 feet and Revised G Modified (Preferred) Alternative is 12,629 feet. Overall the difference in the average travel distance is about 6,381 feet (1.2 miles) to use the Revised G Modified (Preferred) Alternative versus the Alternative R option. The response to Comment TRA 6.D. provides information about travel times.
KK.	CDOT agrees the VMT will increase with Revised G Modified (Preferred) Alternative when compared to Alternative R for eastbound traffic on US 160 going to southbound US 550 and northbound traffic on US 550 going to westbound US 160. CDOT disagrees with the increased VMT for westbound US 160 traffic going to southbound US 550 and northbound US 550 traffic going to eastbound US 160. Westbound US 160 traffic would leave US 160 farther to the east to connect to US 550 (Revised G Modified Alternative) which would reduce their VMT versus traveling farther west to Alternative R.



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CDOT does not consider any of this in its SEIS analysis.

**2. R Alternatives**

The R Alternatives increase travel efficiency by improving the existing Farmington Hill intersection to LOS C (based upon CDOT's inflated traffic projections and a higher rating at reasonable projections); reduce the overall travel time among Farmington, Bayfield and Durango; eliminate out of direction travel and reduce travel costs and emissions. The R Alternatives, therefore, meet CDOT's Purpose and Need; and the R Alternatives avoid the travel efficiency issues associated with G. RPE Report §§ 4.1.2, 4.2.2, 4.3.2, 4.4.2 and 4.5.2.

**C. Safety**

**1. Revised G Modified**

CDOT contends that G "meets the criteria for improving the existing deficiencies to standards and does not create an unsafe condition." SEIS § 2.5.3.5. In fact, G does create several unsafe conditions.

G traverses pastures now used by deer and elk with a four lane highway with posted speeds at 60 mph. In the existing alignment (with a posted speed of 30 mph), wildlife collisions represent the highest number of reported accidents (36% of the total). RPE Report §§ 4.1.3. Construction of G likely will lead to increased number of wildlife accidents with greater severity. Krager Report, p. 5.

G will utilize two major spans over US 160, a possible bridge addition or expansion at Ramp C and possibly two bridges over the large crevice on Webb Ranch. Bridges ice over faster and more frequently than at-grade road sections. On northbound G, the major bridge over US 160 is on a 3% down slope, exacerbating ice related problems. And drivers often are unaware of bridge icing because there may be no ice on the roadway itself. In addition, bridges often ice over before maintenance crews operate. Krager Report, p. 5; RPE Report, § 4.5.3. It reasonably can be anticipated that G will cause more ice related accidents than the existing alignment.

The 47 second delay at the new Grandview interchange for southbound US 550 to eastbound US 160 causes drivers to decrease distance between oncoming vehicles when turning (called "Gap Acceptance"). Drivers also tend to take greater risks in making left turns at an unsignalized intersection. RPE Report, § 4.5.3. These phenomena could lead to increased broad side accidents (and at higher speeds, with increasing severity) at the Grandview interchange than at the existing signalized intersection.

Response to Comment IND 64

KK (cont'd)

CDOT examined issues related to travel time and travel distance associated with the Revised G Modified (Preferred) Alternative and other alternatives during the development of the *Alignment Screening Report for the US 160 Conceptual Design – Farmington Hill to Bayfield* (URS 2000). It should be noted that emissions and fuel consumption increases with increased VMT, but also with stop-and-go traffic conditions. Alternative G provides unimpeded traffic flow so vehicles from east or west would not be required to stop to connect to US 550. With Alternative R, US 160 westbound would be required to stop at a signalized intersection before entering southbound US 550. The requirement of the stop condition would increase fuel consumption and emissions for Alternative R.

To summarize, Revised G Modified (Preferred) Alternative has a slightly longer travel time with increased VMT, travel costs, and emissions associated with VMT, but is a better alternative as it provides for free traffic flow, increased safety, and reduced emissions and fuel consumption associated with stop and go traffic conditions.

LL. Wildlife fencing, game ramps and underpasses are included in the US 550 corridor designs from the New Mexico State line to where US 550 will connect to US 160. See additional information in the SFEIS, Section 4.11.6.

The Revised G Modified (Preferred) Alternative has sufficient sight distance, flat side slopes and compliant clear zones that provide drivers more time and distance to make corrections and avoid accidents.

CDOT concurs that bridges ice over faster and more frequently than at-grade road sections. However, there will not be more potential for ice related accidents with the Revised G Modified (Preferred) Alternative than with the existing condition. This is because all the bridges currently constructed and planned to be built with the Preferred Alternative will be or are plumbed and designed for anti-icing systems.

As discussed in the response to comment IND 64HH, the delay for the southbound US 550 to eastbound 160 movement proposed with Revised G Modified (Preferred) Alternative is 17 seconds, not 47 seconds.

KK  
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LL



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MM

The G Alternative presents higher speeds at the intersection with CR 220, which likely will lead to increased accidents at this location and with greater severity. RPE Report § 4.5.3.

CDOT did not include any of these safety issues in its SEIS safety analysis. CDOT's statement that "G ... does not create an unsafe condition" is false.

**2. R Alternatives**

According to the CDOT accident analysis of the existing Farmington Hill alignment (SEIS Appendix C), 68% of all accidents at that location are comprised of collisions with wild life (36%), overturned vehicles (17%) and rear end accidents (15%). In the design of the R Alternatives, to address these accident causes RPE has: (1) followed the topography and accommodated lower speeds than G, (2) construction of deer fencing, (3) added guardrails and center median barriers and, most importantly (4) designed a new interchange bridge with a tie-in to Ramp A of the Grandview interchange, which flattens the slope of the roadway on US 550 to near zero percent for the last 500' of the alignment thus providing vehicles with an adequate landing to slow down prior to the intersection.

The tie-in to Ramp A also allows for the optimization of the newly constructed and independently functional Grandview interchange with US 160 thereby maximizing the benefits of that investment in transportation infrastructures.

NN

In addition, in the R Alternatives RPE has introduced additional safety features to address and resolve the following conditions that exist in the present alignment of US 550: sharp horizontal curves; steep roadway grade; minimal paved shoulders; narrow traversable ground outside of roadway; limited guardrail along roadway; steep hillside above and below roadway; bottom toe of hillside below roadway that is too high; existing roadway runs primarily along the north facing slope; cobble and boulders falling onto the roadway; and limited driver visibility along the road. These safety enhancements are detailed in the RPE Report at §§ 4.1.3, 4.2.3, 4.3.3, 4.4.3 and 4.5.3.

The R Alternatives substantially will improve US 550 safety and thus meet CDOT's stated Purpose and Need. Moreover, the R Alternatives avoid all of the safety issues introduced by the G Alternative. Overall, the safety of the R Alternative is comparable, and perhaps superior, to that of the G Alternative.

**D. Access Control**

**I. Revised G Modified**

According to CDOT, G includes access control. SEIS § 2.5.3.5. We do not contest that

Response to Comment IND 64

LL (cont'd)

Drivers tend to take greater risks in making left turns at an unsignalized intersection, but at much longer wait times than 17 seconds. This alternative has been designed to enhance safety by providing flat grades and clear lines of sight to make these movements, and there should be no increase in broadside accidents at the Grandview Interchange.

MM. When designing any intersection, regardless of the speed, a safe design will have adequate acceleration and deceleration lanes, adequate sight distance so the drivers can see a sufficient distance, and flat grades both in the horizontal and vertical directions that will be safe regardless of the design speed. When standard design parameters are utilized, one of the remaining causes of accidents is driver error which cannot be corrected by changes in the design.

NN. The responses to Common Comments 5 and 9 (about the acceptable speed reduction close to the intersection with CR 220 that occurs with Revised G Modified (Preferred) Alternative) contain information relative to CDOT's concerns about the safety of Alternative R. Although the curves proposed for Alternative R are less severe than the existing curves, they still are tighter than acceptable for the speeds at which traffic is anticipated to be traveling when it enters the project area from the south. The speeds from the south are dictated by the relatively straight and flat roadway for many miles to the south of the project area. Alternative R has been shown not to meet the minimum safety requirements of the project's purpose and need.

Alternative R proposes to utilize guardrails, barrier and center median to resolve safety deficiencies inherent to the existing US 550 alignment. While these safety enhancements can reduce safety issues associated with roadside obstacles, Alternative R still does not meet the safety portion of the project purpose and need because of the sharp drop in design speed.

Deer fencing is included in all the designs presented within the SFEIS. More information about deer fencing is included in the SFEIS, Section 4.11.6.

The tie-in to Ramp A is a component of Alternative R and flattens the slope approaching this ramp. Revised G Modified (Preferred) Alternative also

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contention.

**2. R Alternatives**

The R Alternatives offer the same access control benefits as G. RPE Report §§ 4.1.4, 4.2.4, 4.3.4, 4.4.4 and 4.5.4.

OO

Response to Comment IND 64

NN (cont'd)

incorporates these features. Regardless of this feature included in the design, Alternative R has been shown to not meet the minimum safety requirements of the project purpose and need. For more details, see the response to Common Comment 5 and Section 2.5.3.5 of the SFEIS.

- OO. Access control could be similar for the R1 and R3 alternatives when compared to the Revised G Modified (Preferred) Alternative. It would be difficult to maintain access to one residence and one business (Eagle Block) using the R1 and R3 alternative options. These two properties may need to be acquired if access couldn't be provided. The R2 and R4 alternative options eliminate some of the need for access control, because the alignment (roadway) eliminates the homes and a business on the west side of US 550 and would therefore no longer need access to those properties. The Revised G Modified (Preferred) Alternative would utilize some of the existing US 550 highway and an access road to consolidate access for the west properties back to the County Road 220 intersection. The main difference with regard to access between the Alternative R options and the Revised G Modified (Preferred) Alternative is the Alternative R options potentially eliminate the properties that need access and the Revised G Modified (Preferred) Alternative provides a consolidated access to the west properties.

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<b>E. Construction Costs</b>  <b>I. Revised G Modified</b>  CDOT estimates the cost of G as \$77,598,000. CDOT contends that G "is one of the lowest cost alternatives and is not expected to result in costs substantially greater than the other alternatives. SEIS §§ 2.5.3.5 and 2.5.6.  Based upon facts presently known relative to a concept design and in the absence of construction drawings (which CDOT has not prepared), RPE has recomputed the estimated cost of G. Exclusive of considerable land and ROW acquisition costs and condemnation damages, the construction cost of G would be at least:  \$87,328,398  RPE Report § 4.5.7 and Appendix C..  We anticipate that at the construction drawing and construction bid stages the actual cost of G will be substantially greater than \$87 million. <sup>17</sup>  We note that CDOT has reserved only \$966,000 for ROW acquisition costs associated with G across the Webb Ranch. SEIS, Appendix F, Revised G Modified Preliminary Engineering Estimate. In its estimates of the total costs of G and each of the R Alternatives, RPE has confined its analysis to construction costs and excluded property condemnation acquisition costs and expenses including remainder damages. <sup>18</sup>			
<p><sup>17</sup> In 2000, based upon concept drawings CDOT's consulting firm, URS Greiner, estimated construction costs of \$13.6 million for the Grandview trumpet interchange. We estimated \$25 to \$50 million, at which CDOT scoffed. As built, the interchange cost \$47 million -- 3.5 times the amount of the original URS estimate. See, September 25, 2000 Fields Letter, referenced <i>infra</i> at p. 8, fn 9, Statement of Webb Family Position (Exhibit 1 to the letter), pp. 2-3.</p> <p><sup>18</sup> Any estimates regarding the acreage required for any taking associated with G, or the remainder damages to Webb Ranch, for condemnation purposes likewise are outside the scope of the RPE Report.</p>			

PP

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PP. CDOT has not prepared construction drawings for any of the reasonable alternatives because there has been no final NEPA decision made. In most cases, final designs for a selected alternative can only be made following a Record of Decision. The RPE re-estimating of the cost of Revised G Modified includes an addition of \$9,730,073.54 for the signalization of left turns onto US 160 Ramp B, additional square footage for the bridges, additional bridge construction or widening for Ramp C, additional lanes for the roundabout, gravel royalties to be paid Webb Ranch, right-of-way costs for an assumed uneconomic remnant parcel on the Webb Ranch, additional MS4 and environmental mitigation costs, and increase right-of-way acquisition costs. This would raise the total cost of Revised G Modified to \$87,328,398.75. This re-estimation of costs is in error. Below are the comments for each of the increases shown in the RPE report:

- A signal has not been shown to be warranted at the eastbound on ramp. Therefore, no cost was included.
- Bridges over the draw are included in the cost estimate. See CDOT's estimate in Appendix F.
- Additional interchange bridges at the loop ramp and over US 160 have been included in the cost estimate. See CDOT's estimate in Appendix F.
- Additional lanes at the roundabout are included in the City of Durango/La Plata County design plans for Wilson Gulch Road. These will most likely be built by other entities as development occurs.
- The cost estimate for right of way purchases and damages associated with property impacts and relocation costs are included in CDOT's cost estimate. See CDOT's estimate in Appendix F.
- A significant portion of the MS4 requirements have already been constructed as a part of the Grandview interchange. Therefore, CDOT included a minimal amount, \$570,851.53, for MS4 and other environmental mitigation components. See CDOT's estimate in Appendix F.

Estimated costs for ROW acquisition assume a standard unit rate based upon land values for similar types of properties assuming the best and highest use. Compensation will be mutually negotiated in accordance with the Uniform Act. Condemnation costs are generally associated with a minority of property acquisitions with unique circumstances and therefore, are not included in cost estimates used in NEPA analysis.

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**QQ**

It is beyond the scope of the RPE Report to weigh CDOT's contention that the value of the taking should be based upon the present agricultural use of Webb Ranch instead of its theoretical "highest and best" use under applicable Colorado law, including without limitation simultaneous and/or sequential residential and commercial uses (such as gravel mining, solar power generation and/or development). As to the gravel deposits on Webb Ranch, we have appended as Exhibit 5 the proposal from Oldcastle SW Group to the landowners, dated December 3, 2010. As lawyers, we observe that the property acquisition costs and expenses associated with G likely will be significantly higher than any of the "R" Alternatives due to the nature and extent of the property that would be taken and the remainder damages to Webb Ranch.

**2. R Alternatives**

Utilizing the same approach and CDOT's unit costs, and based upon concept plans developed to the same level as CDOT's development of G, RPE has estimated the following construction costs for the R Alternatives, exclusive of land and/or ROW acquisition costs and condemnation damages:

R1	\$72,517,584
R2	\$91,575,876
R3	\$82,636,252
R4	\$101,089,558

Thus, R1 and R3 are 17 and 6% less than G; and R 2 and R4 are only 4 and 15% more than G.

**RR**

In the SEIS CDOT notes that the cost of the Eastern Realignment is twenty percent higher than the lowest cost alternative, Revised F Modified. SEIS 2-24. CDOT concludes, however, that the twenty percent cost differential is not disqualifying because it is not "several times higher" and "is therefore not expected to result in costs substantially greater than other alternatives." *Id.* So, for example, under this same analysis, the fact that the cost of R4 is seventeen percent higher than Revised G Modified does not make it "substantially greater."

In summary, the R Alternatives present an opportunity to proceed with a community solution at a lower cost than G, and certainly at a cost that would not be "substantially greater" than G.

**Response to Comment IND 64**

**QQ.** Although the Alternative R alignments would reduce impacts to the Webb Ranch property, they would introduce impacts to private property on the west side of US 550, including the Eagle Block commercial building and two or three residential structures, depending on the alignment variation. The Revised G Modified Alternative requires the least right-of-way. See response to Common Comment 5 for more information. All property acquisitions will follow the Uniform Relocation Act of 1970 which will ensure that the "highest and best" use of the properties affected by the selected alignment is determined, and fair compensation is provided.

**RR.** These estimates do not consider and include costs associated with the purchase of ROW. For a more direct comparison of relative costs, CDOT analyzed the conceptual ROW needs for this alternative. CDOT estimates that right-of way required to construct design variations R1 and R3 would be approximately 87.1 acres, and 96.5 acres for design variations R2 and R4. Assuming the same cost for ROW as with all other alternatives presented in the SFEIS (\$14,000/acre), the expected costs of the Alternative R design variations would increase to \$73,736,984.72, \$92,926,876.22, \$83,855,652.52, and \$102,440,558.09. This compares to \$77,598,000 for the Revised G Modified Alternative (Preferred) Alternative, \$77,429,000 for the Revised F Modified Alternative, and \$93,106,000 for the Eastern Realignment Alternative. Regardless, cost does not disqualify an alternative unless it is several times higher. Chapter 2 of the SFEIS (Section 2.5.3.5) provides more details on the updated cost estimates with assumed right-of-way costs. This information is also provided in the response to Common Comment 5.



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**F. Construction Logistics**

**1. Revised G Modified**

SS

CDOT observes that G does not require detouring during construction and can be built with traffic maintained on the existing US 550 alignment until completion. SEIS § 2.5.3.5. CDOT contends that construction of an alternative in the existing ROW will require detours on to CR 220 with an attendant cost of \$4.4 million to effect necessary improvements to the detour route.

**2. R Alternatives**

TT

RPE disagrees with CDOT's position that a detour will be required during construction of a new highway along the US 550 alignment. In its design of the R Alternatives RPE has provided for excavation along the face of Farmington Hill above the existing US 550 alignment. Such excavation will expose the northbound road bed for the R Alternatives, thus permitting construction of new US 550 while maintaining traffic on old US 550 without detour. RPE Report §§ 4.1.5, 4.2.5, 4.3.5, 4.4.5 and 4.5.5. In its construction costs, RPE has reserved for this construction approach (including all appropriate safety measures for traffic below) the \$4.4 million that CDOT has estimated for detour costs.<sup>19</sup>

**G. Geotechnical Issues**

**1. Revised G Modified**

UU

CDOT contends that G "does not have geotechnical or slope stability problems." SEIS § 2.5.3.5. For this conclusory assertion, CDOT does not cite any results from any testing or on-site investigation or any other objective support. It should be noted that CDOT made the same assertions with respect to construction of the main bridge span over US 160 at the Grandview interchange and in the two years since completion the bridge deck has settled eleven inches and cracking is observed in retaining walls.

**2. R Alternatives**

VV

As stated above, RPE and Trautner Geotech have concluded that an alignment in the Farmington Hill ROW would not present any insurmountable geotechnical issues. RPE Report §§ 4.1.5, 4.2.5, 4.3.5, 4.4.5, and 4.5.5. RPE and Trautner GeoTech stand ready to collaborate with and assist CDOT in resolving any specific issues CDOT may identify; although given CDOT's deep experience in constructing highways in mountainous areas we assume that CDOT is fully capable of addressing and resolving any such issues.

<sup>19</sup> RPE anticipates that the actual cost will be less, but has not yet performed estimating calculations.

**Response to Comment IND 64**

SS. You are correct. Revised G Modified could be built without using CR 220 as a detour and on-alignment alternatives would likely need to use CR 220 as a detour.

TT. As shown in the Russell Engineering report, the profile for R has about 20 feet of elevation difference between the existing roadway and the proposed roadway near the US 160/US 550 intersection, and about five feet of elevation difference between the existing roadway and the proposed roadway near County Road 220. To construct this design without detouring traffic would require temporary retaining walls extending from near CR 220 to US 160. In rough numbers, there are about 28,000 square feet of temporary walls which alone would exceed \$2 million in throw-away costs, or costs expended for walls used only during construction that are not needed for the final project. There are also other costs associated with these walls such as barriers, traffic control, temporary widening, temporary signals, and bridge construction phasing, to name a few.

Improvements made to CR 220 so it could be used as a detour would be permanent features that would be beneficial to the County and the residences along CR 220. Additionally, a detour would be far safer to the traveling public, more efficient for the contractor, and would allow construction to proceed more quickly.

UU. The bridge over US 160 has not settled. The embankment (the fill material) at the north end has settled. This is due to the extra material on the existing soil and the consolidation over time. The bridge itself has caissons that are embedded in the rock below the soil layer. The bridge will not move unless the rock moves, which is highly unlikely.

CDOT based our conclusions on geotechnical and slope stability issues related to the Revised G Modified Alternative on geotechnical borings that were completed in April of 2008 on the former Knaggs property. This property is situated along the northern section of the proposed Revised G Modified alignment. The final geotechnical report was completed by CDOT's Staff Geotechnical Engineer, Steve Laudeman, on June 23, 2008. The information provided by the report ensured that there were no unusual geotechnical constraints along the alignment.

VV. CDOT does have vast experience constructing highways in mountainous areas and can resolve many geotechnical issues that are presented by either the Revised G Modified Alternative or the Alternative R alignments, but the costs to resolve these issues will differ.

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**H. Harm to Section 4(f) Properties**

**1. Revised G Modified**

CDOT contends that G would impact 64.1 acres on two historical ranches. SEIS, Table 2-6, p. 2-30. Specifically, CDOT states that "based upon conceptual designs," for G it would: (1) acquire 41.5 acres of the Webb Ranch and that the project would adversely affect the entire historic portion of the ranch (515 acres); and (2) acquire 3.43 acres of the Craig Limousin Ranch, the project would result in adverse effect to the entire property (378 acres) with a permanent loss of 22.7 acres. SEIS §§ 4.13.2.2, 5.5.1.1, 5.5.1.2 and 5.10.2.1.

CDOT wanly attempts an objective measure of harm -- based principally upon acreage -- to the historic ranches that would be affected by the F, G and Eastern Alignments. The results of this "analysis" is stated only in the most general terms. Typically, CDOT simply refers to "adverse affect" in a table or grid. See SEIS§ 4.13.2.5, p. 4-70, Table 4-11 and Table 5-6 and § 5.10.1.

CDOT does not attempt to describe the impact to Webb Ranch of the excavation of 1.6 cubic yards of earth from the center of the ranch which is pristine and without an inhabitation or disturbance for centuries, with a four lane highway bisecting the ranch, proceeding through its central pastures, eliminating a significant Pueblo II archaeological site (SLP9590), severing the historic gravity driven irrigation system and passing in close proximity to the ranch house, barn, corrals and central ranching activities See, e.g., § 5.10.2.2, p. 5-60.

CDOT acknowledges that, in addition to the adverse effect to the entirety of the historic portion of Webb Ranch, G would adversely affect three archaeological sites on Webb Ranch, SLP 9588, 9589 and 9590. SEIS § 4.13.1.2 and Table 4-10. But CDOT does not describe these sites beyond the use of 3 or 4 words. SEIS, p. 5-35, Table 5-4. Site SLP9590 is large (in excess of 59,000 square meters, roughly 14.5 acres) with 300+ artifacts dating to between 500 and 1350 AD and demonstrating an extremely rare instance of Pueblo II period occupation in the Animas River drainage. Stratified Environmental and Archaeological Services, July 2008 Report, pp, 8-10, Alpine Archaeology Consulting Report, July 2010, pp. 52-57. This is one of the most exciting archaeological finds in Southwest Colorado in decades. It would be entirely destroyed by Revised G Modified.

**2. R Alternatives**

As noted above the magnitude of the harm imposed by G on historic properties would be immense, even ignoring that CDOT has not undertaken any real qualitative analysis of that harm.

**Response to Comment IND 64**

WW. The Revised G Modified Alternative results in an impact that has been determined adverse according to the definitions contained in Section 106 of the National Historic Preservation Act to:

- The Webb Ranch.
- The Craig Limousin Ranch.
- Seven archaeological sites which are eligible to the National Register of Historic Places.

The descriptions of the types of impact to these historic properties, by alternative, are contained in Chapter 4 of the SDEIS, in Section 4.13.2. For each historic property, the detail used to describe the impact is similar in length and substance. The descriptions of impact are focused on those details necessary to support whatever Section 106 determination of effect is appropriate to that specific property. Additional detail is contained in the letter to the SHPO dated August 6, 2010, in which CDOT discusses the placement of a new highway within the boundaries of the Webb Ranch which will compromise the setting, feeling and association of the property, thus resulting in an *adverse effect* to the Webb Ranch. Information is also provided about the Webb-Hotter Lateral, a historic ditch partially on the historic Webb Ranch. This ditch will not be severed by any of the three reasonable alternatives. The Revised G Modified (Preferred) Alternative does not impact that ditch. See Section 5.9.5 of the SFEIS for more details. If other irrigation systems are affected, mitigation will be provided to ensure no irrigated land is cut off from its water source. This mitigation is described in Section 4.2.6 of the SFEIS

Other sections of the SFEIS also contain descriptions of impacts to the Webb Ranch and to other ranches on Florida Mesa. Section 4.16.3 describes the visual impact of large areas of cut and fill that would be necessary to build Revised G Modified. Section 4.16.2 also notes that large cut and fill areas can change the characteristic landscape in the study area by disrupting the continuity of natural landforms and vegetation and by creating areas with a high degree of color and form contrasts. This section also notes that road realignments can impact previously intact, undisturbed landscapes.

WW

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The R Alternatives greatly minimize the harm to Webb Ranch by taking between 3.9 and 13.2 acres from the historic portion of the Ranch, greatly reducing the total taking, moving the highway below the western rim of the ranch on the already scarred face of the mesa, far away from the pristine undisturbed heart of the ranch, without severing the gravity based original irrigation system and away and down slope from the ranch house, barn and other ranch structures and activities.

The excavation of the slope would disturb a portion of archaeological cite 5LP 2223 (but would preserve either four or all five of the five structures that are the most important features of the site). See, RPE Appendix B for a drawing of this. The R Alternatives would preserve the three archaeological sites which G would destroy, including 5LP9590, the 14.5 acre site with the rare Pueblo II presence.

We have summarized in this table the means and effects by which the R Alternatives minimize harm to the historic portion of Webb Ranch:

Alternative	R Alternatives Minimize Harm to Webb Ranch <sup>20</sup>			
	Historic Webb Ranch Impacts	Total ROW purchase from Webb	Excavation in cubic yards	Cost (Exclusive of Land Acquisition Costs)
Alternative R1	9.3 acres	26.9 acres	1.8 M	\$72,517,584
Alternative R2	13.2 acres	31.4 acres	3.1 M	\$91,575,876
Alternative R3	3.9 acres	18.5 acres	0.8 M	\$82,636,252
Alternative R4	5.4 acres	24.8 acres	1.6 M	\$101,089,558
Revised G Modified	41.0 acres	41.0 acres	1.6 M	\$87,328,398

We have not evaluated or redesigned US 550 as far south as Limousin Ranch, so we do not know what safeguards could be introduced to avoid or minimize harm to that historic property. We submit that CDOT should further study those issues in the continuing SEIS process.

R1 and 3 would require access revision for Eagle Block and the Hillmeyer property (which are not protected by Section 4(f)), but would not impact any other commercial or residential property.

<sup>20</sup> Acreage estimates are presented solely for comparative purposes and not as an assertion relative to condemnation acquisition damages or for any other legal purpose.

XX

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WW (cont'd)

CDOT appreciates the additional information you have provided about the farmland related impacts to the Webb Ranch. This information is summarized in Section 4.2.2, which discusses the farmland impacts of the three reasonable alternatives, including severing of ranchland, loss of cropland and effect to irrigation systems. Figure 3-1 characterizes the type of farmland on the Florida Mesa. It is interesting to note that south of CR 220, Revised G Modified is located at the edge of the irrigated farmland area on the Mesa. North of CR 220, there is land on the Webb Ranch that is irrigated on both sides of the proposed alignment, but the alignment is placed along the western side of the irrigated farmland, clearly avoiding the center of the Webb Ranch property. The other reasonable alternatives that were evaluated bisect larger areas of farmland and ranchland.

Archaeological site 5LP9590 is eligible for the National Register of Historic Places. Its significance is documented in the report titled *Cultural Resource Inventory, Site Documentation and Text Excavations for the CDOT US Highways 160/550 Connection: Revised F Modified and Revised G Modified Alternatives, La Plata County, Colorado*, Alpine Archaeological Consultants, July 2010. It is eligible to the National Register of Historic Places under Criterion D for its potential to yield information important to prehistory. This site has already been impacted by a gas well pad and access road, a pipeline and a residence. It is thought that two Ancestral Puebloan components attributed to the Basketmaker III/Pueblo I and Pueblo II period exist on this site. Planned mitigation for this site, if the Revised G Modified Alternative is constructed, is for an Archaeological Data Recovery Plan to be prepared which will define the methodology and goals for excavation. Then the recommendations from this plan will be implemented. The presence of Pueblo II artifacts has also been noted on another site on the Florida Mesa.

XX. The various subsets of Alternative R (Design Variations 1, 2, 3 and 4) would require less land to be acquired from the Webb Ranch property. Because the ranch has been determined eligible to the National Register of Historic Places under Criterion A for its association with ranching on Florida Mesa, any direct



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R2 and 4 would modestly impact the artifact scatter on site 5LP6670 on the Foster property south of CR 220, but would not impact the sweat lodge. See, RPE Appendix B for a drawing of this. These alternatives would require relocation of Eagle Block and Hillmeyer.

The R Alternatives provide CDOT with an opportunity to comply with the Section 4(f) mandate of avoiding or minimizing harm to historic properties. In contrast, by selecting in the SEIS Revised G Modified as its preferred alignment, CDOT has violated Section 4(f).

**VII. EXECUTIVE SUMMARY AND CONCLUSION**

This letter together with its supporting attachments is designed to begin a collaborative problem-solving process to find the best solution for an alignment connecting US 550 with US 160 that will serve transportation and community needs for the years to come.

This is not an exercise in trying to prove someone or something right or wrong. It represents the application of solid engineering tools to identify pragmatic solutions to a long-standing, intractable and controversial problem. CDOT, the Durango Community and affected citizens must find an alignment that reflects today and tomorrow's social and economic realities through a process in which no one is held captive to past designs conceptualized years ago.

And so, what is this submission in a nutshell? It is a proactive roadmap for the design of a final alignment that will be embraced by all stakeholders. Within the short time allotted by this public comment period on the draft SEIS, we have made every effort to meet or exceed certain key metrics. First, public safety and best design principles. Without this nothing makes sense. Second, respecting historical properties and statutory duties. Third, cost. The funding realities for CDOT and our tough economic times deserve nothing less.

During the exchanges that occurred in Durango earlier this month, we found a willingness on the part of CDOT under its new leadership at Region 5 to do the right thing. We genuinely are encouraged by this and hope this submission furthers this end. We are confident that the new alignments put forth in this letter will be considered in good faith and be embraced by the many well-intentioned people at CDOT and FHWA. The end of a long-standing dispute is before us and the answers are contained in this submission. As a great engineer once said, "Your answers are always just in front of you -- let's go find them together."<sup>21</sup>

<sup>21</sup> David A. Skiven, P.E., FESD, Co-Founder of The Engineering Society of Detroit Institute, www.esdinstitute.net.

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XX (cont'd)

effect to the land within the historic boundary that has a historical association with the significance of the ranch property would be determined an adverse effect under Section 106 and a use under Section 4(f). None of these Alternative R alignments would be considered avoidance alternatives under Section 4(f).

The Alternative R alignments would not be considered feasible and prudent under Section 4(f) because of their inability to meet the project purpose and need. This has been documented in the response to Common Comment 5 and in Section 5.7 of the SFEIS. Analysis or minimization is required only after an alternative has been determined feasible and prudent under Section 4(f). Similarly, these alignments are not considered reasonable under NEPA.

XX  
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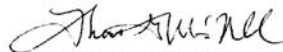
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We look forward to your written response to this submission, as is required in connection with the comment period attendant to an EIS and SEIS. But just as importantly, we look forward to the dialogue that is promoted and engendered by this written exchange with CDOT and FHWA.

Respectfully submitted,



Thomas G. McNeill

TGM:lm

cc: Carol Legard, ACHP

DETROIT 47919-2 1227379

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December 2, 2011

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John M. Cater  
 Division Administrator  
 Colorado Division - FHWA  
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**Re: Corrections of Errata in the Webb Submission dated November 28, 2011**

Dear Ms. Neet and Mr. Cater:

We bring to your attention the following *errata* contained in our letter that begins our submission made earlier this week.

At page 1, second paragraph, line 2, change "NEPA" to "NHPA."

At page 2, third paragraph, line 3, change "NHRP" to "NRHP."

At page 2, third paragraph, line 5, change "Environmental Policy" to "Historic Preservation".

At page 2, fifth paragraph, insert "Preliminary" between "Revised" and "A" and then insert "(Revised A)" after "Alternative".

At page 7, line 2, change "NEPA" to "NHPA."

At page 12, first full paragraph, line 2, move the quote symbol outside the parenthetical symbol and after the period.

At page 13, line 4, change "Alternative" to "alternative."

At page 13, line 6, insert a period after 550 and then insert the following sentence instead of the phrase that concludes the original sentence: This would permit, without detour,

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YY. CDOT has received these clarifications to your earlier submitted letter, dated November 28, 2011. Both this December 2 letter and the earlier letter (dated November 28, 2011) have been included in the administrative record for this project.

YY

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construction of the northbound lanes of the new highway as traffic utilizes the old highway below and then construction of the southbound lanes below with rerouting of traffic on the new northbound lanes (with attendant safety measures installed).

At page 13, third full paragraph, line 8, change "it" to "them".

At page 13, footnote 14, line 4, insert "second" between "the" and "least".

At page 18, line 1, insert "by" between "against" and "Tom".

At page 18, fifth full paragraph, line 2, change "crevice" to "crevasse".

At page 19, Section C.2., correct spacing for full indentation of the first line of each paragraph.

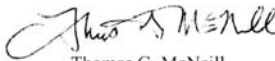
At page 21, first full paragraph, line 6, change "5" to "4".

At page 23, first full paragraph, line 5, change "effect" to "affect".

At page 23, fourth full paragraph, line 1, change "effect" to "affect."

We ask that you replace the original pages from the original submission with those attached hereto which effect the revisions identified above. Please let us know if you would like the complete 26 page letter with the revised pages.

Respectfully submitted,



Thomas G. McNeill

TGM:lm

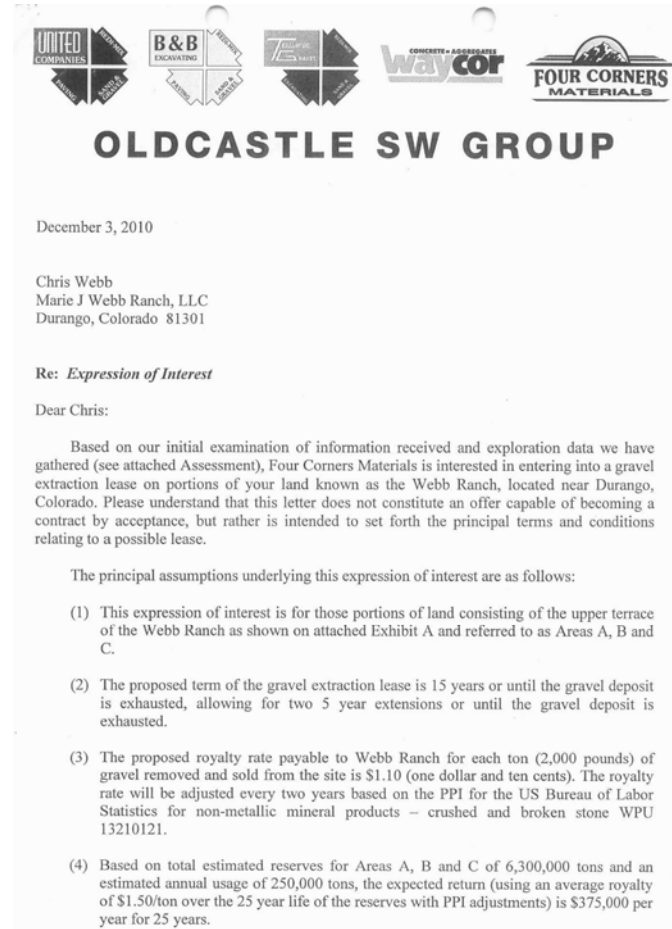
cc: Carol Legard. ACHP

Comments

Responses

Source:	Letter	Name:	Thomas G. McNeill
Document Number:	IND 64	City, Zip Code:	Detroit, 48226

Attachment to Thomas G. McNeill Letter  
 December 3, 2010, letter from Old Castle SW Group to Chris Webb, page 1 of 6



Comments

Responses

Source:	Letter	Name:	Thomas G. McNeill
Document Number:	IND 64	City, Zip Code:	Detroit, 48226

Attachment to Thomas G. McNeill Letter  
 December 3, 2010, letter from Old Castle SW Group to Chris Webb, page 2 of 6

- (5) An annual prepaid minimum royalty payment will be \$50,000 and will be paid on the anniversary date of the lease and any extensions. The annual minimum royalty paid throughout the term on the lease shall be credited against the actual royalties accrued through the term of the lease and any extensions.
- (6) Webb Ranch will make water available to Four Corners Materials for use in the processing, handling, dust control and transportation of gravel materials.
- (7) The lease becomes effective upon receipt of all State of Colorado and La Plata County permits with permit conditions acceptable to Four Corners Materials. The receipt of all permits, with acceptable conditions, triggers the annual minimum royalty payment and sets the anniversary date of the lease.
- (7) We may need additional access to the subject property to conduct further due diligence investigations of the area to be leased. Operational, legal, regulatory and other due diligence investigations would be conducted upon reasonable notice.
- (8) Consummation of the lease transaction would be subject to the following conditions, among others: (a) the execution of a definitive gravel extraction agreement containing representations, warranties, indemnities, and conditions that are customary for transactions of this kind; (b) our satisfaction with the results of our due diligence investigations; (c) the absence of any materially adverse events or circumstances with respect to the subject property, easements or water availability and (d) the receipt of any necessary governmental approvals and permits.

As stated, this letter is not intended to constitute a legally binding contract. In addition, you and we hereby agree to keep confidential this expression of interest and any matters relating to a proposed lease transaction until such time as a definitive lease agreement may be executed.

We look forward to working with you on this project.

Sincerely,  


Peter J. Siegmund  
 Vice President  
 Oldcastle SW Group, Inc. dba Four Corners Materials

Comments

Responses

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Attachment to Thomas G. McNeill Letter  
 December 3, 2010, letter from Old Castle SW Group to Chris Webb, page 3 of 6

12 November, 2010

**Webb Ranch Property  
 Gravel Reserves: Quantity, Quality and Market Royalty Rate Assessment**

The following is an assessment of the volume of gravel (aggregate) reserves and an evaluation of the quality of the reserves contained within portions upper terrace of the subject property. This report is based on test cores, field survey information performed by Four Corners Materials, and geological assessments by Mary L. Gillam, Ph.D. The gravel deposit is apparent along the western and northern slopes of the terrace. Several measurements were made to determine depth and elevation of the deposit below the terrace rim. The subsurface topography along the eastern and southern boundaries is somewhat inconclusive. It is assumed, however, that the deposit rests within eroded steps from west to east and with shallowing to the east.

The first area within the subject property considered in this report is comprised of approximately 56 acres situated in the northwest reaches of the upper terrace and includes the preliminary proposed realignment of US 550. This area is represented as Study Area A on the attached figure.

The second, Study Area B, lies east of the N/S gas well access road, north of the large stock pond to the property line. This segment contains an estimated 27 acres.

Third is the area of approximately 22 acres within the southwest corner of the property north to the E/W gas well access road and west of the US 550 proposed alignment, shown as Study Area C.

The remaining areas of the property were determined to exhibit either excessive depths of overburden or limited gravel thicknesses and as such are not currently considered as viable aggregate reserves in this assessment.

Reserve Quantity –

The estimated overall reserve of aggregates within the three study areas (104 acres) is approximately 4 million cubic yards (6.3 million tons)<sup>1</sup>. The following table shows the estimated thickness of gravel deposits and the calculated potential cubic yards and tons (yield):

STUDY AREA	Average Overburden Depth (ft.)	Average Gravel Thickness (ft.)	Cubic Yards- Gravel (M)	Tons- Gravel Yield (M)
A	8.5	35	2.77	4.30
B	21	17	0.63	0.98
C	24	21	0.66	1.02

<sup>1</sup> vol. to wt. conversion rate: 1.0 cy = 1.55 tons



Comments

Responses

Source:	Letter	Name:	Thomas G. McNeill
Document Number:	IND 64	City, Zip Code:	Detroit, 48226
Attachment to Thomas G. McNeill Letter December 3, 2010, letter from Old Castle SW Group to Chris Webb, page 4 of 6			
<p>Reserve Quality –</p> <p>Samples were taken at several locations within the property to determine the general properties of the aggregates present.</p> <p>A preliminary assessment indicates a favorable application as general construction material and as aggregate in correlation with asphalt pavement mixes. While some sandstone is present in the deposit, it does not appear to be deleterious to these applications. There also appears to be a rather favorably low percentage of clay, shale and mudstone within the deposit.</p> <p>Market Value –</p> <p>Based on recent research of sand and gravel leases and the associated royalty rates, there is a fairly wide range at what rate landowners value their gravel. Obviously, position relative to the market, the quantity and quality of the gravel reserve, market demand, and operational forces are all significant factors.</p> <p>The Webb Ranch property is well situated along the US 550/ 160 corridors. There are other sources of construction material nearer to both the northern N.M. demand of gas well development and the robust commercial/residential demand around Durango.</p> <p>There are also arising issues concerning reserves within the Animas River basin. Much of the remaining gravel-bearing land is unavailable for gravel extraction and several sites just north are nearing depletion. Given the estimated volume of gravel within the Webb Ranch property, significant market opportunities may exist.</p> <p>As discussed earlier, the material observed and sampled from the terrace appears to meet standards required by state and county in terms of pavement performance. The deposit also contains stone conducive to landscape and erosion control applications. Overall, it appears, the material is as well suited to meet construction standards and specifications as are comparable existing Animas River terrace sources.</p> <p>Current demand for aggregates in La Plata County, inclusive of government and tribal needs, is estimated at 1.8 million tons per year. This estimate does not reflect the one-off potential of pending major highway construction projects.</p>			

Comments

Responses

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<b>Document Number:</b>	<b>IND 64</b>	<b>City, Zip Code:</b>	<b>Detroit, 48226</b>
<p>Attachment to Thomas G. McNeill Letter                  December 3, 2010, letter from Old Castle SW Group to Chris Webb, page 5 of 6</p> <p>The current average royalty rate paid to landowners in La Plata County is estimated to be \$.90/ton. Current BLM gravel lease rates near Grandview are near \$.98/ton. Within a 15-mile range of Durango, royalties of \$1.00/ton are fairly standard</p> <p>Conclusion –</p> <p>The overall reserve volume estimate provided above reflects a moderate potential for the site. It is possible that the excessive overburden depths observed within the interior of the property may overlie significant gravel deposits.</p> <p>Post-mining land use considerations, the proposed realignment of US 550 through the property and the associated potential resource access difficulties will have a bearing on the actual amount of gravel recovery.</p>			

Comments

Responses

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Attachment to Thomas G. McNeill Letter  
December 3, 2010, letter from Old Castle SW Group to Chris Webb, page 6 of 6



Comments

Responses

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Responses to this letter are addressed in the responses to IND 64, TRA 9 and Common Comment 1.

Attachment to Thomas G. McNeill Letter  
 November 26, 2011, letter from Krager and Associates to Thomas G. McNeill, page 1 of 6



**Krager and Associates**  
 1390 Stuart Street  
 Denver, Colorado 80204-1243  
 303 446 2626 fax 303 446 0270

November 26, 2011

Mr. Thomas G. McNeill, Attorney-at-Law  
 Dickinson Wright PLLC  
 500 Woodward Avenue  
 Suite 4000  
 Detroit Michigan 48226  
 313 223 3632  
[tmcneill@dickinsonwright.com](mailto:tmcneill@dickinsonwright.com)

RE: 550/160 Connection Draft SEIS 1102 farmington hill.doc

Dear Tom:

Per your request, I have reviewed the "US 550 South Connection to US 160 Supplemental Draft EIS Section 4(f) Evaluation", October 2011 (the Draft SEIS). My review has been conducted as a Professional Engineer in the State of Colorado as well as a Professional Traffic Operations Engineer (PTOE) with 33 years of public and private experience. Based on my review of this document, I have three areas of concern that I would like to address. They are:

1. Year 2030 traffic projections for State Highway 550 and State Highway 160
2. Errors in the Draft SEIS resulting from inflated traffic projections
3. Accident analysis and assumptions of Farmington Hill (SH 160)

**Year 2030 Traffic Projections for State Highway 550 and State Highway 160**

Year 2030 traffic projections are used to determine the future roadway needs for SH 550 and SH 160. According to the Draft SEIS, traffic on SH 160 will increase from a current volume of 19,000 vehicles per day (vpd) to an estimated volume of 77,910 vpd in Year 2030. This indicates a 20-year total growth factor of 4.10. This projection was developed using an assumed 20-year base growth factor of 1.56 and adding onto this projection the potential traffic to be generated by approved development plans in the Grandview area.

This method of projecting traffic volumes has major flaws, and would not be accepted if the SEIS study was being done under the review of a Metropolitan Planning Organization (MPO). The use of traffic projections from a development plan is a questionable procedure. Most developers, for both commercial and residential developments, request a higher level of density, than what will be actually built. This practice is typically done so that the property can be sold if needed for a higher value. Developers also tend to assume that other area developments will not be built or be successful. This results in each development assuming maximum build-out, when actual growth in the area will be more



Comments

Responses

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Attachment to Thomas G. McNeill Letter  
 November 26, 2011, letter from Krager and Associates to Thomas G. McNeill, page 3 of 6

Mr. Thomas G. McNeill, Attorney-at-Law  
 Dickinson Wright PPLC 1102 FARMINGTON HILL.doc November 26, 2011  
 Page 3

Based on the comparison of the three traffic projections, it is obvious that the projections in the Draft SEIS are too high. The SEIS projections indicate that traffic volumes would more than quadruple over the next 20 years. This type of growth in traffic would require a similar growth in population to generate the traffic. The future population of La Plata County would need to be approximately 230,000 people to support this traffic volume, rather than the projected 93,000 that is anticipated. In recent history the fastest population growth in Colorado occurred in the 1990's and that growth spurt was limited to 30% (or a growth rate of 1.3). This is far less than the anticipated growth rate of 4.5 used in the Draft SEIS. Even when considering the localized impacts of development on an adjacent roadway I have rarely seen traffic volumes triple over a twenty-year period, and have never seen a quadrupling of traffic volumes on an existing road as projected here.

A similar trend can be seen in the SH 550 projections. The current volume of traffic on SH 550 south of SH 160 is 6,800 vpd. The Year 2030 projection from the Draft SEIS is 17,500 vpd, and 19,550 vpd, seasonally adjusted. These projections represent a 20-year growth factor of 2.58. Table 2 illustrates the 2030 average daily traffic (ADT) projections for SH 550 based on the three described methodologies.

Source	20-Year Growth Factor	Year 2030 Average Daily Traffic - vpd	Year 2030 ADT Seasonally Adjusted - vpd
State Demographer	1.57	10,676	12,676
"2030 Transportation Integrated Plan"	1.96	13,328	15,328
SEIS	2.58	17,544	18,544

It is my professional opinion that the traffic projections used in the Supplemental EIS Evaluation are inflated. Traffic projections based on the growth projections of the Colorado State Demographers Office or the La Plata County / City of Durango "2030 Transportation Integrated Plan" would provide a more reliable basis for the consideration and design of roadway improvements for the SH550/SH160 connection.









Comments

Responses

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Document Number:	IND 64	City, Zip Code:	Detroit, 48226

Attachment to Thomas G. McNeill Letter  
 November 26, 2011, letter from Krager and Associates to Thomas G. McNeill, page 6 of 6

Mr. Thomas G. McNeill, Attorney-at-Law  
 Dickinson Wright PLLC 1102 FARMINGTON HILL.doc November 26, 2011  
 Page 6

**Summary**

My analysis of the Draft Supplemental EIS indicates that there are severe flaws in the traffic projections that result in flawed analysis for project need, environments impacts, and safety analysis. Numerous viable alternatives were not considered due to the error in traffic projections. The practice of adding site-specific trip generation onto traffic projections is a highly questionable practice, and not typically used in environmental documents. The concept that traffic would more than quadruple on SH 160 over 20 years does not meet the "common sense" test and should not have been used as the basis for this study. Many alternative solutions are available based on revised analysis that would meet the long-term needs of the community, be less impactful to the environment (including historic sites), and cost less money.

Sincerely,



Kathleen L. Krager, PE, PTOE  
 Transportation Engineer

Attachment: Three Intersection Capacity Analysis summaries

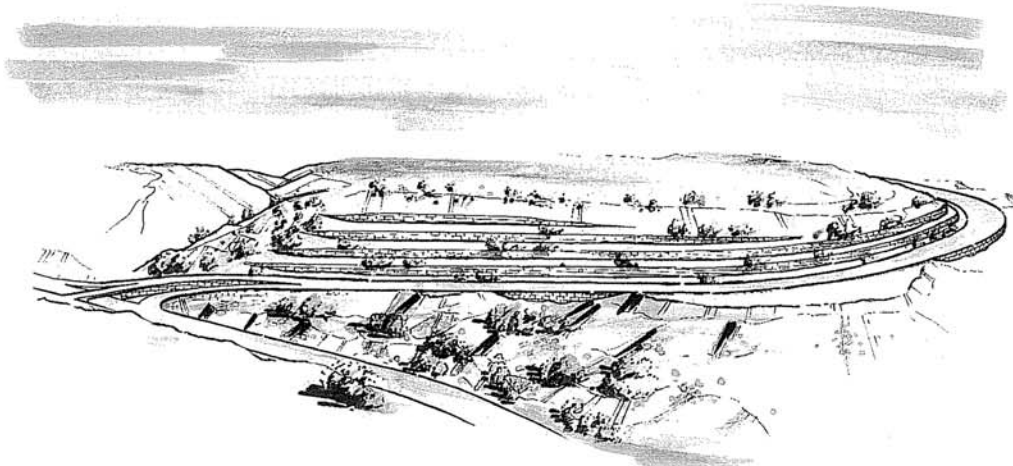
E-mail



**Attachment to Appendix A:**

1. Webb Ranch Report by Russell Planning and Engineering





**Webb Ranch Report & Comments Concerning:**

**US 550 South Connection to US 160  
Supplemental Draft EIS – Section 4(f) Evaluation  
to The US Highway 160 From Durango to Bayfield EIS  
CDOT Project # FC-NH(CX) 162-2(048)**

**Date: November 28<sup>th</sup>, 2011**



**Prepared by:**  
Russell Planning and Engineering  
934 Main Ave. Unit C  
Durango, CO 81303







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## 1.0 INTRODUCTION

On October 14, 2011 the US Department of Transportation (USDOT), Federal Highway Administration (FHWA) and Colorado Department of Transportation (CDOT) made available for review and comment for a 45-day period a Supplemental Draft Environmental Impact Statement/Section 4(f) Evaluation (SEIS) regarding alignments for a US 550 connection to US 160 in Grandview. With only minor modifications the draft SEIS adopts the same preferred alignment as adopted in the original Environmental Impact Statement issued May 12, 2006. That alignment now entitled Revised G Modified, bisects Webb Ranch, a historical property determined eligible for the Nation Register of Historic Places (NRHP).

In this Report Russell Planning and Engineering takes issue with the conclusion of the draft SEIS, assesses the assumptions and findings of the SEIS, and provides alternative alignments that meet the purpose and needs of an alignment and at the same time optimize the avoidance of historical properties including the Webb Ranch. See Appendix A for Statement of Qualifications.

CDOT developed an option generally following the existing alignment of US 550 at Farmington Hill, (The Revised A Alternative ) based upon the assumption that a future highway *could not* impact the NRHP-eligible archaeological site on the western portion of the Webb Ranch. This resulted in CDOT preparing a conceptual design and cost estimates for Revised A that were impractical and resulted in CDOT's conclusion that Revised A is not a viable option. Conversely, however, CDOT developed its preferred Revised G Modified Alternative based upon the assumption that it *could* adversely impact NRHP – eligible Webb Ranch and several NRHP – eligible archaeological sites on the ranch.

In this Report, we have utilized the assumption that the owners of Webb Ranch legally may authorize utilization of their land even if it adversely effects the one archaeological site, 5LP 2223, on the western rim. Our analysis, therefore, places all alternatives on an equal footing and importantly, recommends new alignments utilizing the existing Farmington Hill Right of Way (ROW), that greatly reduce the impacts to the historic ranch and at the same time meet CDOT's Purpose and Need as stated in the draft SEIS.

Simply put, by avoiding all archeological sites for the Farmington Hill Alignment A of the draft SEIS, the cost of Alignment A was over estimated while its technical viability was limited. This Report will spell out in detail these and other inopposite assumptions and findings that will demonstrate why CDOT should re-evaluate the options and select one of the new alignments.

## **2.0 EXECUTIVE SUMMARY**

This Report provides four (4) “R” Alternatives that meet CDOT’s Purpose and Need Statement while minimizing the impacts to all Section 4(f) properties including Webb Ranch. Within this Report, the technical pros and cons of each new alternative along with the Revised G Modified alternative are assessed in depth. This Report provides the technical foundation for our conclusion that all four (4) “R” Alternatives utilizing the existing ROW and generally following the current alignment on Farmington Hill are feasible and prudent while still meeting CDOT’s Purpose and Need. Importantly, the cost of construction for each of the four (4) “R” Alternatives range from 17% less to 15% more than our revised estimation of the actual cost of the Revised G Modified Alternative.<sup>1</sup> Therefore, the “R” Alternatives fall well within CDOT’s selected criteria that an alternative that avoids or minimizes adverse impacts to Webb Ranch must not exceed twice the cost of Revised G Modified.

### **Revised G Modified Alternative (Grandview Interchange via Webb Ranch Connection)**

It is our conclusion that key benefits of this alternative were overstated; including the safety benefits to the traveling public and the increase in travel efficiency. Furthermore, the drawbacks of this alternative were understated; including the alternative’s construction cost, potential

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<sup>1</sup> For the purposes of this Report, we have excluded from our cost comparison among the “R” Alternatives and Revised G Modified the costs and expenses CDOT would incur in the acquisition of Webb land. We thus have confined our analysis to construction costs. In addition, for comparison purposes only, we have used the same unit pricing as employed by CDOT in the EIS and SEIS for all materials (including excavation) unless otherwise discussed in this report.

operational and safety issues, and the impacts to a Section 4(f) property (Webb Ranch). We emphasize that the construction costs for this alignment as contained in the draft SEIS are understated and missing several key considerations. Within this Report, issues associated with Revised G Modified are reviewed in detail with respect to CDOT's Purpose and Need Statement.

**Alternative R1 (Farmington Hill Interchange via Modified Farmington Hill Alignment, 35mph design speed with 6.00% maximum slope)**

The first alternative for consideration is an alignment that follows much of the existing Farmington Hill Alignment. It utilizes a 35mph design speed and a 6.00% grade closely following the existing topography. Alternative R1 would flatten the grade, widen the shoulders, add a climbing lane, increase capacity, increase the solar exposure, eliminate access points, reduce travel time, reduce accidents, and generally improve the safety and functionality of US 550 where it meets US 160 while minimizing impacts to Section 4(f) Properties. Based upon the information presently available, we estimate that R1 would require the removal of 1.8million cubic yards of material and the cost of construction would be \$72.5 million, which is \$15.3 million less than Revised G Modified (or 83% of G) See Appendix B for Details.

**Alternative R2 (Farmington Hill Interchange via Modified Farmington Hill Alignment, 45 mph design speed with 5.00% maximum slope)**

The second alternative for consideration is an alignment that follows much of the existing Farmington Hill Alignment. It utilizes a 45mph design speed and a 5.00% grade to closely following the existing topography. Alternative R2 would flatten the grade, widen the shoulders, increase capacity, increase the solar exposure, eliminate access points, reduce travel time, reduce accidents, and generally improve the safety and functionality of US 550 where it meets US 160 while minimizing impacts to Section 4(f) Properties. Although Alternative R2 would impact one (1) business and three (3) homes because of its increase in design speed, no historical properties would be impacted other than the Webb Ranch. Based upon the information presently available we estimate that R2 would require the removal of 3.1 million cubic yards of material and the cost of construction would be \$91.5 million, which is \$3.7 million more than Revised G Modified (or 104% of G). See Appendix B for Details.

**Alternative R3 (Farmington Hill Interchange via Modified Farmington Hill Alignment, 35 mph design speed with 6.00% maximum slope and Cut Walls to minimize Impacts to Webb Ranch)**

The third alternative for consideration is an alignment that follows much of the existing Farmington Hill Alignment. It utilizes a 35mph design speed and a 6.00% grade closely following the existing topography. Alternative R3 would flatten the grade, widen the shoulders, add a climbing lane, increase capacity, increase the solar exposure, eliminate access points, reduce travel time, reduce accidents, and generally improve the safety and functionality of US 550 where it meets US 160 while minimizing impacts to Section 4(f) Properties. Alternative R3 follows the same alignment as Alternative R1, but cut walls have been added to eastern slope in order to minimize impacts to Section 4(f) Properties (Webb Ranch). Based upon the information presently available we estimate that R3 would require the removal of 810,000 cubic yards of material and the cost of construction would be \$82.6 million, which is \$5.2 million less than Revised G Modified (or 94% of G). See Appendix B for Details.

**Alternative R4 (Farmington Hill Interchange via Modified Farmington Hill Alignment, 45 mph design speed with 5.00% maximum slope)**

This fourth alternative for consideration is an alignment that follows much of the existing Farmington Hill Alignment. It utilizes a 45mph design speed and a 5.00% grade closely following the existing topography. Alternative R4 would flatten the grade, widen the shoulders, increase capacity, increase the solar exposure, eliminate access points, reduce travel time, reduce accidents, and generally improve the safety and functionality of US 550 where it meets US 160 while minimizing impacts to Section 4(f) Properties. Although Alternative R4 would eliminate one (1) business and three (3) homes because of its increase in design speed, no historical properties are impacted other than the Webb Ranch. Alternative R4 follows the same alignment as Alternative R2, but cut walls have been added to eastern slope in order to minimize impacts to Section 4(f) Properties (Webb Ranch). Based upon the information presently available we estimate that R4 would require the removal of 1.6 million cubic yards of material and the cost of construction would be \$101 million, which is \$13.2 million more than Revised G Modified (or 115% of G). See Appendix B for Details.

## **Interchange at Existing Farmington Hill Intersection of US 160 and US 550**

A new intersection or interchange would be required to connect an “R” Alternative for US 550 to US 160. In her November 26, 2011 Report, Kathleen Krager PE, PTOE offered seven (7) alternatives for the intersection which included continued signalization, a standard diamond interchange, a tight urban interchange, a trumpet interchange, a single point interchange, a modified or junior interchange, and finally a diverging diamond which would allow for a two level trumpet interchange instead of a three level. We concur with Ms. Krager’s assertions that if the CDOT traffic counts and growth projections are overstated, the existing at-grade intersection would continue to function acceptably under CDOT’s Level of Service standards with the modifications she presented. We acknowledge, however that additional safety and traffic flow benefits could be achieved by eliminating an at-grade intersection. As stated in Ms. Krager’s Report CDOT could select from at least six (6) grade separated alternatives for an interchange of US 550 and US 160 at this location, each of which is compatible with the four (4) “R” Alternatives set forth in this Report.

In our professional opinion the most economical interchange for this location is a hybrid of a diamond interchange. For the purposes of this Report a conceptual design of this interchange was created for feasibility and cost analysis. The proposed interchange would require a single bridge over US 160 to carry US 160 westbound to US 550 southbound (Bayfield to Farmington) and US 550 northbound to US 160 westbound (Farmington to Durango) traffic. These two traffic movements could be handled at a single point signalized intersection, roundabout similar to the current Grandview Interchange on the north side of US 160, or a diverging diamond intersection. It is our opinion that signalizing the conflicting left turns at this location is the most economical alternative and requires a smaller footprint than a round a bout.

The signalization of this intersection was modeled with Synchro traffic modeling software; a discussion of this analysis can be found within the “Travel efficiency/capacity to meet current and future needs” portion of the individual Alternative Sections of this Report (4.1.2, 4.2.2, 4.3.2, and 4.4.2)



During our analysis, we identified a substandard weaving distance per AASHTO Exhibit 10-68 for free flow right turns on to US 160 eastbound from US 550 northbound. With the construction of Ramp A for the Grandview Interchange vehicles exiting US 160 eastbound will “weave” with vehicles entering US 160 eastbound from US 550. CDOT has prohibited free flow right turns onto US 160 eastbound to mitigate the substandard weaving distance at this time, because Ramp A was not design to function while still allowing free flow right turns onto US 160 from US 550. In the future should a Farmington Hill Alternative for US 550 be constructed the substandard weave distance created by Ramp A will need to be corrected or traffic from US 550 northbound routed onto Ramp A and then forced to use the Grandview Interchange to travel East on US 160. Therefore, an additional \$3,000,000.00 has been added to the cost estimate for the interchange to account for the cost of tying into Ramp A. See Appendix B for Details.

### **3.0 PURPOSE AND NEED**

Based on the determination that certain ranches and a residential property are eligible for protection under Section 4(f) of the Department of Transportation Act of 1966, CDOT has proceeded with a Supplemental EIS. According to the draft Supplemental EIS (SEIS) document (Section 1.1 Introduction). “The Supplemental EIS (SEIS) needs to address only those changes or new information that are the basis for preparing the supplement and were not addressed the previous EIS (12CFR SS771.130(a)).” However, by letter dated May 31, 2011 on behalf of the federal Advisory Council on Historic Preservation (ACHP), Charlene Dwin Vaughn, AICP, requested that CDOT further explore Alternative A in order to determine if it could serve as a feasible and prudent alternative. We understand that CDOT has not transmitted a letter in response to the ACHP’s May 31, 2011 letter but contends that the draft SEIS responds to the ACHP’s letter.

Based upon our review of the draft SEIS, it would appear that CDOT has continued to utilize expensive and impractical alignments rather than develop an alternative in or near the existing ROW of US 550 that would avoid or minimize harm to Webb Ranch. Based upon our review of its design and development work thus far, it is our professional opinion that CDOT has not

undertaken all possible planning to avoid or minimize harm to Webb Ranch. Therefore we are submitting four (4) alternatives under the designation “R” for consideration and further development by CDOT. Based upon CDOT’s formulation of purpose and need, we have prepared concept designs for the “R” Alternatives to roughly the same stage as the alternatives which CDOT has evaluated in the draft SEIS. In this report we have analyzed and compared the four “R” Alternatives and CDOT’s present preferred alignment, Revised G Modified Alternative, objectively applying the same criteria that CDOT applied in the SEIS.

### **3.1 SEIS Purpose and Need Statement**

In the SEIS CDOT utilized the following criterion as its statement of Purpose and Need.

- Increase travel efficiency/capacity to meet current and future needs.
- Improve safety for the traveling public by reducing the number and severity of crashes
- Control access for safety and mobility flow improvements
- See draft SEIS, pp ES2, 2-16, 17. CDOT also uses cost and logistics as factors in its “Screening Level 1.” Id.

### **3.2 Existing Conditions**

According to the EIS, the US 550 corridor south of US 160, will experience “A higher than average number and severity of crashes when compared to other similar highways in the State of Colorado. This high number and severity of accidents is attributed to the lack of highway shoulders, turning lanes, clear zones, and wildlife crossings – and seep grades with insufficient lanes for passing.” (EIS page 5)

The existing Farmington Hill alignment has a minimum horizontal radius of approximately 320-ft with a super elevation of approximately 8.0%. The posted speed limit is 30 mph. The centerline grade is greater than 6.5%. The shoulders are minimal, only 2-ft wide or less. The side slopes do not meet the Roadside Design Guide criteria for safe clear zone and are near vertical in several locations.

## 4.0 ALTERNATIVES

Within this section of the report, each alternative will be discussed at length with regard to travel efficiency, traffic capacity, improving safety, access control, cost, impact to properties, and constructability. Comments concerning environmental and historical impacts will be omitted, as they are outside of our expertise. The alternatives to be compared are as follows:

- Alternative R1, 35mph design speed at 6.00% (with climbing lane) roughly following the existing Farmington Hill Alignment with 3:1 cut slopes and fill walls.
- Alternative R2, 45mph design speed at 5.00% roughly following the existing Farmington Hill Alignment with 3:1 cut slopes and fill walls.
- Alternative R3, 35mph design speed at 6.00% (with climbing lane) roughly following the existing Farmington Hill Alignment with 3:1 cut slopes along with cut and fill walls.
- Alternative R4, 45mph design speed at 5.00% roughly following the existing Farmington Hill Alignment with 3:1 cut slopes along with cut and fill walls.
- Revised G Modified, CDOT's preferred alignment through Webb Ranch.

See Appendix B for Drawings and Exhibits for all Alternatives.

## 4.1 Alternative R1

### 4.1.1. Design Criteria

Design Speed = 35mph

Minimum Radius = 715'

Maximum Super Elevation = 6.00%

Maximum Slope = 6.00%

Lanes = 2 Northbound, 3 Southbound (climbing lane for trucks)

Shoulders = 10' paved, 4' adjacent to climbing lane

Cut Slopes = 3:1

Guardrails = All fill slopes

Interchange = Hybrid Diamond Interchange at US 160 and US 550

### 4.1.2. Travel efficiency/capacity to meet current and future needs

**Finding(s):** It is our professional opinion that Alternative R1 will increase travel efficiency by improving the Farmington Hill Intersection LOS; reducing the overall travel time between Farmington, Bayfield and Durango; eliminating out of direction travel; and reducing emissions. Therefore, it meets CDOT's Purpose and Need.

**Supporting Facts:** With the construction of two (2) additional southbound lanes, one (1) additional northbound lane, an elevated interchange, a horizontal alignment meeting AASHTO 35mph design requirements, and reducing Farmington Hill's existing grade to 6.00%. Alternative R1 will increase the travel efficiency and capacity along the one (1) mile section of US 550 from MP 15.5 to 16.5. Based on CDOT traffic information provided in the SEIS this section of Highway will convey 615/1390vph (AM/PM) southbound and 1585/975vph (AM/PM)

northbound each day. This will allow traffic to flow at a Free Flow Speed (FFS) of 35mph for the entirety of this section of highway.

Weighted Travel Time was also calculated for each proposed alternative in order to determine the most efficient alignment for vehicular traffic between Durango, Farmington and Bayfield in the US 550 and US 160 corridors. Travel times were calculated to/from the US 160/550 Farmington Hill Intersection, the US 160 Grandview Interchange, and the US 550/CR 220 Intersection based on four scenarios. The scenarios for which travel time was calculated included Durango to Farmington, Farmington to Durango, Bayfield to Farmington, and Farmington to Bayfield. The EIS and SEIS projected traffic was then used to weight each of the four scenarios to determine the Weighted Travel Time. For example, trips between Durango and Farmington make up 76% of the vehicle trips utilizing this intersection, so reducing the travel distance and increasing speed for trips between Durango and Farmington are critical factors for improving efficiency in travel between these destinations. The Weighted Travel Time between locations is a critical calculation to complete, as it will help a highway designer determine the amount of fuel used for each alternative, which costs the taxpayers money and increases emissions. The Weighted Travel Time can also predict whether motorists will explore other viable routes for travel between locations due to out of direction travel.

Based on the Calculations it was found that Alternative R1's Weighted Travel Time = 102.8 seconds, which is less than the Revised G Modified Alternative's 114 seconds. Based on the data the impacts including vehicle miles driven, the amount of fuel purchased and emissions released related to Alternative R1 are less than the impacts associated with Revised G Modified.

For comparison purposes:

The Travel Time between Durango and Farmington for Alternative R1 = 86 seconds

The Travel Time between Durango and Farmington for Revised G Modified = 124 seconds

It was also necessary to analyze the functionality of the Interchange that is proposed as a part of each "R" alternative. Within the interchange, the only conflicting movements will be the Farmington to Durango Left Turn (1000/590, AM/PM) vs. the Bayfield to Farmington Left Turn

(240/240, AM/PM); which will require an elevated signalized intersection north of US 160. Synchro Traffic Modeling Software was used to analyze the intersection, (See Appendix C). Based on the analysis a single lane on each leg of the two-direction intersection would provide a LOS of C for 2030 traffic.

It should be noted that at the time of construction CDOT would have the ability to add an additional Farmington to Durango Lane across US 160, which will improve functionality of this intersection well into the future. This cost was not included within the cost estimate because it is not a necessary cost to meet capacity per the definition of CDOT's Purpose and Need Statement.

#### **4.1.3. Safety**

**Finding(s):** It is our professional opinion that Alternative R1 will substantially improve safety for the traveling public by reducing the number and severity of crashes.

**Supporting Facts:** The Purpose and Need statement includes the necessity to improve safety for the traveling public by reducing the number and severity of crashes. In the EIS CDOT dismissed all alternatives utilizing the existing Farmington Hill Intersection based on safety concerns that were briefly discussed for one-half of one page, but not quantified within the report. It is our opinion that the safety issues with regard to all alignments that attempted to follow Farmington Hill and tie into the existing US 160/US 550 intersection, were overstated and under evaluated for the purposes of an EIS in order to make a decision with respect to each alignment's ability to meet CDOT's Purpose and Need. Therefore, in this section we will address the safety issues that are present and will be mitigated as a part of this construction project. Safety issues identified in Section 1.6.2.1 of the SEIS and Section 4.2 and 4.3 of the EIS along with any other issues Russell Planning and Engineering has identified will be discussed in further depth.

The SEIS identified wild animals as the cause of 36% of all crashes on the existing Farmington Hill Alignment (SEIS Figure 1-6b). In our experience, the combination of a reduction to the traveling speed of vehicles and the construction of deer fencing will greatly reduce the number and severity of these types of crashes. The second most common type of accident was overturning at 17% (SEIS Figure 1-6b), which will be mitigated by the construction of guardrail

and a center median consisting of median barriers. The third most common type of accident were rear end type accidents at 15% (SEIS Figure 1-6b), which will be mitigated by the construction of the proposed interchange bridge and tie into Ramp A of the Grandview Interchange, which will flatten the slope of the roadway to near zero percent for the last 500' of the alignment giving vehicles an adequate landing to slow down prior to the intersection.

Along with the three types of accidents, mentioned above, that make up 68% of all accidents, specific design improvements will be made as a part of Alternative R1 that were mentioned as being deficient by CDOT on the existing Farmington Hill section of US 550. Those issues include sharp horizontal curves, steep roadway grade, minimal paved shoulders, narrow traversable ground outside of roadway, limited guardrail along roadway, steep hillside above and below roadway, bottom toe of hillside below roadway is high, existing roadway runs primarily along the north facing slope, cobble and boulders fall onto the roadway, and driver visibility along road is limited.

#### **-Sharp Horizontal Curves**

**Finding(s):** It is our professional opinion that Alternative R1 will substantially improve US 550 safety with respect to horizontal curvature.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill currently has a minimum radius of approximately 320' and super elevation as high as 8.00%. With the construction of Alternative R1, the existing Farmington Hill Alignment would be revised to a 35mph design speed roadway. The new highway would have a minimum curve radius of 715' with 6.00% super elevation, which meets CDOT M&S standards for a 35mph road. Where snow and ice are factors, a maximum 8.00% super elevation is recommended per AASHTO Chapter 3, Elements of Design, Horizontal Alignment, Maximum Super elevation Rates for Streets and Highways.

#### **-Steep Roadway Grade**

**Finding(s):** It is our professional opinion that Alternative R1 will substantially improve US 550 safety with respect to roadway grade.



**Supporting Facts:** The existing US 550 alignment on Farmington Hill has a vertical grade that is in excess of 6.5% in areas, which makes it difficult for trucks to maintain speed while traveling up and down the US 550 alignment in this area. The proposed grade for Alignment R1 is a 6.00% grade. Based on the AASHTO Section *Climbing Lanes on Freeways and Multilane Highways*, “climbing lanes are generally not warranted on four-lane highways with directional volumes below 1,000 vehicles per hour per lane....the inconvenience with this low volume is not sufficient to justify the cost of a climbing lane.” According to CDOT, climbing lanes are generally added on grades 6.00% or greater. Although the traffic volume does not warrant a climbing lane per AASHTO, the CDOT recommendation was used for this analysis. Therefore, a climbing lane has been added to the US 550 southbound lanes in order to better facilitate truck climbing while allowing passenger vehicles to pass.

#### **-Minimal Paved Shoulders**

**Finding(s):** It is our professional opinion that Alternative R1 will substantially improve US 550 safety with respect to paved shoulders.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has sections of roadway with shoulders of less than 2’ in width, which makes stopping along the alignment dangerous. Alternative R1 will have a 10’ paved shoulder on northbound lanes and a 4’ paved shoulder along southbound lanes (CDOT requirement for auxiliary lanes). The addition of the paved shoulders will allow disabled vehicles to exit the travel lanes to maintain free flowing traffic conditions. It should be noted that the Alternative R1 alignment removes much of the “nose” on Farmington Hill and there will be a roughly 1.7 acre pullout area for southbound traffic.

#### **-Narrow Traversable Ground Outside of Roadway**

**Finding(s):** It is our professional opinion that Alternative R1 will substantially improve US 550 safety with respect to traversable ground outside of the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill Roadway is benched into the hillside and has minimal areas along the roadway for vehicles to safely exit traffic, which creates an unsafe situation. With the construction of Alternative R1 in addition to the previously

discussed paved shoulders, auxiliary lane (southbound), and large pullout area (southbound); there will be a 12' (6:1) Z-Slope, which is traversable and recoverable; or an 8' (4:1) Z-Slope, which is recoverable. This will be an element of final design depending on CDOT preferences. It should also be noted that the clear zone requirements for 35 mph road with over 6000 ADT is 14-16' at 3:1 or flatter back slopes per Table 3.1 in the Roadside Design Guide. The conceptual design of Alternative R1 currently meets this requirement.

#### **-Limited Guardrail along Roadway**

**Finding(s):** It is our professional opinion that Alternative R1 will substantially improve US 550 safety with respect to guardrail along the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has limited guardrail. With the construction of Alternative R1 guardrail would be added along much of the southbound lanes (excluding the large 1.7-acre pullout area). In addition, a center median barrier is planned to prevent vehicle crossover into opposing lanes, which is the fourth most common accident on the existing road at 9% (SEIS Figure 1-6b).

#### **-Steep Hillside Above and Below the Roadway**

**Finding(s):** It is our professional opinion that Alternative R1 will substantially improve US 550 safety with respect to the hillside above and below the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has steep hillsides both above (vertical in places) and below (approx 1:1 in places) its alignment. With Alternative R1 the slope above the roadway would be revised to 3:1 slopes in order to provide greater solar exposure, create safer slopes with respect to boulders and cobble falling onto the road, and allow for re-vegetation of slopes. The slope below the roadway would remain the same, but safety improvements discussed previously include the addition of an auxiliary lane, a 10' paved shoulder, 1.7 acre pullout area, and the addition of guardrail.

**-Bottom Toe of Hillside Below Roadway is High,**

**Finding(s):** It is our professional opinion that Alternative R1 will substantially improve US 550 safety with respect to the height of the bottom toe of the hillside.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill is located on a hillside which has a toe of slope that is high. The height of the slope below the roadway would remain the same, but safety improvements discussed previously include the addition of an auxiliary lane, a 10' paved shoulder, 1.7 acre pullout area, and the addition of guardrail.

**-Existing Roadway Runs Primarily Along the North Facing Slope**

**Finding(s):** It is our professional opinion that Alternative R1 will substantially improve US 550 safety with respect to the north facing slope.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill is a west facing road for the upper section, while the bottom 2000' faces north. With the construction of Alternative R1, the solar exposure of US 550 will be improved by the laying back of the slopes to 3:1. Since US 160 in this area is in a canyon this Alternative reduces the amount of travel time for the primary traffic on US 160, which is a heavily shaded area in the winter. It should be noted that US 550 and US 160 are heavily traveled roadways in the mountainous southeastern portion of Colorado and snowplowing and maintenance to these roads is to be expected.

**-Cobble and Boulders Fall onto the Roadway**

**Finding(s):** It is our professional opinion that Alternative R1 will substantially improve US 550 safety with respect to cobble and boulders falling onto the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has steep slopes that are nearly vertical and close to the roadway that allows cobble and boulders to fall onto the roadway. Alternative R1 will lay the existing hillside above the roadway to 3:1 slopes, which will be covered with top soil and reseeded. Reconstruction of slope will allow CDOT to remove all hazards associated with the cobble and boulders entering the roadway. In addition, there are much wider shoulders and recoverable slopes below the 3:1 cut.

### **-Driver Visibility Along Road is Limited**

**Finding(s):** It is our professional opinion that Alternative R1 will substantially improve US 550 safety with respect to driver visibility.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill alignment has very tight curves (320') along several nearly vertical cut slopes. With the construction of Alternative R1, the minimum horizontal curve will be increased to 715' and cut slopes will be reduced to 3:1 outside of the z-slope, which will vastly improve sight distance along the alignment.

### **-Other Safety Considerations**

**Finding(s):** It is our professional opinion that Alternative R1 will substantially improve US 550 safety with respect to accidents at CR 220.

**Supporting Facts:** Currently the US 550 alignment on Farmington Hill has a double intersection with County Road 220 at the top of Farmington Hill. These intersections are located on a roughly 700' radius with heavy vegetation and sight distance issues. With the Construction of Alternative R1, this intersection would be improved with auxiliary lanes and the sight distance would be improved.

Both the EIS and SEIS stated that reducing traffic from 70mph to 35mph would be dangerous because it is not recommended by AASHTO. The FHWA's "Mitigation Strategies for Design Exceptions - July 2007, Chapter 3, Design Speed" offers the following discussion concerning design speed,

*"Research suggests that crash risk increases with increasing differentials in speed (Table 2). Such differentials can be between adjoining highway sections (change in 85th percentile speeds due to changes in roadway geometry) or between speeds of vehicles in the same traffic stream (such as trucks and passenger vehicles). Exhibit 3-58 in the Green Book provides information on the crash rate of trucks as a function of the speed differential of trucks to the average running speed of all traffic."*

While the differential in 85th percentile speeds could occur in this location it is not a condition that is exclusive to the "R" Alternatives, because Revised G Modified will be forced to reduce traveling speeds prior to the Grandview Interchange. Furthermore, a separate discussion on design speed occurs within, "A Policy on Geometric Design of Highways and Streets", 2001, 4th ed., AASHTO, p. 70: Chapter 2 – DESIGN CONTROLS AND CRITERIA, Speed, Design Speed," which provides:

*"A pertinent consideration in selecting design speeds is the average trip length. The longer the trip, the greater the driver's desire to use higher speeds. In the design of a substantial length of highway, it is desirable to select a uniform design speed. However, changes in terrain and other physical controls may dictate a change in design speed on certain sections. If so, the introduction of a lower design speed should not be done abruptly, but should be effected over sufficient distance to permit drivers to gradually change speed before reaching the highway section with the lower design speed.*

*Where it is appropriate to reduce horizontal and vertical alignment features, many drivers may not perceive the lower speed condition ahead, and therefore it is important that they be warned well in advance. The changing condition should be indicated by such controls as speed-zone and curve-speed signs."*

Each of the "R" Alternatives comply with the foregoing guideline. Per AASHTO, It is recommended that in order to mitigate the risk, the speed reduction take place incrementally over a longer distance. For example, the speed reduction for Alternative R1 can and should be accomplished safely just to the south of the CR 220 intersection along the Craig Limousine Ranch. In this location there is roughly 1 mile of relative straight roadway, which when reconstructed by CDOT to widen to four (4) lanes will be an ideal location to reduce speed with respect to stopping sight distance and grade. Slowing traffic at this location would allow for slower design speeds at CR 220<sup>2</sup>, which create a safer intersection. It should also be noted that the Revised G Modified alternative will require a reduction in speed prior to the Grandview interchange for US 550 northbound traffic, which is a nearly identical situation except that it will be on a down slope and at the bottom of a 180' cut with 3:1 side slopes.

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<sup>2</sup> CR 220 is a rural county road that consists mainly of farm and residential traffic.

Furthermore, speed limit changes of 15mph or greater are common just prior to entering city limits on many highways in Colorado. Southbound highway traffic just north of the Durango City limits are slowed from 55mph to a signalized intersection (35mph speed limit) within about a half a mile in this location. The MUTCD specifically addresses speed limit changes in Section 2C.30. In the EIS and SEIS, CDOT did not address the negatives associated with the Revised G Modified Alternative's need to slow prior to the Grandview Interchange.

#### **4.1.4. Control access for safety and mobility flow improvements**

**Finding(s):** It is our professional opinion that Alternative R1 will control access for safety and mobility flow improvement by consolidating three (3) residential and one (1) commercial driveway into a single intersection at CR 220.

**Supporting Facts:** The construction of Alternative R1 will allow for reconstruction of the CR 220 intersection. This reconstruction should include construction of a full compliment of acceleration lanes and deceleration lanes. This intersection should also include a south alignment, which would allow for access to Eagle Block and three private residences. The proposed Alternative R1 intersection would consolidate access to US 550 in the area to one intersection instead of two county road access points and three private driveways.

#### **4.1.5. Geotechnical Issues**

**Finding(s):** We concur with the professional opinion of Trautner Geotech that CDOT's revision to the T Alternative, and to the Preliminary A Alternative is materially flawed, because the proposed 85' tall fill walls, are not viable. Furthermore, we agree with Mr. Trautner's assertion that the proposed "R" Alternatives are economically viable and technically sound engineering solutions due to their ability to minimize the height of the proposed fill walls.

**Supporting Facts:** In the SEIS, CDOT references "challenging geotechnical issues with known subsurface water problems (springs) which create drainage and slope stability issues" as a problem common to the at-grade intersection, partial interchange and revised preliminary alternatives. See, pages 2-18, 19 and 22. CDOT does not rely upon or cite to any technical study or test results relative to subsurface water conditions in or near the existing US 550 ROW at Farmington Hill. CDOT does not specifically identify the geotechnical issues, or the "known

water problems” with which it is concerned. CDOT does not describe the manner in which it has addressed and resolved similar, or more severe conditions, which it has encountered in constructing highways throughout Colorado’s mountainous areas.

At Appendix F, we have appended the Report of Trautner Geotech, LLC, dated November 22, 2011, which states that with respect to the construction of any of the alternatives in the existing US 550 ROW which CDOT evaluated, and any of the four R Alternatives presented by Russell Planning and Engineering, CDOT would not encounter any significant water and slope stability issues of greater severity than are regularly encountered throughout the mountainous areas of Colorado where highway construction already has occurred. Mr. Trautner’s years of proven experience concerning geotechnical issues in the Durango area make him a local and regional expert in the field. He is not aware of any insurmountable geotechnical issues at Farmington Hill and neither are we. If CDOT specifically identifies particular geotechnical issues, or the “known water problems” with which it is concerned, we are confident that Trautner Geotech will address them and that CDOT could resolve them based upon its past substantial experience.

#### **4.1.6. Construction Issues**

**Finding(s):** It is our professional opinion that Alternative R1 could be constructed while US 550 remains open along Farmington Hill.

**Supporting Facts:** Per the EIS and SEIS, CDOT has identified constructability issues associated with all Farmington Hill Alternatives for US 550’s connection to US 160 and recommended \$4,400,000 for the reconstruction of CR 220 for a 2-year detour. With any highway construction there are often challenges associated with the project that need to be considered, and Alternative R1 is no exception. Alternative R1 requires the removal roughly 1.8 million cubic yards of material from Farmington Hill for the road’s re-alignment. This is a considerable amount of material that could be removed while the existing road remains in service, and may take up to a year of hauling to complete this portion of the work. Once the material is removed, the proposed northbound roadbed would largely be exposed and the contractor would have ample room to construct the proposed road section while maintaining



existing traffic. Temporary detours onto newly constructed northbound lanes would allow the existing lanes to be removed, lowered, and realigned with the new roadway to create the southbound section of highway. Regardless of the previously discussed ability to construct Alternative R1 without a detour, a \$4,400,000 lump sum cost to address construction issues was added to its cost estimate, see Appendix D for details.

It should be noted that the La Plata County Traffic Impact Analysis, prepared and adopted in 1997 had identified the need to reconstruct CR 220. This could be mutually beneficial to LPC and CDOT to complete this prior to the future highway improvements.

#### **4.1.7. Impacts to Surrounding Properties**

##### **Finding(s):**

Historic Webb Ranch Impacts - Section 4(f) Property = 9.3 acres

ROW Purchase from Webb Ranch = 26.9 acres

Eagle Block - Access point revised, walls or slight alignment adjustment may be required to reduce impacts; Single Family Residences on property would also experience similar impacts

Hillmeyer Residence - minimal impacts, access point revised

The excavation along the west rim of Webb Ranch will impact archaeological site 5LP2223, but we have designed the excavation to preserve four of the five structural features. We are advised by the Webb's cultural resource consultant that these structures present the most significant aspect of this site and may warrant further study but that the artifacts on the land that is excavated properly could be subject to mitigation.

The "R" Alignments all impact an area of the Webb Ranch that has already been disturbed by the existing US 550 highway corridor and ranching operations. However, the Revised G Modified will disturb the north area of the ranch that consists of mature forests and vegetation and has seen little, if any, human disturbance and the south area of the ranch that is vital to the ranching operations. Not only will Revised G Modified have a major impact on the ranch operations, but

it appears to have far greater environmental impacts. We also understand that there are a number of archeological sites located on Webb Ranch that would be impacted by Revised G Modified.

**Supporting Facts:** See Appendix B for Alternative R1 Plan View

#### **4.1.8. Cost Estimate**

**Finding(s):** The Estimated Cost for Alternative R1 is \$72,517,584.72

**Supporting Facts:** For supporting details for this estimate, See Appendix D Alternative R1 Cost Estimate. In addition, we have relied upon the Report of Trautner Geotech (Appendix F), which states that CDOT overestimated the cost of wall construction for alignments in or near the US 550 within the EIS and SEIS. Mr. Trautner states that wall costs for Farmington Hill alternatives would not vary significantly from the cost used in all alternatives except for Alternative A within the EIS and SEIS. Therefore, we have used \$85/SF (face cut) and \$115/SF (face fill) for the purposes of estimating wall costs, which is consistent with estimates used for other EIS and SEIS alternatives.

## 4.2. Alternative R2

### 4.2.1. Design Criteria

Design Speed = 45mph

Minimum Radius = 1250'

Maximum Super Elevation = 6.00%

Maximum Slope = 5.00%

Lanes = 2 Northbound, 2 Southbound (no climbing lane required)

Shoulders = 10' paved, 4' adjacent to climbing lane

Cut Slopes = 3:1

Guardrails = All fill slopes

Interchange = Hybrid Diamond Interchange at US 160 and US 550

### 4.2.2. Travel efficiency/capacity to meet current and future needs

**Finding(s):** Construction of Alternative R2 will increase travel efficiency by improving the Farmington Hill Intersection LOS; reducing the overall travel time between Farmington, Bayfield and Durango; eliminating out of direction travel; and reducing emissions. Therefore, it meets CDOT's Purpose and Need.

**Supporting Facts:** With the construction of one (1) additional southbound lane, one (1) additional northbound lane, an elevated interchange, a horizontal alignment meeting AASHTO 45mph design requirements, and reducing Farmington Hill's existing grade to 5.00%. Alternative R2 will increase the travel efficiency and capacity along the one (1) mile section of US 550 from MP 15.5 to 16.5. Based on CDOT traffic information provided in the SEIS this section of Highway will convey 615/1390vph (AM/PM) southbound and 1585/975vph (AM/PM)

northbound each day. This will allow traffic to flow at a Free Flow Speed (FFS) of 45mph for the entirety of this section of highway.

Weighted Travel Time was also calculated for each proposed alternative in order to determine the most efficient alignment for vehicular traffic between Durango, Farmington and Bayfield in the US 550 and US 160 corridors. Travel times were calculated to/from the US 160/550 Farmington Hill Intersection, the US 160 Grandview Interchange, and the US 550/CR 220 Intersection based on four scenarios. The scenarios for which travel time was calculated included Durango to Farmington, Farmington to Durango, Bayfield to Farmington, and Farmington to Bayfield. The EIS and SEIS projected traffic was then used to weight each of the four scenarios to determine the Weighted Travel Time. For example, trips between Durango and Farmington make up 76% of the vehicle trips utilizing this intersection, so reducing the travel distance and increasing speed for trips between Durango and Farmington are critical factors for improving efficiency in travel between these destinations. The Weighted Travel Time between locations is a critical calculation to complete, as it will help a highway designer determine the amount of fuel used for each alternative, which costs the taxpayers money and increases emissions. The Weighted Travel Time can also predict whether motorists will explore other viable routes for travel between locations due to out of direction travel.

Based on the Calculations it was found that Alternative R2's Weighted Travel Time = 83.8 seconds, which is less than the Revised G Modified Alternative's 114 seconds. Based on the data the impacts including vehicle miles driven, the amount of fuel purchased and emissions released related to Alternative R2 are less than the impacts associated with Revised G Modified.

For comparison purposes:

The Travel Time between Durango and Farmington for Alternative R2 = 67 seconds

The Travel Time between Durango and Farmington for Revised G Modified = 124 seconds

It was also necessary to analyze the functionality of the Partial Diamond Interchange that is proposed as a part of each "R" alternative. Within the interchange, the only conflicting movements will be the Farmington to Durango Left Turn (1000/590, AM/PM) vs. the Bayfield to

Farmington Left Turn (240/240, AM/PM); which will require an elevated signalized intersection north of US 160. Synchro Traffic Modeling Software was used to analyze the intersection, (See Appendix C). Based on the analysis a single lane on each leg of the two-direction intersection would provide a LOS of C for 2030 traffic.

It should be noted that at the time of construction CDOT would have the ability to add an additional Farmington to Durango Lane across US 160, which will greatly improve functionality of this intersection well into the future. This cost was not included within the cost estimate because it is not a necessary cost to meet capacity per the definition of CDOT's Purpose and Need Statement.

#### **4.2.3. Safety**

**Finding(s):** It is our professional opinion that Alternative R2 will substantially improve safety for the traveling public by reducing the number and severity of crashes.

**Supporting Facts:** The Purpose and Need statement includes the necessity to improve safety for the traveling public by reducing the number and severity of crashes. In the EIS CDOT dismissed all alternatives utilizing the existing Farmington Hill Intersection based on safety concerns that were briefly discussed for one-half of one page, but not quantified within the report. It is our opinion that the safety issues with regard to all alignments that attempted to follow Farmington Hill and tie into the existing US 160/US 550 intersection, were overstated and under evaluated for the purposes of an EIS in order to make a decision with respect to each alignment's ability to meet CDOT's Purpose and Need. Therefore, in this section we will address the safety issues that are present and will be mitigated as a part of this construction project. Safety issues identified in Section 1.6.2.1 of the SEIS and Section 4.2 and 4.3 of the EIS along with any other issues Russell Planning and Engineering has identified will be discussed in further depth.

The SEIS identified wild animals as the cause of 36% of all crashes on the existing Farmington Hill Alignment (SEIS Figure 1-6b). In our experience, the combination of a reduction to the traveling speed of vehicles and the construction of deer fencing will greatly reduce the number and severity of these types of crashes. The second most common type of accident was overturning at 17% (SEIS Figure 1-6b), which will be mitigated by the construction of guardrail

and a center median consisting of median barriers. The third most common type of accident were rear end type accidents at 15% (SEIS Figure 1-6b), which will be mitigated by the construction of the proposed interchange bridge and tie into Ramp A of the Grandview Interchange, which will flatten the slope of the roadway to near zero percent for the last 500' of the alignment giving vehicles an adequate landing to slow down prior to the intersection.

Along with the three types of accidents, mentioned above, that make up 68% of all accidents, specific design improvements will be made as a part of Alternative R2 that were mentioned as being deficient by CDOT on the existing Farmington Hill section of US 550. Those issues include sharp horizontal curves, steep roadway grade, minimal paved shoulders, narrow traversable ground outside of roadway, limited guardrail along roadway, steep hillside above and below roadway, bottom toe of hillside below roadway is high, existing roadway runs primarily along the north facing slope, cobble and boulders fall onto the roadway, and driver visibility along road is limited.

#### **-Sharp Horizontal Curves**

**Finding(s):** It is our professional opinion that Alternative R2 will substantially improve US 550 safety with respect to horizontal curvature.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill currently has a minimum radius of approximately 320' and super elevation as high as 8.00%. With the construction of Alternative R2, the existing Farmington Hill Alignment would be revised to a 45mph design speed roadway. The new highway would have a minimum curve radius of 1250' with 6.00% super elevation, which meets CDOT M&S standards for a 45mph road. Where snow and ice are factors, a maximum 8.00% super elevation is recommended per AASHTO Chapter 3, Elements of Design, Horizontal Alignment, Maximum Super elevation Rates for Streets and Highways.

#### **-Steep Roadway Grade**

**Finding(s):** It is our professional opinion that Alternative R2 will substantially improve US 550 safety with respect to roadway grade.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has a vertical grade that is in excess of 6.5% in areas, which makes it difficult for trucks to maintain speed while traveling up and down the US 550 alignment in this area. The proposed grade for Alignment R2 is a 5.00% grade, which is consistent with the design grade of Revised G Modified. Based on the AASHTO Section *Climbing Lanes on Freeways and Multilane Highways*, “climbing lanes are generally not warranted on four-lane highways with directional volumes below 1,000 vehicles per hour per lane....the inconvenience with this low volume is not sufficient to justify the cost of a climbing lane.” According to CDOT, climbing lanes are generally added on grades 6.00% or greater. Therefore, a climbing lane has **NOT** been added to the US 550 southbound lanes.

#### **-Minimal Paved Shoulders**

**Finding(s):** It is our professional opinion that Alternative R2 will substantially improve US 550 safety with respect to paved shoulders.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has sections of roadway with shoulders of less than 2’ in width, which makes stopping along the alignment dangerous. Alternative R2 will have a 10’ paved shoulder on northbound lanes and a 4’ paved shoulder along southbound lanes (CDOT requirement for auxiliary lanes). The addition of the paved shoulders will allow disabled vehicles to exit the travel lanes to maintain free flowing traffic conditions. It should be noted that the Alternative R2 alignment removes much of the “nose” on Farmington Hill and there will be a roughly 1.7 acre pullout area for southbound traffic.

#### **-Narrow Traversable Ground Outside of Roadway**

**Finding(s):** It is our professional opinion that Alternative R2 will substantially improve US 550 safety with respect to traversable ground outside of the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill Roadway is benched into the hillside and has minimal areas along the roadway for vehicles to safely exit traffic, which creates an unsafe situation. With the construction of Alternative R2 in addition to the previously discussed paved shoulders, auxiliary lane (southbound), and large pullout area (southbound);



there will be a 12' (6:1) Z-Slope, which is traversable and recoverable; or an 8' (4:1) Z-Slope, which is recoverable. This will be an element of final design depending on CDOT preferences. It should also be noted that the clear zone requirements for 45 mph road with over 6000 ADT is 14-16' at 3:1 or flatter back slopes per Table 3.1 in the Roadside Design Guide. The conceptual design of Alternative R2 currently meets this requirement.

#### **-Limited Guardrail along Roadway**

**Finding(s):** It is our professional opinion that Alternative R2 will substantially improve US 550 safety with respect to guardrail along the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has limited guardrail. With the construction of Alternative R2 guardrail would be added along much of the southbound lanes (excluding the large 1.7-acre pullout area). In addition, a center median barrier is planned to prevent vehicle crossover into opposing lanes which is the fourth most common accident on the existing road at 9% (SEIS Figure 1-6b).

#### **-Steep Hillside Above and Below the Roadway**

**Finding(s):** It is our professional opinion that Alternative R2 will substantially improve US 550 safety with respect to the hillside above and below the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has steep hillsides both above (vertical in places) and below (approx 1:1 in places) its alignment. With Alternative R2 the slope above the roadway would be revised to 3:1 slopes in order to provide greater solar exposure, create safer slopes with respect to boulders and cobble falling onto the road, and allow for re-vegetation of slopes. The slope below the roadway would remain the same, but safety improvements discussed previously include the addition of an auxiliary lane, a 10' paved shoulder, 1.7 acre pullout area, and the addition of guardrail.

#### **-Bottom Toe of Hillside Below Roadway is High,**

**Finding(s):** It is our professional opinion that Alternative R2 will substantially improve US 550 safety with respect to the height of the bottom toe of the hillside.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill is located on a hillside which has a toe of slope that is high. The height of the slope below the roadway would remain the same, but safety improvements discussed previously include the addition of an auxiliary lane, a 10' paved shoulder, 1.7 acre pullout area, and the addition of guardrail.

**-Existing Roadway Runs Primarily Along the North Facing Slope**

**Finding(s):** It is our professional opinion that Alternative R2 will substantially improve US 550 safety with respect to the north facing slope.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill is a west facing road for the upper section, while the bottom 2000' faces north. With the construction of Alternative R2, the solar exposure of US 550 will be improved by the laying back of the slopes to 3:1. Since US 160 in this area is in a canyon this Alternative reduces the amount of travel time for the primary traffic on US 160, which is a heavily shaded area in the winter. It should be noted that US 550 and US 160 are heavily traveled roadways in the mountainous southeastern portion of Colorado and snowplowing and maintenance to these roads is to be expected.

**-Cobble and Boulders Fall onto the Roadway**

**Finding(s):** It is our professional opinion that Alternative R2 will substantially improve US 550 safety with respect to cobble and boulders falling onto the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has steep slopes that are nearly vertical and close to the roadway that allows cobble and boulders to fall onto the roadway. Alternative R2 will lay the existing hillside above the roadway to 3:1 slopes, which will be covered with top soil and reseeded. Reconstruction of slope will allow CDOT to remove all hazards associated with the cobble and boulders entering the roadway. In addition, there are much wider shoulders and recoverable slopes below the 3:1 cut.

**-Driver Visibility Along Road is Limited**

**Finding(s):** It is our professional opinion that Alternative R2 will substantially improve US 550 safety with respect to driver visibility.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill alignment has very tight curves (320') along several nearly vertical cut slopes. With the construction of Alternative R2, the minimum horizontal curve will be increased to 1250' and cut slopes will be reduced to 3:1 outside of the z-slope, which will vastly improve sight distance along the alignment.

#### **-Other Safety Considerations**

**Finding(s):** It is our professional opinion that Alternative R2 will substantially improve US 550 safety with respect to accidents at CR 220.

**Supporting Facts:** Currently the US 550 alignment on Farmington Hill has a double intersection with County Road 220 at the top of Farmington Hill. These intersections are located on a roughly 700' radius with heavy vegetation and sight distance issues. With the Construction of Alternative R2, this intersection would be improved with auxiliary lanes and the sight distance would be improved.

Both the EIS and SEIS stated that reducing traffic from 70mph to 35mph would be dangerous because it is not recommended by AASHTO. The FHWA's "Mitigation Strategies for Design Exceptions - July 2007, Chapter 3, Design Speed" offers the following discussion concerning design speed,

*"Research suggests that crash risk increases with increasing differentials in speed (Table 2). Such differentials can be between adjoining highway sections (change in 85th percentile speeds due to changes in roadway geometry) or between speeds of vehicles in the same traffic stream (such as trucks and passenger vehicles). Exhibit 3-58 in the Green Book provides information on the crash rate of trucks as a function of the speed differential of trucks to the average running speed of all traffic."*

While the differential in 85th percentile speeds could occur in this location it is not a condition that is exclusive to the "R" Alternatives, because Revised G Modified will be forced to reduce traveling speeds prior to the Grandview Interchange. Furthermore, a separate discussion on design speed occurs within, "A Policy on Geometric Design of Highways and Streets", 2001, 4th

ed., AASHTO, p. 70: Chapter 2 – DESIGN CONTROLS AND CRITERIA, Speed, Design Speed,” which provides:

*“A pertinent consideration in selecting design speeds is the average trip length. The longer the trip, the greater the driver’s desire to use higher speeds. In the design of a substantial length of highway, it is desirable to select a uniform design speed. However, changes in terrain and other physical controls may dictate a change in design speed on certain sections. If so, the introduction of a lower design speed should not be done abruptly, but should be effected over sufficient distance to permit drivers to gradually change speed before reaching the highway section with the lower design speed.*

*Where it is appropriate to reduce horizontal and vertical alignment features, many drivers may not perceive the lower speed condition ahead, and therefore it is important that they be warned well in advance. The changing condition should be indicated by such controls as speed-zone and curve-speed signs.”*

Each of the “R” Alternatives comply with the foregoing guideline. Per AASHTO, It is recommended that in order to mitigate the risk, the speed reduction take place incrementally over a longer distance. For example, the speed reduction for Alternative R2 can and should be accomplished safely just to the south of the CR 220 intersection along the Craig Limousine Ranch. In this location there is roughly 1 mile of relative straight roadway, which when reconstructed by CDOT to widen to four (4) lanes will be an ideal location to reduce speed with respect to stopping sight distance and grade. Slowing traffic at this location would allow for slower design speeds at CR 220<sup>3</sup>, which create a safer intersection. It should also be noted that the Revised G Modified alternative will require a reduction in speed prior to the Grandview interchange for US 550 northbound traffic, which is a nearly identical situation except that is will be on a down slope and at the bottom of a 180’ cut with 3:1 side slopes.

Furthermore, speed limit changes of 15mph or greater are common just prior to entering city limits on many highways in Colorado. Southbound highway traffic just north of the Durango City limits are slowed from 55mph to a signalized intersection (35mph speed limit) within about

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<sup>3</sup> CR 220 is a rural county road that consists mainly of farm and residential traffic.

a half a mile in this location. The MUTCD specifically addresses speed limit changes in Section 2C.30. In the EIS and SEIS, CDOT did not address the negatives associated with the Revised G Modified Alternative's need to slow prior to the Grandview Interchange.

#### **4.2.4. Control access for safety and mobility flow improvements**

**Finding(s):** It is our professional opinion that Alternative R2 will control access for safety and mobility flow improvement by relocation of an existing business and 2 (two) residences along with the consolidating remaining residential driveways south of US 550 into a single intersection at CR 220.

**Supporting Facts:** The construction of Alternative R2 will allow for reconstruction of the CR 220 intersection. This reconstruction should include construction of a full complement of acceleration lanes and deceleration lanes. This intersection should also include a south alignment, which would allow for access to remaining private residences. The proposed Alternative R2 intersection would consolidate access to US 550 in the area to one intersection instead of two county road access points and three private driveways.

#### **4.2.5. Geotechnical Issues**

**Finding(s):** We concur with the professional opinion of Trautner Geotech that CDOT's revision to the T Alternative, and to the Preliminary A Alternative is materially flawed, because the proposed 85' tall fill walls, are not viable. Furthermore, we agree with Mr. Trautner's assertion that the proposed "R" Alternatives are economically viable and technically sound engineering solutions due to their ability to minimize the height of the proposed fill walls.

**Supporting Facts:** In the SEIS, CDOT references "challenging geotechnical issues with known subsurface water problems (springs) which create drainage and slope stability issues" as a problem common to the at-grade intersection, partial interchange and revised preliminary alternatives. See, pages 2-18, 19 and 22. CDOT does not rely upon or cite to any technical study or test results relative to subsurface water conditions in or near the existing US 550 ROW at Farmington Hill. CDOT does not specifically identify the geotechnical issues, or the "known water problems" with which it is concerned. CDOT does not describe the manner in which it has

addressed and resolved similar, or more severe conditions, which it has encountered in constructing highways throughout Colorado's mountainous areas.

At Appendix F, we have appended the Report of Trautner Geotech, LLC, dated November 22, 2011, which states that with respect to the construction of any of the alternatives in the existing US 550 ROW which CDOT evaluated, and any of the four R Alternatives presented by Russell Planning and Engineering, CDOT would not encounter any significant water and slope stability issues of greater severity than are regularly encountered throughout the mountainous areas of Colorado where highway construction already has occurred. Mr. Trautner's years of proven experience concerning geotechnical issues in the Durango area make him a local and regional expert in the field. He is not aware of any insurmountable geotechnical issues at Farmington Hill and neither are we. If CDOT specifically identifies particular geotechnical issues, or the "known water problems" with which it is concerned, we are confident that Trautner Geotech will address them and that CDOT could resolve them based upon its past substantial experience.

#### **4.2.6. Construction Issues**

**Finding(s):** It is our professional opinion that Alternative R2 could be constructed while US 550 remains open along Farmington Hill.

**Supporting Facts:** Per the EIS and SEIS, CDOT has identified constructability issues associated with all Farmington Hill Alternatives for US 550's connection to US 160 and recommended \$4,400,000 for the reconstruction of CR 220 for a 2-year detour. With any highway construction there are often challenges associated with the project that need to be considered, and Alternative R2 is no exception. Alternative R2 requires the removal of roughly 3.1 million cubic yards of material from Farmington Hill for the road's re-alignment. This is a considerable amount of material that could be removed while the existing road remains in service, and may take up to two (2) years of hauling to complete this portion of the work. Once the material is removed, the proposed northbound roadbed would largely be exposed and the contractor would have ample room to construct the proposed road section while maintaining existing traffic. Temporary detours onto newly constructed northbound lanes would allow the

existing lanes to be removed, lowered, and realigned with the new roadway to create the southbound section of highway. Regardless of the previously discussed ability to construct Alternative R2 without a detour, a \$4,400,000 lump sum cost to address construction issues was added to its cost estimate, see Appendix D for details.

It should be noted that the La Plata County Traffic Impact Analysis, prepared and adopted in 1997 had identified the need to reconstruct CR 220. This could be mutually beneficial to LPC and CDOT to complete this prior to the future highway improvements.

#### **4.2.7. Impacts to Surrounding Properties**

##### **Finding(s):**

Historic Webb Ranch Impacts - Section 4(f) Property = 13.2 acres

ROW Purchase from Webb Ranch = 31.4 acres

Eagle Block- the proposed Alignment for Alternative R2 would eliminate Eagle Block from its current location. There would be a location north of the proposed US 550 alignment that it may be relocated to, but that will be a CDOT call during the design phase of this project. For the purposes of the Cost Estimate and Impacts, the assumption that Eagle Block would have to be completely relocated was assumed.

The excavation along the west rim of Webb Ranch will impact archaeological site 5LP2223, but we have designed the excavation to preserve four of the five structural features. We are advised by the Webb's cultural resource consultant that these structures present the most significant aspect of this site and may warrant further study but that the artifacts on the land that is excavated properly could be subject to mitigation.

The "R" Alignments all impact an area of the Webb Ranch that has already been disturbed by the existing US 550 highway corridor and ranching operations. However, the Revised G Modified will disturb the north area of the ranch that consists of mature forests and vegetation and has seen little, if any, human disturbance and the south area of the ranch that is vital to the ranching operations. Not only will Revised G Modified have a major impact on the ranch operations, but



it appears to have far greater environmental impacts. We also understand that there are a number of archeological sites located on Webb Ranch that would be impacted by Revised G Modified.

**Supporting Facts:** See Appendix B for Alternative R2 Plan View

#### **4.2.8. Cost Estimate**

**Finding(s):** The Estimated Cost for Alternative R2 is \$91,575,876.22

**Supporting Facts:** For supporting details for this estimate, See Appendix D Alternative R2 Cost Estimate. In addition, we have relied upon the Report of Trautner Geotech (Appendix F), which states that CDOT overestimated the cost of wall construction for alignments in or near the US 550 within the EIS and SEIS. Mr. Trautner states that wall costs for Farmington Hill alternatives would not vary significantly from the cost used in all alternatives except for Alternative A within the EIS and SEIS. Therefore, we have used \$85/SF (face cut) and \$115/SF (face fill) for the purposes of estimating wall costs, which is consistent with estimates used for other EIS and SEIS alternatives.

### 4.3. Alternative R3

#### 4.3.1. Design Criteria

Design Speed = 35mph

Minimum Radius = 715'

Maximum Super Elevation = 6.00%

Maximum Slope = 6.00%

Lanes = 2 Northbound, 3 Southbound (climbing lane for trucks)

Shoulders = 10' paved, 4' adjacent to climbing lane

Cut Slopes = 3:1 **with 30' vertical soil nail walls**

Guardrails = All fill slopes

Interchange = Hybrid Partial Diamond Interchange at US 160 and US 550

#### 4.3.2. Travel efficiency/capacity to meet current and future needs

**Finding(s):** It is our professional opinion that Alternative R3 will increase travel efficiency by improving the Farmington Hill Intersection LOS; reducing the overall travel time between Farmington, Bayfield and Durango; eliminating out of direction travel; and reducing emissions. Therefore, it meets CDOT's Purpose and Need.

**Supporting Facts:** With the construction of two (2) additional southbound lanes, one (1) additional northbound lane, an elevated interchange, a horizontal alignment meeting AASHTO 35mph design requirements, and reducing Farmington Hill's existing grade to 6.00%. Alternative R3 will increase the travel efficiency and capacity along the one (1) mile section of US 550 from MP 15.5 to 16.5. Based on CDOT traffic information provided in the SEIS this section of Highway will convey 615/1390vph (AM/PM) southbound and 1585/975vph (AM/PM)

northbound each day. This will allow traffic to flow at a Free Flow Speed (FFS) of 35mph for the entirety of this section of highway.

Weighted Travel Time was also calculated for each proposed alternative in order to determine the most efficient alignment for vehicular traffic between Durango, Farmington and Bayfield in the US 550 and US 160 corridors. Travel times were calculated to/from the US 160/550 Farmington Hill Intersection, the US 160 Grandview Interchange, and the US 550/CR 220 Intersection based on four scenarios. The scenarios for which travel time was calculated included Durango to Farmington, Farmington to Durango, Bayfield to Farmington, and Farmington to Bayfield. The EIS and SEIS projected traffic was then used to weight each of the four scenarios to determine the Weighted Travel Time. For example, trips between Durango and Farmington make up 76% of the vehicle trips utilizing this intersection, so reducing the travel distance and increasing speed for trips between Durango and Farmington are critical factors for improving efficiency in travel between these destinations. The Weighted Travel Time between locations is a critical calculation to complete, as it will help a highway designer determine the amount of fuel used for each alternative, which costs the taxpayers money and increases emissions. The Weighted Travel Time can also predict whether motorists will explore other viable routes for travel between locations due to out of direction travel.

Based on the Calculations it was found that Alternative R3's Weighted Travel Time = 102.8 seconds, which is less than the Revised G Modified Alternative's 114 seconds. Based on the data the impacts including vehicle miles driven, the amount of fuel purchased and emissions released related to Alternative R3 are less than the impacts associated with Revised G Modified.

For comparison purposes:

The Travel Time between Durango and Farmington for Alternative R3 = 86 seconds

The Travel Time between Durango and Farmington for Revised G Modified = 124 seconds

It was also necessary to analyze the functionality of the Partial Diamond Interchange that is proposed as a part of each "R" alternative. Within the interchange, the only conflicting movements will be the Farmington to Durango Left Turn (1000/590, AM/PM) vs. the Bayfield to

Farmington Left Turn (240/240, AM/PM); which will require an elevated signalized intersection north of US 160. Synchro Traffic Modeling Software was used to analyze the intersection, (See Appendix C). Based on the analysis a single lane on each leg of the two-direction intersection would provide a LOS of C for 2030 traffic.

It should be noted that at the time of construction CDOT would have the ability to add an additional Farmington to Durango Lane across US 160, which will improve functionality of this intersection well into the future. This cost was not included within the cost estimate because it is not a necessary cost to meet capacity per the definition of CDOT's Purpose and Need Statement.

#### **4.3.3. Safety**

**Finding(s):** It is our professional opinion that Alternative R3 will substantially improve safety for the traveling public by reducing the number and severity of crashes.

**Supporting Facts:** The Purpose and Need statement includes the necessity to improve safety for the traveling public by reducing the number and severity of crashes. In the EIS CDOT dismissed all alternatives utilizing the existing Farmington Hill Intersection based on safety concerns that were briefly discussed for one-half of one page, but not quantified within the report. It is our opinion that the safety issues with regard to all alignments that attempted to follow Farmington Hill and tie into the existing US 160/US 550 intersection, were overstated and under evaluated for the purposes of an EIS in order to make a decision with respect to each alignment's ability to meet CDOT's Purpose and Need. Therefore, in this section we will address the safety issues that are present and will be mitigated as a part of this construction project. Safety issues identified in Section 1.6.2.1 of the SEIS and Section 4.2 and 4.3 of the EIS along with any other issues Russell Planning and Engineering has identified will be discussed in further depth.

The SEIS identified wild animals as the cause of 36% of all crashes on the existing Farmington Hill Alignment (SEIS Figure 1-6b). In our experience, the combination of a reduction to the traveling speed of vehicles and the construction of deer fencing will greatly reduce the number and severity of these types of crashes. The second most common type of accident was overturning at 17% (SEIS Figure 1-6b), which will be mitigated by the construction of guardrail

and a center median consisting of median barriers. The third most common type of accident were rear end type accidents at 15% (SEIS Figure 1-6b), which will be mitigated by the construction of the proposed interchange bridge and tie into Ramp A of the Grandview Interchange, which will flatten the slope of the roadway to near zero percent for the last 500' of the alignment giving vehicles an adequate landing to slow down prior to the intersection.

Along with the three types of accidents, mentioned above, that make up 68% of all accidents, specific design improvements will be made as a part of Alternative R3 that were mentioned as being deficient by CDOT on the existing Farmington Hill section of US 550. Those issues include sharp horizontal curves, steep roadway grade, minimal paved shoulders, narrow traversable ground outside of roadway, limited guardrail along roadway, steep hillside above and below roadway, bottom toe of hillside below roadway is high, existing roadway runs primarily along the north facing slope, cobble and boulders fall onto the roadway, and driver visibility along road is limited.

#### **-Sharp Horizontal Curves**

**Finding(s):** It is our professional opinion that Alternative R3 will substantially improve US 550 safety with respect to horizontal curvature.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill currently has a minimum radius of approximately 320' and super elevation as high as 8.00%. With the construction of Alternative R3, the existing Farmington Hill Alignment would be revised to a 35mph design speed roadway. The new highway would have a minimum curve radius of 715' with 6.00% super elevation, which meets CDOT M&S standards for a 35mph road. Where snow and ice are factors, a maximum 8.00% super elevation is recommended per AASHTO Chapter 3, Elements of Design, Horizontal Alignment, Maximum Super elevation Rates for Streets and Highways.

#### **-Steep Roadway Grade**

**Finding(s):** It is our professional opinion that Alternative R3 will substantially improve US 550 safety with respect to roadway grade.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has a vertical grade that is in excess of 6.5% in areas, which makes it difficult for trucks to maintain speed while traveling up and down the US 550 alignment in this area. The proposed grade for Alignment R3 is a 6.00% grade. Based on the AASHTO Section *Climbing Lanes on Freeways and Multilane Highways*, “climbing lanes are generally not warranted on four-lane highways with directional volumes below 1,000 vehicles per hour per lane....the inconvenience with this low volume is not sufficient to justify the cost of a climbing lane.” According to CDOT, climbing lanes are generally added on grades 6.00% or greater. Although the traffic volume does not warrant a climbing lane per AASHTO, the CDOT recommendation was used for this analysis. Therefore, a climbing lane has been added to the US 550 southbound lanes in order to better facilitate truck climbing while allowing passenger vehicles to pass.

#### **-Minimal Paved Shoulders**

**Finding(s):** It is our professional opinion that Alternative R3 will substantially improve US 550 safety with respect to paved shoulders.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has sections of roadway with shoulders of less than 2’ in width, which makes stopping along the alignment dangerous. Alternative R3 will have a 10’ paved shoulder on northbound lanes and a 4’ paved shoulder along southbound lanes (CDOT requirement for auxiliary lanes). The addition of the paved shoulders will allow disabled vehicles to exit the travel lanes to maintain free flowing traffic conditions. It should be noted that the Alternative R3 alignment removes much of the “nose” on Farmington Hill and there will be a roughly 1.7 acre pullout area for southbound traffic.

#### **-Narrow Traversable Ground Outside of Roadway**

**Finding(s):** It is our professional opinion that Alternative R3 will substantially improve US 550 safety with respect to traversable ground outside of the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill Roadway is benched into the hillside and has minimal areas along the roadway for vehicles to safely exit traffic, which creates an unsafe situation. With the construction of Alternative R3 in addition to the previously

discussed paved shoulders, auxiliary lane (southbound), and large pullout area (southbound); there will be a 12' (6:1) Z-Slope, which is traversable and recoverable; or an 8' (4:1) Z-Slope, which is recoverable. This will be an element of final design depending on CDOT preferences. It should also be noted that the clear zone requirements for 35 mph road with over 6000 ADT is 14-16' at 3:1 or flatter back slopes per Table 3.1 in the Roadside Design Guide. The conceptual design of Alternative R3 currently meets this requirement.

#### **-Limited Guardrail along Roadway**

**Finding(s):** It is our professional opinion that Alternative R3 will substantially improve US 550 safety with respect to guardrail along the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has limited guardrail. With the construction of Alternative R3 guardrail would be added along much of the southbound lanes (excluding the large 1.7-acre pullout area). In addition, a center median barrier is planned to prevent vehicle crossover into opposing lanes, which is the fourth most common accident on the existing road at 9% (SEIS Figure 1-6b).

#### **-Steep Hillside Above and Below the Roadway**

**Finding(s):** It is our professional opinion that Alternative R3 will substantially improve US 550 safety with respect to the hillside above and below the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has steep hillsides both above (vertical in places) and below (approx 1:1 in places) its alignment. With Alternative R3 the slope above the roadway would be revised to 3:1 slopes along with soil nail walls in order to provide greater solar exposure, create safer slopes with respect to boulders and cobble falling onto the road, and allow for re-vegetation of slopes. The slope below the roadway would remain the same, but safety improvements discussed previously include the addition of an auxiliary lane, a 10' paved shoulder, 1.7 acre pullout area, and the addition of guardrail.



**-Bottom Toe of Hillside Below Roadway is High,**

**Finding(s):** It is our professional opinion that Alternative R3 will substantially improve US 550 safety with respect to the height of the bottom toe of the hillside.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill is located on a hillside which has a toe of slope that is high. The height of the slope below the roadway would remain the same, but safety improvements discussed previously include the addition of an auxiliary lane, a 10' paved shoulder, 1.7 acre pullout area, and the addition of guardrail.

**-Existing Roadway Runs Primarily Along the North Facing Slope**

**Finding(s):** It is our professional opinion that Alternative R3 will substantially improve US 550 safety with respect to the north facing slope.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill is a west facing road for the upper section, while the bottom 2000' faces north. With the construction of Alternative R3, the solar exposure of US 550 will be improved by the laying back of the slopes to 3:1 along with soil nail walls. Since US 160 in this area is in a canyon this Alternative reduces the amount of travel time for the primary traffic on US 160, which is a heavily shaded area in the winter. It should be noted that US 550 and US 160 are heavily traveled roadways in the mountainous southeastern portion of Colorado and snowplowing and maintenance to these roads is to be expected.

**-Cobble and Boulders Fall onto the Roadway**

**Finding(s):** It is our professional opinion that Alternative R3 will substantially improve US 550 safety with respect to cobble and boulders falling onto the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has steep slopes that are nearly vertical and close to the roadway that allows cobble and boulders to fall onto the roadway. Alternative R3 will lay the existing hillside above the roadway to 3:1 slopes along with soil nail walls, which will be covered with top soil and reseeded. Reconstruction of slope will allow

CDOT to remove all hazards associated with the cobble and boulders entering the roadway. In addition, there are much wider shoulders and recoverable slopes below the 3:1 cut.

#### **-Driver Visibility Along Road is Limited**

**Finding(s):** It is our professional opinion that Alternative R3 will substantially improve US 550 safety with respect to driver visibility.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill alignment has very tight curves (320') along several nearly vertical cut slopes. With the construction of Alternative R3, the minimum horizontal curve will be increased to 715' and cut slopes will be reduced to 3:1 outside of the z-slope, which will vastly improve sight distance along the alignment.

#### **-Other Safety Considerations**

**Finding(s):** It is our professional opinion that Alternative R3 will substantially improve US 550 safety with respect to accidents at CR 220.

**Supporting Facts:** Currently the US 550 alignment on Farmington Hill has a double intersection with County Road 220 at the top of Farmington Hill. These intersections are located on a roughly 700' radius with heavy vegetation and sight distance issues. With the Construction of Alternative R3, this intersection would be improved with auxiliary lanes and the sight distance would be improved.

Both the EIS and SEIS stated that reducing traffic from 70mph to 35mph would be dangerous because it is not recommended by AASHTO. The FHWA's "Mitigation Strategies for Design Exceptions - July 2007, Chapter 3, Design Speed" offers the following discussion concerning design speed,

*"Research suggests that crash risk increases with increasing differentials in speed (Table 2). Such differentials can be between adjoining highway sections (change in 85th percentile speeds due to changes in roadway geometry) or between speeds of vehicles in the same traffic stream (such as trucks and passenger vehicles). Exhibit 3-58 in the Green Book provides information*

*on the crash rate of trucks as a function of the speed differential of trucks to the average running speed of all traffic."*

While the differential in 85th percentile speeds could occur in this location it is not a condition that is exclusive to the "R" Alternatives, because Revised G Modified will be forced to reduce traveling speeds prior to the Grandview Interchange. Furthermore, a separate discussion on design speed occurs within, "A Policy on Geometric Design of Highways and Streets", 2001, 4th ed., AASHTO, p. 70: Chapter 2 – DESIGN CONTROLS AND CRITERIA, Speed, Design Speed," which provides:

*"A pertinent consideration in selecting design speeds is the average trip length. The longer the trip, the greater the driver's desire to use higher speeds. In the design of a substantial length of highway, it is desirable to select a uniform design speed. However, changes in terrain and other physical controls may dictate a change in design speed on certain sections. If so, the introduction of a lower design speed should not be done abruptly, but should be effected over sufficient distance to permit drivers to gradually change speed before reaching the highway section with the lower design speed.*

*Where it is appropriate to reduce horizontal and vertical alignment features, many drivers may not perceive the lower speed condition ahead, and therefore it is important that they be warned well in advance. The changing condition should be indicated by such controls as speed-zone and curve-speed signs."*

Each of the "R" Alternatives comply with the foregoing guideline. Per AASHTO, It is recommended that in order to mitigate the risk, the speed reduction take place incrementally over a longer distance. For example, the speed reduction for Alternative R3 can and should be accomplished safely just to the south of the CR 220 intersection along the Craig Limousine Ranch. In this location there is roughly 1 mile of relative straight roadway, which when reconstructed by CDOT to widen to four (4) lanes will be an ideal location to reduce speed with respect to stopping sight distance and grade. Slowing traffic at this location would allow for

slower design speeds at CR 220<sup>4</sup>, which create a safer intersection. It should also be noted that the Revised G Modified alternative will require a reduction in speed prior to the Grandview interchange for US 550 northbound traffic, which is a nearly identical situation except that it will be on a down slope and at the bottom of a 180' cut with 3:1 side slopes.

Furthermore, speed limit changes of 15mph or greater are common just prior to entering city limits on many highways in Colorado. Southbound highway traffic just north of the Durango City limits are slowed from 55mph to a signalized intersection (35mph speed limit) within about a half a mile in this location. The MUTCD specifically addresses speed limit changes in Section 2C.30. In the EIS and SEIS, CDOT did not address the negatives associated with the Revised G Modified Alternative's need to slow prior to the Grandview Interchange. Control access for safety and mobility flow improvements

#### **4.3.4. Control access for safety and mobility flow improvements**

**Finding(s):** It is our professional opinion that Alternative R3 will control access for safety and mobility flow improvement by consolidating three (3) residential and one (1) commercial driveway into a single intersection at CR 220.

**Supporting Facts:** The construction of Alternative R3 will allow for reconstruction of the CR 220 intersection. This reconstruction should include construction of a full complement of acceleration lanes and deceleration lanes. This intersection should also include a south alignment, which would allow for access to Eagle Block and three private residences. The proposed Alternative R3 intersection would consolidate access to US 550 in the area to one intersection instead of two county road access points and three private driveways.

#### **4.3.5. Geotechnical Issues**

**Finding(s):** We concur with the professional opinion of Trautner Geotech that CDOT's revision to the T Alternative, and to the Preliminary A Alternative is materially flawed, because the proposed 85' tall fill walls, are not viable. Furthermore, we agree with Mr. Trautner's assertion

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<sup>4</sup> CR 220 is a rural county road that consists mainly of farm and residential traffic.

that the proposed “R” Alternatives are economically viable and technically sound engineering solutions due to their ability to minimize the height of the proposed fill walls.

**Supporting Facts:** In the SEIS, CDOT references “challenging geotechnical issues with known subsurface water problems (springs) which create drainage and slope stability issues” as a problem common to the at-grade intersection, partial interchange and revised preliminary alternatives. See, pages 2-18, 19 and 22. CDOT does not rely upon or cite to any technical study or test results relative to subsurface water conditions in or near the existing US 550 ROW at Farmington Hill. CDOT does not specifically identify the geotechnical issues, or the “known water problems” with which it is concerned. CDOT does not describe the manner in which it has addressed and resolved similar, or more severe conditions, which it has encountered in constructing highways throughout Colorado’s mountainous areas.

At Appendix F, we have appended the Report of Trautner Geotech, LLC, dated November 22, 2011, which states that with respect to the construction of any of the alternatives in the existing US 550 ROW which CDOT evaluated, and any of the four R Alternatives presented by Russell Engineering, CDOT would not encounter any significant water and slope stability issues of greater severity than are regularly encountered throughout the mountainous areas of Colorado where highway construction already has occurred. Mr. Trautner’s years of proven experience concerning geotechnical issues in the Durango area make him a local and regional expert in the field. He is not aware of any insurmountable geotechnical issues at Farmington Hill and neither are we. If CDOT specifically identifies particular geotechnical issues, or the “known water problems” with which it is concerned, we are confident that Trautner Geotech will address them and that CDOT could resolve them based upon its past substantial experience.

#### **4.3.6. Construction Issues**

**Finding(s):** It is our professional opinion that Alternative R3 could be constructed while US 550 remains open along Farmington Hill.

**Supporting Facts:** Per the EIS and SEIS, CDOT has identified constructability issues associated with all Farmington Hill Alternatives for US 550’s connection to US 160 and

recommended \$4,400,000 for the reconstruction of CR 220 for a 2-year detour. With any highway construction there are often challenges associated with the project that need to be considered, and Alternative R3 is no exception. Alternative R3 requires the removal of roughly 0.80 million cubic yards of material from Farmington Hill for the road's re-alignment. This is a considerable amount of material that could be removed while the existing road remains in service, and may take up to a year of hauling to complete this portion of the work. Once the material is removed, the proposed northbound roadbed would largely be exposed and the contractor would have ample room to construct the proposed road section while maintaining existing traffic. Temporary detours onto newly constructed northbound lanes would allow the existing lanes to be removed, lowered, and realigned with the new roadway to create the southbound section of highway. Regardless of the previously discussed ability to construct Alternative R3 without a detour, a \$4,400,000 lump sum cost to address construction issues was added to its cost estimate, see Appendix D for details.

It should be noted that the La Plata County Traffic Impact Analysis, prepared and adopted in 1997 had identified the need to reconstruct CR 220. This could be mutually beneficial to LPC and CDOT to complete this prior to the future highway improvements.

#### **4.3.7. Impacts to Surrounding Properties**

##### **Finding(s):**

Historic Webb Ranch Impacts - Section 4(f) Property = 3.9 acres

ROW Purchase from Webb Ranch = 18.5 acres

Eagle Block- access point revised, walls or slight alignment adjustment may be required to reduce impacts; Single Family Residences on property would also experience similar impacts

Hillmeyer Residence - minimal impacts, access point revised

The excavation along the west rim of Webb Ranch will impact archaeological site 5LP2223, but we have designed the excavation to preserve four of the five structural features. We are advised by the Webb's cultural resource consultant that these structures present the most significant

aspect of this site and may warrant further study but that the artifacts on the land that is excavated properly could be subject to mitigation.

The “R” Alignments all impact an area of the Webb Ranch that has already been disturbed by the existing US 550 highway corridor and ranching operations. However, the Revised G Modified will disturb the north area of the ranch that consists of mature forests and vegetation and has seen little, if any, human disturbance and the south area of the ranch that is vital to the ranching operations. Not only will Revised G Modified have a major impact on the ranch operations, but it appears to have far greater environmental impacts. We also understand that there are a number of archeological sites located on Webb Ranch that would be impacted by Revised G Modified.

**Supporting Facts:** See Appendix B for Alternative R1 Plan View

#### **4.3.8. Cost Estimate**

**Finding(s):** The Estimated Cost for Alternative R3 is \$82,636,252.52

**Supporting Facts:** For supporting details for this estimate, See Appendix D Alternative R3 Cost Estimate. In addition, we have relied upon the Report of Trautner Geotech (Appendix F), which states that CDOT overestimated the cost of wall construction for alignments in or near the US 550 within the EIS and SEIS. Mr. Trautner states that wall costs for Farmington Hill alternatives would not vary significantly from the cost used in all alternatives except for Alternative A within the EIS and SEIS. Therefore, we have used \$85/SF (face cut) and \$115/SF (face fill) for the purposes of estimating wall costs, which is consistent with estimates used for other EIS and SEIS alternatives.



## 4.4. Alternative R4

### 4.4.1. Design Criteria

Design Speed = 45mph

Minimum Radius = 1250'

Maximum Super Elevation = 6.00%

Maximum Slope = 5.00%

Lanes = 2 Northbound, 2 Southbound (no climbing lane required)

Shoulders = 10' paved, 4' adjacent to climbing lane

Cut Slopes = 3:1 **with 30' vertical soil nail walls**

Guardrails = All fill slopes

Interchange = Hybrid Diamond Interchange at US 160 and US 550

### 4.4.2. Travel efficiency/capacity to meet current and future needs

**Finding(s):** Construction of Alternative R4 will increase travel efficiency by improving the Farmington Hill Intersection LOS; reducing the overall travel time between Farmington, Bayfield and Durango; eliminating out of direction travel; and reducing emissions. Therefore, it meets CDOT's Purpose and Need.

**Supporting Facts:** With the construction of one (1) additional southbound lane, one (1) additional northbound lane, an elevated interchange, a horizontal alignment meeting AASHTO 45mph design requirements, and reducing Farmington Hill's existing grade to 5.00%. Alternative R4 will increase the travel efficiency and capacity along the one (1) mile section of US 550 from MP 15.5 to 16.5. Based on CDOT traffic information provided in the SEIS this section of Highway will convey 615/1390vph (AM/PM) southbound and 1585/975vph (AM/PM)

northbound each day. This will allow traffic to flow at a Free Flow Speed (FFS) of 45mph for the entirety of this section of highway.

Weighted Travel Time was also calculated for each proposed alternative in order to determine the most efficient alignment for vehicular traffic between Durango, Farmington and Bayfield in the US 550 and US 160 corridors. Travel times were calculated to/from the US 160/550 Farmington Hill Intersection, the US 160 Grandview Interchange, and the US 550/CR 220 Intersection based on four scenarios. The scenarios for which travel time was calculated included Durango to Farmington, Farmington to Durango, Bayfield to Farmington, and Farmington to Bayfield. The EIS and SEIS projected traffic was then used to weight each of the four scenarios to determine a the Weighted Travel Time. For example, trips between Durango and Farmington make up 76% of the vehicle trips utilizing this intersection, so reducing the travel distance and increasing speed for trips between Durango and Farmington are critical factors for improving efficiency in travel between these destinations. The Weighted Travel Time between locations is a critical calculation to complete, as it will help a highway designer determine the amount of fuel used for each alternative, which costs the taxpayers money and increases emissions. The Weighted Travel Time can also predict whether motorists will explore other viable routes for travel between locations due to out of direction travel.

Based on the Calculations it was found that Alternative R4's Weighted Travel Time = 83.8 seconds, which is less than the Revised G Modified Alternative's 114 seconds. Based on the data the impacts including vehicle miles driven, the amount of fuel purchased and emissions released related to Alternative R4 are less than the impacts associated with Revised G Modified.

For comparison purposes:

The Travel Time between Durango and Farmington for Alternative R4 = 67 seconds

The Travel Time between Durango and Farmington for Revised G Modified = 124 seconds

It was also necessary to analyze the functionality of the Partial Diamond Interchange that is proposed as a part of each "R" alternative. Within the interchange, the only conflicting movements will be the Farmington to Durango Left Turn (1000/590, AM/PM) vs. the Bayfield to

Farmington Left Turn (240/240, AM/PM); which will require an elevated signalized intersection north of US 160. Synchro Traffic Modeling Software was used to analyze the intersection, (See Appendix C). Based on the analysis a single lane on each leg of the two-direction intersection would provide a LOS of C for 2030 traffic.

It should be noted that at the time of construction CDOT would have the ability to add an additional Farmington to Durango Lane across US 160, which will greatly improve functionality of this intersection well into the future. This cost was not included within the cost estimate because it is not a necessary cost to meet capacity per the definition of CDOT's Purpose and Need Statement.

#### **4.4.3. Safety**

**Finding(s):** It is our professional opinion that Alternative R4 will substantially improve safety for the traveling public by reducing the number and severity of crashes.

**Supporting Facts:** The Purpose and Need statement includes the necessity to improve safety for the traveling public by reducing the number and severity of crashes. In the EIS CDOT dismissed all alternatives utilizing the existing Farmington Hill Intersection based on safety concerns that were briefly discussed for one-half of one page, but not quantified within the report. It is our opinion that the safety issues with regard to all alignments that attempted to follow Farmington Hill and tie into the existing US 160/US 550 intersection, were overstated and under evaluated for the purposes of an EIS in order to make a decision with respect to each alignment's ability to meet CDOT's Purpose and Need. Therefore, in this section we will address the safety issues that are present and will be mitigated as a part of this construction project. Safety issues identified in Section 1.6.2.1 of the SEIS and Section 4.2 and 4.3 of the EIS along with any other issues Russell Planning and Engineering has identified will be discussed in further depth.

The SEIS identified wild animals as the cause of 36% of all crashes on the existing Farmington Hill Alignment (SEIS Figure 1-6b). In our experience, the combination of a reduction to the traveling speed of vehicles and the construction of deer fencing will greatly reduce the number and severity of these types of crashes. The second most common type of accident was overturning at 17% (SEIS Figure 1-6b), which will be mitigated by the construction of guardrail

and a center median consisting of median barriers. The third most common type of accident were rear end type accidents at 15% (SEIS Figure 1-6b), which will be mitigated by the construction of the proposed interchange bridge and tie into Ramp A of the Grandview Interchange, which will flatten the slope of the roadway to near zero percent for the last 500' of the alignment giving vehicles an adequate landing to slow down prior to the intersection.

Along with the three types of accidents, mentioned above, that make up 68% of all accidents, specific design improvements will be made as a part of Alternative R4 that were mentioned as being deficient by CDOT on the existing Farmington Hill section of US 550. Those issues include sharp horizontal curves, steep roadway grade, minimal paved shoulders, narrow traversable ground outside of roadway, limited guardrail along roadway, steep hillside above and below roadway, bottom toe of hillside below roadway is high, existing roadway runs primarily along the north facing slope, cobble and boulders fall onto the roadway, and driver visibility along road is limited.

#### **-Sharp Horizontal Curves**

**Finding(s):** It is our professional opinion that Alternative R4 will substantially improve US 550 safety with respect to horizontal curvature.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill currently has a minimum radius of approximately 320' and super elevation as high as 8.00%. With the construction of Alternative R4, the existing Farmington Hill Alignment would be revised to a 45mph design speed roadway. The new highway would have a minimum curve radius of 1250' with 6.00% super elevation, which meets CDOT M&S standards for a 45mph road. Where snow and ice are factors, a maximum 8.00% super elevation is recommended per AASHTO Chapter 3, Elements of Design, Horizontal Alignment, Maximum Super elevation Rates for Streets and Highways.

#### **-Steep Roadway Grade**

**Finding(s):** It is our professional opinion that Alternative R4 will substantially improve US 550 safety with respect to roadway grade.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has a vertical grade that is in excess of 6.5% in areas, which makes it difficult for trucks to maintain speed while traveling up and down the US 550 alignment in this area. The proposed grade for Alignment R4 is a 5.00% grade, which is consistent with the design grade of Revised G Modified. Based on the AASHTO Section *Climbing Lanes on Freeways and Multilane Highways*, “climbing lanes are generally not warranted on four-lane highways with directional volumes below 1,000 vehicles per hour per lane....the inconvenience with this low volume is not sufficient to justify the cost of a climbing lane.” According to CDOT, climbing lanes are generally added on grades 6.00% or greater. Therefore, a climbing lane has **NOT** been added to the US 550 southbound lanes.

#### **-Minimal Paved Shoulders**

**Finding(s):** It is our professional opinion that Alternative R4 will substantially improve US 550 safety with respect to paved shoulders.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has sections of roadway with shoulders of less than 2’ in width, which makes stopping along the alignment dangerous. Alternative R4 will have a 10’ paved shoulder on northbound lanes and a 4’ paved shoulder along southbound lanes (CDOT requirement for auxiliary lanes). The addition of the paved shoulders will allow disabled vehicles to exit the travel lanes to maintain free flowing traffic conditions. It should be noted that the Alternative R4 alignment removes much of the “nose” on Farmington Hill and there will be a roughly 1.7 acre pullout area for southbound traffic.

#### **-Narrow Traversable Ground Outside of Roadway**

**Finding(s):** It is our professional opinion that Alternative R4 will substantially improve US 550 safety with respect to traversable ground outside of the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill Roadway is benched into the hillside and has minimal areas along the roadway for vehicles to safely exit traffic, which creates an unsafe situation. With the construction of Alternative R4 in addition to the previously discussed paved shoulders, auxiliary lane (southbound), and large pullout area (southbound);

there will be a 12' (6:1) Z-Slope, which is traversable and recoverable; or an 8' (4:1) Z-Slope, which is recoverable. This will be an element of final design depending on CDOT preferences. It should also be noted that the clear zone requirements for 45 mph road with over 6000 ADT is 14-16' at 3:1 or flatter back slopes per Table 3.1 in the Roadside Design Guide. The conceptual design of Alternative R4 currently meets this requirement.

#### **-Limited Guardrail along Roadway**

**Finding(s):** It is our professional opinion that Alternative R4 will substantially improve US 550 safety with respect to guardrail along the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has limited guardrail. With the construction of Alternative R4 guardrail would be added along much of the southbound lanes (excluding the large 1.7-acre pullout area). In addition, a center median barrier is planned to prevent vehicle crossover into opposing lanes, which is the fourth most common accident on the existing road at 9% (SEIS Figure 1-6b).

#### **-Steep Hillside Above and Below the Roadway**

**Finding(s):** It is our professional opinion that Alternative R4 will substantially improve US 550 safety with respect to the hillside above and below the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has steep hillsides both above (vertical in places) and below (approx 1:1 in places) its alignment. With Alternative R4 the slope above the roadway would be revised to 3:1 slopes along with soil walls in order to provide greater solar exposure, create safer slopes with respect to boulders and cobble falling onto the road, and allow for re-vegetation of slopes. The slope below the roadway would remain the same, but safety improvements discussed previously include the addition of an auxiliary lane, a 10' paved shoulder, 1.7 acre pullout area, and the addition of guardrail.

#### **-Bottom Toe of Hillside Below Roadway is High,**

**Finding(s):** It is our professional opinion that Alternative R4 will substantially improve US 550 safety with respect to the height of the bottom toe of the hillside.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill is located on a hillside which has a toe of slope that is high. The height of the slope below the roadway would remain the same, but safety improvements discussed previously include the addition of an auxiliary lane, a 10' paved shoulder, 1.7 acre pullout area, and the addition of guardrail.

**-Existing Roadway Runs Primarily Along the North Facing Slope**

**Finding(s):** It is our professional opinion that Alternative R4 will substantially improve US 550 safety with respect to the north facing slope.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill is a west facing road for the upper section, while the bottom 2000' faces north. With the construction of Alternative R4, the solar exposure of US 550 will be improved by the laying back of the slopes to 3:1. Since US 160 in this area is in a canyon this Alternative reduces the amount of travel time for the primary traffic on US 160, which is a heavily shaded area in the winter. It should be noted that US 550 and US 160 are heavily traveled roadways in the mountainous southeastern portion of Colorado and snowplowing and maintenance to these roads is to be expected.

**-Cobble and Boulders Fall onto the Roadway**

**Finding(s):** It is our professional opinion that Alternative R4 will substantially improve US 550 safety with respect to cobble and boulders falling onto the roadway.

**Supporting Facts:** The existing US 550 alignment on Farmington Hill has steep slopes that are nearly vertical and close to the roadway that allows cobble and boulders to fall onto the roadway. Alternative R4 will lay the existing hillside above the roadway to 3:1 slopes along with soil nail walls, which will be covered with top soil and reseeded. Reconstruction of slope will allow CDOT to remove all hazards associated with the cobble and boulders entering the roadway. In addition, there are much wider shoulders and recoverable slopes below the 3:1 cut.

**-Driver Visibility Along Road is Limited**

**Finding(s):** It is our professional opinion that Alternative R4 will substantially improve US 550 safety with respect to driver visibility.



**Supporting Facts:** The existing US 550 alignment on Farmington Hill alignment has very tight curves (320') along several nearly vertical cut slopes. With the construction of Alternative R4, the minimum horizontal curve will be increased to 1250' and cut slopes will be reduced to 3:1 outside of the z-slope, which will vastly improve sight distance along the alignment.

#### **-Other Safety Considerations**

**Finding(s):** It is our professional opinion that Alternative R4 will substantially improve US 550 safety with respect to accidents at CR 220.

**Supporting Facts:** Currently the US 550 alignment on Farmington Hill has a double intersection with County Road 220 at the top of Farmington Hill. These intersections are located on a roughly 700' radius with heavy vegetation and sight distance issues. With the Construction of Alternative R4, this intersection would be improved with auxiliary lanes and the sight distance would be improved.

Both the EIS and SEIS stated that reducing traffic from 70mph to 35mph would be dangerous because it is not recommended by AASHTO. The FHWA's "Mitigation Strategies for Design Exceptions - July 2007, Chapter 3, Design Speed" offers the following discussion concerning design speed,

*"Research suggests that crash risk increases with increasing differentials in speed (Table 2). Such differentials can be between adjoining highway sections (change in 85th percentile speeds due to changes in roadway geometry) or between speeds of vehicles in the same traffic stream (such as trucks and passenger vehicles). Exhibit 3-58 in the Green Book provides information on the crash rate of trucks as a function of the speed differential of trucks to the average running speed of all traffic."*

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*“A pertinent consideration in selecting design speeds is the average trip length. The longer the trip, the greater the driver’s desire to use higher speeds. In the design of a substantial length of highway, it is desirable to select a uniform design speed. However, changes in terrain and other physical controls may dictate a change in design speed on certain sections. If so, the introduction of a lower design speed should not be done abruptly, but should be effected over sufficient distance to permit drivers to gradually change speed before reaching the highway section with the lower design speed.*

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Each of the “R” Alternatives comply with the foregoing guideline. Per AASHTO, It is recommended that in order to mitigate the risk, the speed reduction take place incrementally over a longer distance. For example, the speed reduction for Alternative R4 can and should be accomplished safely just to the south of the CR 220 intersection along the Craig Limousine Ranch. In this location there is roughly 1 mile of relative straight roadway, which when reconstructed by CDOT to widen to four (4) lanes will be an ideal location to reduce speed with respect to stopping sight distance and grade. Slowing traffic at this location would allow for slower design speeds at CR 220<sup>5</sup>, which create a safer intersection. It should also be noted that the Revised G Modified alternative will require a reduction in speed prior to the Grandview interchange for US 550 northbound traffic, which is a nearly identical situation except that is will be on a down slope and at the bottom of a 180’ cut with 3:1 side slopes.

Furthermore, speed limit changes of 15mph or greater are common just prior to entering city limits on many highways in Colorado. Southbound highway traffic just north of the Durango City limits are slowed from 55mph to a signalized intersection (35mph speed limit) within about

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<sup>5</sup> CR 220 is a rural county road that consists mainly of farm and residential traffic.

a half a mile in this location. The MUTCD specifically addresses speed limit changes in Section 2C.30. In the EIS and SEIS, CDOT did not address the negatives associated with the Revised G Modified Alternative's need to slow prior to the Grandview Interchange.

#### **4.4.4. Control access for safety and mobility flow improvements**

**Finding(s):** It is our professional opinion that Alternative R4 will control access for safety and mobility flow improvement by relocation of an existing business and 2 (two) residences along with the consolidating remaining residential driveways south of US 550 into a single intersection at CR 220.

**Supporting Facts:** The construction of Alternative R4 will allow for reconstruction of the CR 220 intersection. This reconstruction should include construction of a full complement of acceleration lanes and deceleration lanes. This intersection should also include a south alignment, which would allow for access to remaining private residences. The proposed Alternative R4 intersection would consolidate access to US 550 in the area to one intersection instead of two county road access points and three private driveways.

#### **4.4.5. Geotechnical Issues**

**Finding(s):** We concur with the professional opinion of Trautner Geotech that CDOT's revision to the T Alternative, and to the Preliminary A Alternative is materially flawed, because the proposed 85' tall fill walls, are not viable. Furthermore, we agree with Mr. Trautner's assertion that the proposed "R" Alternatives are economically viable and technically sound engineering solutions due to their ability to minimize the height of the proposed fill walls.

**Supporting Facts:** In the SEIS, CDOT references "challenging geotechnical issues with known subsurface water problems (springs) which create drainage and slope stability issues" as a problem common to the at-grade intersection, partial interchange and revised preliminary alternatives. See, pages 2-18, 19 and 22. CDOT does not rely upon or cite to any technical study or test results relative to subsurface water conditions in or near the existing US 550 ROW at Farmington Hill. CDOT does not specifically identify the geotechnical issues, or the "known water problems" with which it is concerned. CDOT does not describe the manner in which it has

addressed and resolved similar, or more severe conditions, which it has encountered in constructing highways throughout Colorado's mountainous areas.

At Appendix F, we have appended the Report of Trautner Geotech, LLC, dated November 22, 2011, which states that with respect to the construction of any of the alternatives in the existing US 550 ROW which CDOT evaluated, and any of the four R Alternatives presented by Russell Engineering, CDOT would not encounter any significant water and slope stability issues of greater severity than are regularly encountered throughout the mountainous areas of Colorado where highway construction already has occurred. Mr. Trautner's years of proven experience concerning geotechnical issues in the Durango area make him a local and regional expert in the field. He is not aware of any insurmountable geotechnical issues at Farmington Hill and neither are we. If CDOT specifically identifies particular geotechnical issues, or the "known water problems" with which it is concerned, we are confident that Trautner Geotech will address them and that CDOT could resolve them based upon its past substantial experience.

#### **4.4.6. Construction Issues**

**Finding(s):** It is our professional opinion that Alternative R4 could be constructed while US 550 remains open along Farmington Hill.

**Supporting Facts:** Per the EIS and SEIS, CDOT has identified constructability issues associated with all Farmington Hill Alternatives for US 550's connection to US 160 and recommended \$4,400,000 for the reconstruction of CR 220 for a 2-year detour. With any highway construction there are often challenges associated with the project that need to be considered, and Alternative R4 is no exception. Alternative R2 requires roughly the removal of 1.6 million cubic yards of material from Farmington Hill for the road's re-alignment. This is a considerable amount of material that could be removed while the existing road remains in service, and may take up to a year of hauling to complete this portion of the work. Once the material is removed, the proposed northbound roadbed would largely be exposed and the contractor would have ample room to construct the proposed road section while maintaining existing traffic. Temporary detours onto newly constructed northbound lanes would allow the

existing lanes to be removed, lowered, and realigned with the new roadway to create the southbound section of highway. Regardless of the previously discussed ability to construct Alternative R2 without a detour, a \$4,400,000 lump sum cost to address construction issues was added to its cost estimate, see Appendix D for details.

It should be noted that the La Plata County Traffic Impact Analysis, prepared and adopted in 1997 had identified the need to reconstruct CR 220. This could be mutually beneficial to LPC and CDOT to complete this prior to the future highway improvements.

#### **4.4.7. Impacts to Surrounding Properties**

##### **Finding(s):**

Historic Webb Ranch Impacts - Section 4(f) Property = 5.4 acres

ROW Purchase from Webb Ranch = 24.8 acres

Eagle Block - the proposed Alignment for Alternative R4 would eliminate Eagle Block from its current location. There would be a location north of the proposed US 550 alignment that it may be relocated to, but that will be a CDOT call during the design phase of this project. For the purposes of the Cost Estimate and Impacts, the assumption that Eagle Block would have to be completely relocated was assumed.

Hillmeyer Residence - the proposed Alignment for Alternative R4 would eliminate the Hillmeyer Residence from its current location. There would be a location north of the proposed US 550 alignment that it may be relocated to, but that will be a CDOT call during the design phase of this project. For the purposes of the Cost Estimate and Impacts, the assumption that the Hillmeyer residence would have to be completely relocated was assumed.

The excavation along the west rim of Webb Ranch will impact archaeological site 5LP2223, but we have designed the excavation to preserve four of the five structural features. We are advised by the Webb's cultural resource consultant that these structures present the most significant aspect of this site and may warrant further study but that the artifacts on the land that is excavated properly could be subject to mitigation.

The “R” Alignments all impact an area of the Webb Ranch that has already been disturbed by the existing US 550 highway corridor and ranching operations. However, the Revised G Modified will disturb the north area of the ranch that consists of mature forests and vegetation and has seen little, if any, human disturbance and the south area of the ranch that is vital to the ranching operations. Not only will Revised G Modified have a major impact on the ranch operations, but it appears to have far greater environmental impacts. We also understand that there are a number of archeological sites located on Webb Ranch that would be impacted by Revised G Modified.

**Supporting Facts:** See Appendix B for Alternative R4 Plan View

#### **4.4.8. Cost Estimate**

**Finding(s):** The Estimated Cost for Alternative R4 is \$101,089,558.09

**Supporting Facts:** For supporting details for this estimate, See Appendix D Alternative R4 Cost Estimate. In addition, we have relied upon the Report of Trautner Geotech (Appendix F), which states that CDOT overestimated the cost of wall construction for alignments in or near the US 550 within the EIS and SEIS. Mr. Trautner states that wall costs for Farmington Hill alternatives would not vary significantly from the cost used in all alternatives except for Alternative A within the EIS and SEIS. Therefore, we have used \$85/SF (face cut) and \$115/SF (face fill) for the purposes of estimating wall costs, which is consistent with estimates used for other EIS and SEIS alternatives.

## 4.5. Revised G Modified Alternative – CDOT preferred Alternative

### 4.5.1. Design Criteria

Design Speed = 60mph through Webb Ranch

Minimum Radius = 1820'

Maximum Super Elevation = 7.00%

Maximum Slope = 5.00%

Lanes = 2 Northbound, 2 Southbound

Shoulders = 10' paved

Cut Slopes = 3:1

Guardrails = All fill slopes and bridge decks

Interchange = Existing Grandview Interchange with Round a bout on North Side

### 4.5.2. Travel efficiency/capacity to meet current and future needs

**Finding(s):** It is our professional opinion that Revised G Modified is the least attractive alternative with respect to reducing overall travel time between Farmington, Bayfield, and Durango due to higher out of direction travel and increased emissions when compared to the “R” alternatives. Left turns onto the US 160 eastbound onramp will also fail under the proposed configuration.

**Supporting Facts:** The Revised G Modified Alternative traverses the Webb Ranch in primarily a North/South direction from its intersection with CR 220 just south of the ranch and ties into the Grandview Interchange along US 160 at roughly MP 89. The 60mph design speed of this roadway will increase the traveling speed and capacity along the one (1) mile section US 550. Based on CDOT traffic information provided in the SEIS this section of Highway will convey



615/1390vph (AM/PM) southbound and 1585/975vph (AM/PM) northbound each day. This will allow traffic to flow at a FFS of 60mph for the entirety of this section of highway.

The Weighted Travel Time was calculated for each proposed alternative in order to determine the most efficient alignment for vehicular traffic between Durango, Farmington and Bayfield in the US 550 and US 160 corridors. Travel times were calculated to/from the US 160/550 Farmington Hill Intersection, the US 160 Grandview Interchange, and the US 550/CR 220 Intersection based on four scenarios. The scenarios for which travel time was calculated included Durango to Farmington, Farmington to Durango, Bayfield to Farmington, and Farmington to Bayfield. The EIS and SEIS projected traffic was then used to weight each of the four scenarios to determine the Weighted Travel Time. For example, trips between Durango and Farmington make up 76% of the vehicle trips utilizing this intersection, so reducing the travel distance and increasing speed for trips between Durango and Farmington are critical factors for improving efficiency in travel between these destinations. The Weighted Travel Time between locations is a critical calculation to complete, as it will help a highway designer determine the amount of fuel used for each alternative, which costs the taxpayers money and increases emissions. The Weighted Travel Time can also predict whether motorists will explore other viable routes for travel between locations due to out of direction travel.

Based on the Calculations it was found that Revised G Modified Alternative's Weighted Travel Time = 114 seconds, which is 10% to 25% more than each of the "R" alternatives is. Based on the data the impacts including vehicle miles driven, the amount of fuel purchased and emissions released related to Revised G Modified are greater than the impacts associated with any of the "R" alternatives. The larger Weighted Travel Time for Revised G Modified can be directly attributed to the alternative's roughly one (1) mile out of direction travel requirement for 76% of traffic due to the location of the Grandview Interchange.

The functionality of the existing Grandview Interchange that is a part of the Revised G Modified alternative was also analyzed. As currently designed the Grandview interchange will have a left turn pocket for Grandview traffic to travel to Bayfield, which will require crossing northbound US 550 traffic prior to the "High Bridge" over US 160. This turn is currently proposed as an unsignalized movement (110/170) AM/PM across two (2) lanes of traffic moving at 60mph on a

5.00% down grade (1075/665) AM/PM. Based on Synchro Traffic Modeling Software the left turn movements will have an average delay of 47.2 seconds (LOS E for an un-signalized intersection). It is our opinion that that the left turn volumes are understated at this location based on the amount of developable land north of the US 160. Therefore, the LOS for this turn movement will degrade further than the LOS E per the EIS and SEIS traffic calculations.

#### **4.5.3. Improve safety**

**Finding(s):** It is our professional opinion that Revised G Modified has understated several safety issues that will likely increase the number and severity of accidents within the US 550 corridor south of US 160.

**Supporting Facts:** Drivers operating left turning vehicles (southbound US 550 to eastbound US 160 on ramp) who experience large delays will often adjust their “Gap Acceptance” at intersections, which is, to decrease the distance between cars that they find “acceptable” to complete their desired maneuver. In this situation, drivers take greater chance when turning left to cross oncoming US 550 northbound traffic (traveling 60mph). Drivers with less than average response time (elderly and young drivers) would potentially find this maneuver extremely difficult and present the potential for a greater number of accidents.

Based on these facts a solution to mitigate this situation is required, otherwise the rate and severity of accidents at this location would both likely be higher than normal. Potential solutions to the situation are as follows:

- Signalization of this movement
- Construction of a grade separated ramp
- Prohibit left turns at this location

Signalization of this movement would require the installation of a traffic signal to stop US 550 northbound traffic just south of US 160 to allow left turns onto the US 160 eastbound on ramp. This would likely cost several hundred thousand dollars to construct the signal. This option would require traffic that is traveling 60mph down a 5.00% grade to come to a stop, which per

the original EIS and SEIS is an unsafe condition due to the large difference in speed of flowing traffic. In order to mitigate the stopping condition the US 550 northbound traffic would have to be slowed prior to the intersection to a reasonable stopping speed. Slowing of the US 550 northbound traffic would eliminate much of the benefit of the 60mph design speed and further increase the weighted travel time of US 550 traffic, which is already longer than all of the proposed alignments along Farmington Hill<sup>6</sup>.

Construction of a grade-separated ramp would require a second cloverleaf structure in the SW quadrant of the Grandview Interchange. We have not designed this option, but it is our opinion that this construction of this alternative would cost at least \$3 million based on the amount excavation, retaining walls, and modifications to the existing bridge abutments that would be required.

Prohibiting left turns at this location would eliminate one of the primary movements from the Grandview Interchange and reduce its functionality. This alternative would be a no cost item, but dangerous U-turns further south on US 550 would increase and the previously constructed Grandview “High Bridge” would be 12’ too wide as a result.

In addition to the left turn conflicts at the on ramp prior to the “High Bridge” at the Grandview interchange (which would now be composed of two separate spans to accommodate four lanes of traffic), the bridges will be susceptible to “icing” due to the tendency for bridges to freeze before the surrounding pavement on grade. For northbound traffic, the bridge is on a 3.00% down slope ahead of an intersection (round a bout). The freezing phenomenon will likely eliminate any alleged solar exposure gains that are achieved by its location. To mitigate this condition additional snow plowing and magnesium chloride would be recommended on all bridges in the area. This alternative will also require significant deer fencing to eliminate conflicts with the large number of animals native to the area.

In addition, due to the high speed at the CR 220 intersection, it is likely that accidents at this location will be greater in severity than the “R” alternatives. In the future should properties

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<sup>6</sup> Revised Modified G would potentially suffer from comparable safety and traffic capacity concerns that lead to CDOT’s current examination of the existing Farmington Hill intersection including the need for signalization at the new interchange.

along CR 220 develop to a high enough density a traffic signal may be warranted at the US 550 and CR 220 intersection.

#### **4.5.4. Control access for safety and mobility flow improvements**

**Finding(s):** It is our professional opinion that Revised G Modified offers the same benefits as “R” alternatives with respect to control of access for safety and mobility flow improvements.

**Supporting Facts:** The construction of Revised G Modified will allow for reconstruction of the CR 220 intersection. This reconstruction should include construction of a full compliment of acceleration lanes and deceleration lanes. This intersection should also include a south alignment, which would allow for access to Eagle Block and two private residences. The proposed CR 220 intersection would consolidate access to US 550 in the area to one intersection instead of two county road access points and three private driveways.

#### **4.5.5. Construction Issues**

**Finding(s):** It is our professional opinion that construction of Revised G Modified will disrupt historic ranching operations on Webb Ranch.

**Supporting Facts:** The construction of the Revised G Modified Alternative will occur primarily on the Webb Ranch through a working ranch. Based on the existing irrigation patterns in the area there is the possibility that during the excavation of the 1.6 million cubic yards of material that ground water and irrigation wastewater may be present and require dewatering of the area for excavation and road construction. No detours are anticipated for the US 550 portion of this construction.

#### **4.5.6. Impacts to Surrounding Properties**

**Finding(s):**

Historic Webb Ranch Impacts - Section 4(f) Property = 46 acres, according to CDOT

ROW Purchase from Webb Ranch = 46 acres, according to CDOT

Eagle Block - access point revised

Hillmeyer Residence- minimal impacts, access point revised

**Supporting Facts:** See Appendix SEIS and EIS for Revised G Modified Plan View

#### **4.5.7. Cost Estimate**

**Finding(s):** Based upon information presently available, the Estimated Cost for Revised G Modified is \$87,328,398.75

**Supporting Facts:** For supporting details for this estimate, see Appendix D Alternative Revised G Modified Estimated.

We note here that in the EIS and SEIS, CDOT omitted or underestimated several significant cost items for Revised G Modified. We also note that CDOT has not revised or update its cost estimates since June 2010, which was 16 months prior to the circulations of the draft SEIS.

Additional costs for Revised G Modified properly should include the following:

- Signalization for the left turns onto US 160 east on ramp (\$200,000 line item added)
- The bridge cost for Webb Ranch Alignment appears to have been underestimated for the size and scope of the necessary bridges. The square footage of the bridges were increased to 52,800SF, which is 600 linear feet of parallel 44' wide bridges for a line item cost of \$8,976,000. It is our professional opinion that in order to provide adequate passage for wildlife in this area the bridges along each ravine will be required. This number will vary based on the final design, but this is not an insignificant cost and should not be minimized.
- Additional bridge construction or widening may be required for Ramp C based on growth of Three Springs and parcels adjacent to the Grandview Interchange (not quantified in this Report).

- Additional lanes may be required for the Roundabout based on growth of Three Springs and parcels adjacent to the Grandview Interchange (not quantified in this Report).<sup>7</sup>
- Gravel Royalties to be paid to Webb Ranch were not included in the estimate (not quantified in the Report).
- The alignment will leave a large remnant tract of land west of the highway that will be virtually unusable by the Webb Ranch (not quantified in this Report).
- MS4 and Environmental mitigation item was only 2.00% for Revised G Modified, but this alternative would require significantly more mitigation than Farmington Hill Alignments. (percentage has been changed to 4.00% to reflect the more significant relative impact of Revised G Modified).

We note that CDOT has reserved only \$966,000 for ROW acquisition costs associated with Revised G Modified across the Webb Ranch. Appendix F, Revised G Modified Preliminary Engineering Estimate, last revised 6/2/10. In our estimates of the costs of Revised G Modified and each of the R Alternatives, we have confined our analysis to construction costs and excluded property acquisition costs and expenses. It is beyond the scope of our Report to weigh CDOT's contention that the value of the taking should be based upon the present agricultural use of Webb Ranch instead of its theoretical "highest and best" use, including simultaneous and/or sequential residential and commercial uses (such as gravel mining, solar power generation and/or development). We observe, however, that the property acquisition costs and expenses associated with Revised G Modified may be significantly higher than any of the "R" Alternatives subject to the nature and extent of the property actually taken and the remainder damages to the Ranch.

Based upon the above information, in our professional opinion it is appropriate to increase CDOT's Construction Cost Estimate for Revised G Modified by \$9,730,073.54, for a total cost of \$87,328,398.75 exclusive of property acquisition costs and expenses.

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<sup>7</sup> CDOT has stated that the cost for capacity improvements to the interchange will be funded by private developers based on traffic their projected traffic volumes. This may negatively impact growth in future for projects taking access at this location if US 550 traffic is present.

## 5. SUMMARY OF COMPARISONS OF THE ALTERNATIVES

In this section we provide a direct comparison of the five alternatives addressed in this Report based upon the factors with CDOT utilized in the EIS and SEIS.

### 5.1 Increase Travel efficiency/capacity to meet current and future needs

**Finding(s):** It is our professional opinion that Revised G Modified is the least efficient alternative with respect to travel efficiency that was analyzed as a part of this report. Revised G Modified, as currently designed, will have left turns functioning at a LOS E, which does not meet CDOT's Purpose and Need.

**Supporting Facts:** Weighted Travel Time, based on the 2030 projected traffic volumes, the design speed, and length of each alternative the percentage of traffic using each route was calculated to determine the amount of time that an average vehicle trip would take between the following locations.

- US 550 at CR 220 Intersection
- US 160 at US 550 (Farmington Hill Intersection)
- US 160 at Grandview Interchange (US 160 westbound off ramp)

Based on our calculations the following Weighted Travel Time was found for each alternative and is shown in Table 1.

Based on the calculations the Revised G Modified alternative has the longest weighted travel time even though it has the highest design speed. This can be directly attributed to the fact that Revised G Modified adds roughly one extra mile of out of direction travel distance to the Farmington/Durango and Durango/Farmington route. This extra distance for the majority of the vehicle traffic (76%) on the Revised G Modified alternative outweighs any benefits that would be obtained from the increased design speed.



- LOS Issues, Synchro Traffic Simulation software was run to determine the LOS for each interchange to identify any issues that may arise in the future. Based on the Synchro analysis the following LOS issues were identified at each interchange.

Alternative R1 = LOS of C at Interchange, additional width could be added to bridge to allow for double left turns onto US 160 west bound. (Farmington to Durango)

Alternative R2 = LOS of C at Interchange, additional width could be added to bridge to allow for double left turns onto US 160 west bound. (Farmington to Durango)

Alternative R3 = LOS of C at Interchange, additional width could be added to bridge to allow for double left turns onto US 160 west bound. (Farmington to Durango)

Alternative R4 = LOS of C at Interchange, additional width could be added to bridge to allow for double left turns onto US 160 west bound. (Farmington to Durango)

Revised G Modified = LOS of E for left turns onto US 160 east bound. (Grandview to Bayfield)  
 The three (3) solutions for this issue include signalization of this movement, construction of a grade separate ramp and prohibiting left turns at this location. Each solution was discussed previously in the Revised G Modified section of the report. See Table 1 for details.

**Table 1 - Alternative Comparison Table**

	<b>Increase travel efficiency/capacity to meet current and future needs.</b>	
Alternative	Weighted Travel Time	LOS Issues
<b>Alternative R1</b>	102.8 seconds	LOS C at Interchange
<b>Alternative R2</b>	83.8 seconds	LOS C at Interchange
<b>Alternative R3</b>	102.8 seconds	LOS C at Interchange
<b>Alternative R4</b>	83.8 seconds	LOS C at Interchange
<b>Revised G Modified</b>	114.0 seconds	LOS E left turns to Bayfield

## 5.2 Improve safety for the traveling public by reducing the number and severity of crashes

**Finding(s):** It is our professional opinion that all “R” alternatives meet CDOT’s Purpose and Need for improving safety. The Revised G Modified Alternative’s current design will create several areas where the number and severity of crashes might be expected to increase due to higher traveling speeds.

**Supporting Facts:** Each “R” alternative offers similar design features to address the safety issues that currently exist on the outdated Farmington Hill Alignment. All proposed alternatives widen the roadway, increase the number of lanes, offer paved shoulders, increase the curve radii, reduce the vertical grade, increase solar exposure by laying back slopes, add guardrail, and limit access points. See Table 2 for details.

Improve safety for the traveling public by reducing the number and severity of crashes											
Alternative	Sharp Horizontal Curves <sup>1</sup>	Steep Roadway Grade <sup>1</sup>	Minimal Paved Shoulders <sup>1</sup>	Narrow Traversable Ground Outside Roadway <sup>1</sup>	Limited Guardrail Along Roadway <sup>1</sup>	Steep Hillside Above and Below the Roadway <sup>1</sup>	Bottom Toe of Hillside Below Roadway is High <sup>1</sup>	Existing roadway runs Primarily Along the North Facing Slope <sup>1</sup>	Cobble and Boulders Fall onto the Roadway <sup>1</sup>	Driver Visibility Along Roadway is Limited <sup>1</sup>	Other Safety Considerations
<b>Alternative R1</b>	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
<b>Alternative R2</b>	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
<b>Alternative R3</b>	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
<b>Alternative R4</b>	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
<b>Revised G Modified</b>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Issues Identified

<sup>1</sup>Yes means that alternative addresses this concern discussed by CDOT in EIS and SEIS

## 5.3 Control access for safety and mobility flow improvements

**Finding(s):** It is our professional opinion that Revised G Modified and the “R” Alternatives offer the same benefits with respect to control of access for safety and mobility flow improvements.

## **Supporting Facts:**

Alternative 1, Eagle Block and the private residences' access points south of US 550 will be consolidated along with CR 220 using a single at grade intersection with US 550 with full auxiliary lanes.

Alternative 2, Eagle Block and the Hillmeyer residence will be relocated and the other private residences' access points south of US 550 will be consolidated along with CR 220 using a single at grade intersection with US 550 with full auxiliary lanes.

Alternative 3, Eagle Block and the private residences' access points south of US 550 will be consolidated along with CR 220 using a single at grade intersection with US 550 with full auxiliary lanes.

Alternative 4, Eagle Block and the Hillmeyer residence will be relocated and the other private residences' access points south of US 550 will be consolidated along with CR 220 using a single at grade intersection with US 550 with full auxiliary lanes.

Revised G Modified, Eagle Block and the private residences' access points south of US 550 will be consolidated along with CR 220 using a single at grade intersection with US 550 with full auxiliary lanes.

**Table 3 - Alternative Comparison Table**

	<b>Control access for safety and mobility flow improvements</b>
Alternative	Reduction in the number of access points
<b>Alternative R1</b>	Yes, Eagle Block and Private Residences combined
<b>Alternative R2</b>	Yes, Eagle Block and Private Residences combined
<b>Alternative R3</b>	Yes, Eagle Block and Private Residences combined
<b>Alternative R4</b>	Yes, Eagle Block and Private Residences combined
<b>Revised G Modified</b>	Yes, Eagle Block and Private Residences combined

#### 5.4 Magnitude of Harm to Historic Properties

**Finding(s):** It is our professional opinion that based upon an objective measure of acreage, Alternatives R3 and R4 would each impose 10% or less of the impact that Revised G Modified would impose on the historic portion of Webb Ranch. Alternative R1 and R2 impose 50% or less of the impact. Alternatives R1 and R3 are also able to substantially avoid the scatter field located on the Foster Property, while Alternatives R2 and R4 will significantly impact this archeological site. Alternatives R3 and R4 significantly reduce the impacts to the 5LP 2223 archeological site located on the western edge of Webb Ranch.

#### Supporting Facts:

**Webb Ranch Impacts,** The existing portion of the Webb Ranch on top of Florida Mesa is designated NRHP-eligible and thus is protected by Section 4(f). Based on the amount of land needed to construct each alternative, the G Modified alternative clearly impacts the historic ranch far more than any other alternative proposed.

Alternative R1, 9.3 acres

Alternative R2, 13.2 acres

Alternative R3, 3.9 acres

Alternative R4, 5.4 acres

Revised G Modified, 46 acres

**Other Property Impacts,** Along with Webb Ranch there are several properties that are in the potentially in the path of any US 550 expansion. The primarily properties at risk are Eagle Block and the Hillmeyer private residence. Based on the design requirements of the various alternatives submitted it appears that these properties will be impacted with all the designs, but Alternative 2 and Alternative 4 with their 45mph design speed roughly following the Farmington Hill alignment eliminate the chance for the business and residence to remain in their current location.

Alternative R1, Eagle Block and Hillmeyer impacts, access revision, but they may remain in current location with customary final design modifications.

Alternative R2, Eagle Block and Hillmeyer relocation necessary.

Alternative R3, Eagle Block and Hillmeyer impacts, access revision, but they may remain in current location with customary final design modifications.

Alternative R4, Eagle Block and Hillmeyer relocation necessary.

Revised G Modified, Addresses all of CDOT's Safety Issues, Eagle Block and Hillmeyer access revision

## **Direct Impacts to Cultural Resources**

### **Sites Located on Webb Ranch (5LP 2223 & SEAS 08-108-7)**

Alternative R1, 5.44 acres with 1 of 5 sites impacted

Alternative R2, 8.73 acres with 1 of 5 sites impacted

Alternative R3, 0.98 acres with 0 of 5 sites impacted

Alternative R4, 2.81 acres with 0 of 5 sites impacted

### **Sites Located on Foster Property (5LP 6670)**

Alternative R1, scatter field not impacted, sweat lodge not impacted

Alternative R2, scatter field impacted, sweat lodge not impacted

Alternative R3, scatter field not impacted, sweat lodge not impacted

Alternative R4, scatter field impacted, sweat lodge not impacted

## **5.5 Cost**

Alternative R1 = \$72,517,584.72

Alternative R2 = \$91,575,876.22

Alternative R3 = \$82,636,252.52

Alternative R4 = \$101,089,558.09

Revised G Modified = \$87,328,398.75

See Table 4 for details.

**Table 4 - Alternative Comparison Table**

Alternative	Other Factors			
	Historic Webb Ranch Impacts	ROW purchase from Webb <sup>1</sup>	Other Property Impacts	Cost
<b>Alternative R1</b>	9.3 acres	26.9 acres	Eagle Block Access Revision	\$ 72,517,584.72
<b>Alternative R2</b>	13.2 acres	31.4 acres	Eagle Block and Hillmeyer Residence Eliminated/Relocated	\$ 91,575,876.22
<b>Alternative R3</b>	3.9 acres	18.5 acres	Eagle Block Access Revision	\$ 82,636,252.52
<b>Alternative R4</b>	5.4 acres	24.8 acres	Eagle Block and Hillmeyer Residence Eliminated/Relocated	\$ 101,089,558.09
<b>Revised G Modified</b>	46 acres	46 acres	Frontage Road Construction for Private Access Revision	\$ 87,328,398.75

<sup>1</sup> ROW purchase acreage is for comparative purposes only and not for purposes of condemnation or other legal reliance.

See Appendix E for comprehensive Alternative Comparison Table



## 6. SUMMARY AND CONCLUSIONS

It is our conclusion that all four (4) “R” Alternatives utilizing the existing ROW and generally following the current alignment on Farmington Hill: (a) are technically and economically feasible and prudent, (b) meet CDOT’s Purpose and Need and (c) reasonably minimize harm to the historic Webb Ranch with minimal impact to archaeological site on the Foster property south of CR 220. As to economic feasibility and prudence, we note that the construction costs for Alternatives R1 and R3 are 17% and 6%, *less*, respectively, than the construction cost for Revised G Modified and the cost of Alternatives R2 and R4 are only 4 and 15% more, respectively. These costs are well within CDOT’s selected criterion that an alternative that avoids or minimizes harm to Section 4(f) properties should not exceed by more than 100% the cost of a preferred alternative. Based on the findings presented in this Report, it is our professional opinion that within the Supplemental EIS process CDOT and the FHWA should advance each of the four the R Alternatives for further development and evaluation and that CDOT ultimately should select one of them as the preferred alignment in lieu of the presently selected Revised G Modified. As a professional engineering firm, we are confident that the conceptual designs for the R Alternatives proffered in this Report can be developed, improved, enhanced and refined to meet the purpose and need of the Community and the purpose and need that CDOT has articulated in its draft SEIS. We stand ready to assist, support and collaborate with CDOT in the further development of the alternatives that we have proposed with this Report.

## **APPENDIX A – Statement of Qualifications**

Exhibit 1 – Consultant Expertise  
Exhibit 2 – Mike Russell Resume  
Exhibit 3 – Steve Winters Resume



## **A. CONSULTANT EXPERTISE**

Russell Planning and Engineering, Inc. (RPE) is a locally owned small business incorporated in 2001 with just 3 employees. Through customer service, communication, and innovation our company has grown to a total of 18 employees, including 11 licensed professional engineers and one AICP certified professional planner.

We seek to build relationships with our clients that last for years. By being responsive to your needs, we hope to earn the trust necessary to build a relationship from one project to the next.



Examples of Current Clients with long-term relationships with RPE include:

- **Durango Mountain Resort**
- **Glacier Club at Tamarron**
- **Edgemont Highlands**
- **Three Springs Neighborhood**
- **La Plata County Road and Bridge**
- **City of Durango Public Works**
- **Ouray County Government**
- **Taos Ski Valley**

### **1. Road and Intersection Design Capability**

Over the past 10 years RPE has successfully coordinated with La Plata County and CDOT Region 5 staff on the design of highway improvements (to CDOT and AASHTO standards) to 25 sections of highway in the Four Corners Area. RPE's related projects (grouped by the lead reviewing agency) are listed below. These experiences have led to a collaborative approach between RPE and local agency staff (see the letters of recommendation attached in Appendix A). By listening to County and property owner concerns and sharing ideas from our past experiences,



We provide construction administration services for most of our projects. This hands-on experience gives you cost effective, sustainable designs.

### **La Plata County Highway Improvements Projects**

- Oxford Intersection Design, SH 172/CR 311/CR 513
- Three Springs, CR 234/CR 235
- Indian Shadow Subdivision, CR 124
- Los Quatros Vientos Subdivision, CR 318
- Edgemont Highlands, CR 240
- CR 240/CR 234
- Legacy Ranch, CR 301/220
- River Valley Estates Subdivision, CR 222
- Weeminuche Gravel Pit, CR 213
- Trimble Crossing Development, CR 252
- Glacier Club Resort, CR 200

### **CDOT Region 5 Highway Improvements**

- Mercury Village Commercial Subdivision, US 160/550 – Durango, CO
- River's Gate Mixed Use Subdivision, US 160/SH 84 – Archuleta County, CO
- Bank of the San Juans Satellite Office (Grandview), US 160– Durango, CO
- Weeminuche Gravel Pit, US 160/US 550 – La Plata County, CO
- North Animas Village Development, US 550 – Durango, CO
- Trimble Crossing Development, US 550/CR 252 – La Plata County, CO
- Aspen Village Development, US 160 – Pagosa Springs, CO
- Ludington Meadows Subdivision, US 160 – La Plata County, CO
- Vista Montana Subdivision, SH 172 – La Plata County, CO
- River Valley Estates Subdivision, SH 172 – La Plata County, CO
- Church of the Nazarene, SH 172 – La Plata County, CO
- Alpine Ridge, US 550 – La Plata County, CO
- Glacier Club Resort, US 550/CR 200 – La Plata County, CO
- Toman Commercial Property, US 160/SH 145 – Cortez, CO



In 2008-2009, RPE designed the ½ mile section of CR 234 near CR 235.

**MICHAEL K. RUSSELL, PE**  
Principal, Russell Planning & Engineering, Inc.



Mike started Russell Planning and Engineering, Inc. in 2001 and has over 27 years experience in civil engineering and project management. Spending much of his career in public sector, he understands public process and tools for successful entitlement and public process. He served as County Engineer for La Plata County, Colorado where he was in charge of all land development engineering reviews and all road and bridge improvement projects, including several phases of CR 240 reconstruction. As a private consultant, he has planned, designed, and reviewed construction on a multitude of projects, including the City of Durango downtown streetscape project, numerous highway improvement projects, new phases at Durango Mountain Resort Ski Area, and numerous traffic impact studies.

**EDUCATION**

BSCE 1982 Univ. of Colorado

**LICENSURE**

Professional Engineer  
Colorado  
New Mexico

**PROFESSIONAL AFFILIATIONS**

President SW Chapter  
of the American Society  
of Civil Engineers

**AWARDS**

Project of the Year  
Award" from the  
American Public Works  
Association for the CR  
522a Bridge  
Rehabilitation and  
Reconstruction.

Program of the Year  
Award" from the  
American Public Works  
Association, for the La  
Plata County  
Comprehensive Traffic  
Study.

**RUSSELL PLANNING & ENGINEERING, INC. – Durango, CO**

*Principal*

- Principal in charge of preparation of feasibility studies, road design, drainage design, and water and sewer system design for residential and commercial projects.
- Provided consulting services to La Plata County, Ouray County, and the Town of Bayfield for various development projects. Provided plan checks and general consultation engineering aspects of new projects.
- Coordinate with local government agencies for approvals on various private and public projects throughout the region.

**LA PLATA COUNTY – Durango, CO**

*County Engineer/Planning Engineer*

- Project manager representing County for numerous highway improvement projects and access management plans.
- Responsible for all engineering projects within the county, including planning, design, and construction of roads, bridges, drainage improvements, and landfills.
- Reviewed development plans for all projects in the county.
- Managed annual budgets between \$5-9 million per year.
- Responsible for permitting all work in the Public Right of Way including utilities, irrigation, drainage, traffic control, speed limits, and signage.

**CITY OF LONGMONT, CO - Water/Wastewater Utilities**

*Civil Engineer II/III*

- Project manager for water and sewer pipeline construction/rehabilitation projects, including development of new construction standards.
- Manager for a \$1.2 million renovation of water reservoirs. Work was completed during the winter on schedule and on budget, with the use of helicopters to aid construction.
- Performed all reviews of water and sewer systems for new development. Developed Treated Water Master Plan, used computer modeling to analyze both water and sewer systems, and developed annual budgets.

**STEVE WINTERS, P.E.**

Project Engineer, Russell Planning & Engineering, Inc.

Steve has 7 years of local engineering experience with Russell Planning & Engineering. His civil engineering experience includes highway, utility, and drainage design, along with construction inspection, construction administration, project management, and site planning. During his time with Russell Planning & Engineering, he has worked on both public and private contracts including residential, mixed-use, commercial, and existing infrastructure rehabilitation projects.

**Selected Experience**

• **Aspen Village, Town of Pagosa Springs (2003 - Present)**

Design/Project Engineer: Aspen Village is a Planned Unit Development that accesses US 160 via three intersections including Alpha Drive, Aspen Village Drive, and Boulder Drive. The project is approximately 76 acres of multiuse development that includes both commercial and residential uses on the site. Design completed as a part of the development included intersection improvements along US 160 to all access roads, underground utilities, site grading, onsite roads, detention ponds and regional trails.

• **Mountain Trace, Durango (2005 - Present)**

Design/Project Engineer: Mountain Trace is a 78 unit multi-family development that sits on 9.3 acres of land. Russell Planning & Engineering performed the following professional services for the project: completion of a traffic study, a drainage study, road design, sewer design, water, design, drainage design, over lot grading of the project, construction storm water management permitting and design, and construction trouble-shooting.

• **Oxford Intersections (Re-design), La Plata County (2008 - Present)**

Design/Project Engineer: The Oxford Intersections (Re-design) is a La Plata County project to improve the intersection of State Highway 172 and County Roads 311 and 513 near Oxford, CO. Russell Planning & Engineering has been retained by La Plata County to re-design the highway and county roads in order to meet the needs of both the county and CDOT.

• **Trimble Crossing, La Plata County (2003 - Present)**

Design/Project Engineer: Trimble Crossing is a 21 acre mixed use development that is located north of Durango. As a part of the project, Russell Planning & Engineering has assisted the owner overcome such challenges as: US 550 improvements that required approval from multiple agencies, designing the site’s grading to lift the project out of the Animas River flood plain, as well as dealing with drainage challenges because of the site’s topography.

**EXPERIENCE**

**RUSSELL PLANNING & ENGINEERING, INC – Durango, CO (2003 - Present)**

Design Engineer/Project Engineer

- Project engineer for numerous public and private projects.
- Supervised design of various streetscape projects including 8 blocks of downtown Ridgway, CO and Main Avenue sidewalk replacement in Durango.

**CITY OF URBANDALE – Urbandale, IA (2000-2001)**

Engineering Intern

- Inspected Asphalt, Concrete, and Storm Sewer Construction Projects for City
- Global Positioning Survey of the City’s storm and sanitary sewer
- Assisted with the construction of the City’s GIS database for storm and sanitary sewer
- Performed Traffic Counts and Studies



**EDUCATION**

B.S. in Civil Engineering,  
Minor in Economics 2003  
Iowa State University,

**LICENSURE**

Professional Engineer  
Colorado

**PROFESSIONAL AFFILIATIONS**

ASCE Member

**HONORS**

Member of Chi Epsilon  
“Civil Engineering Honor Society”

ISU Dean’s List

Recipient of Fred K.  
Beatty Scholarship



## **APPENDIX B - Drawings and Exhibits**

Exhibit 1 – Alternative R1 Plan View

Exhibit 2 – Alternative R2 Plan View

Exhibit 3 – Alternative R3 Plan View

Exhibit 4 – Alternative R4 Plan View

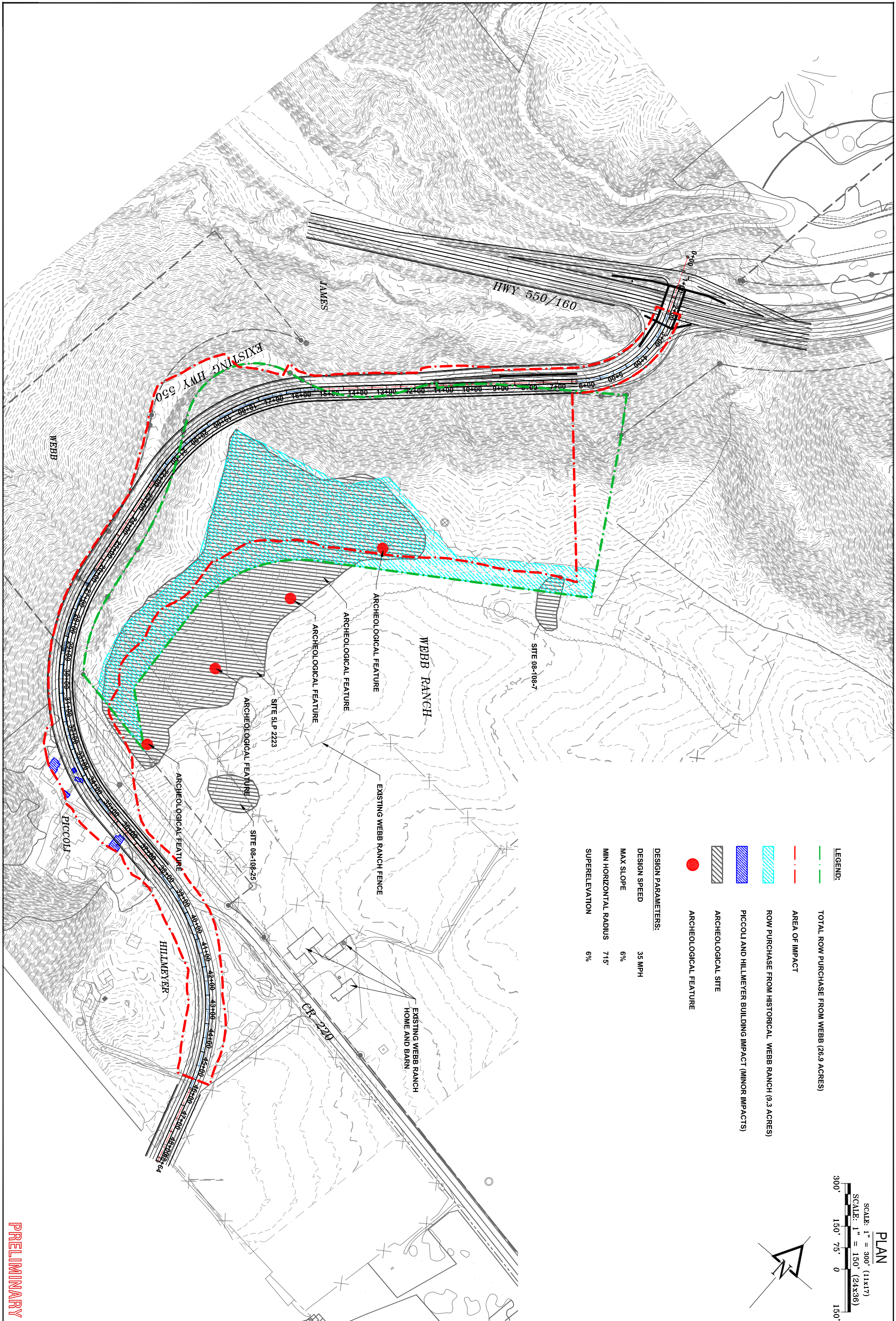
Exhibit 5 – Partial Diamond Interchange Plan View

PP-1 to PP-7 – Alternative R1 and R3 Plan and Profiles

PP-8 to PP-15 – Alternative R2 and R4 Plan and Profiles







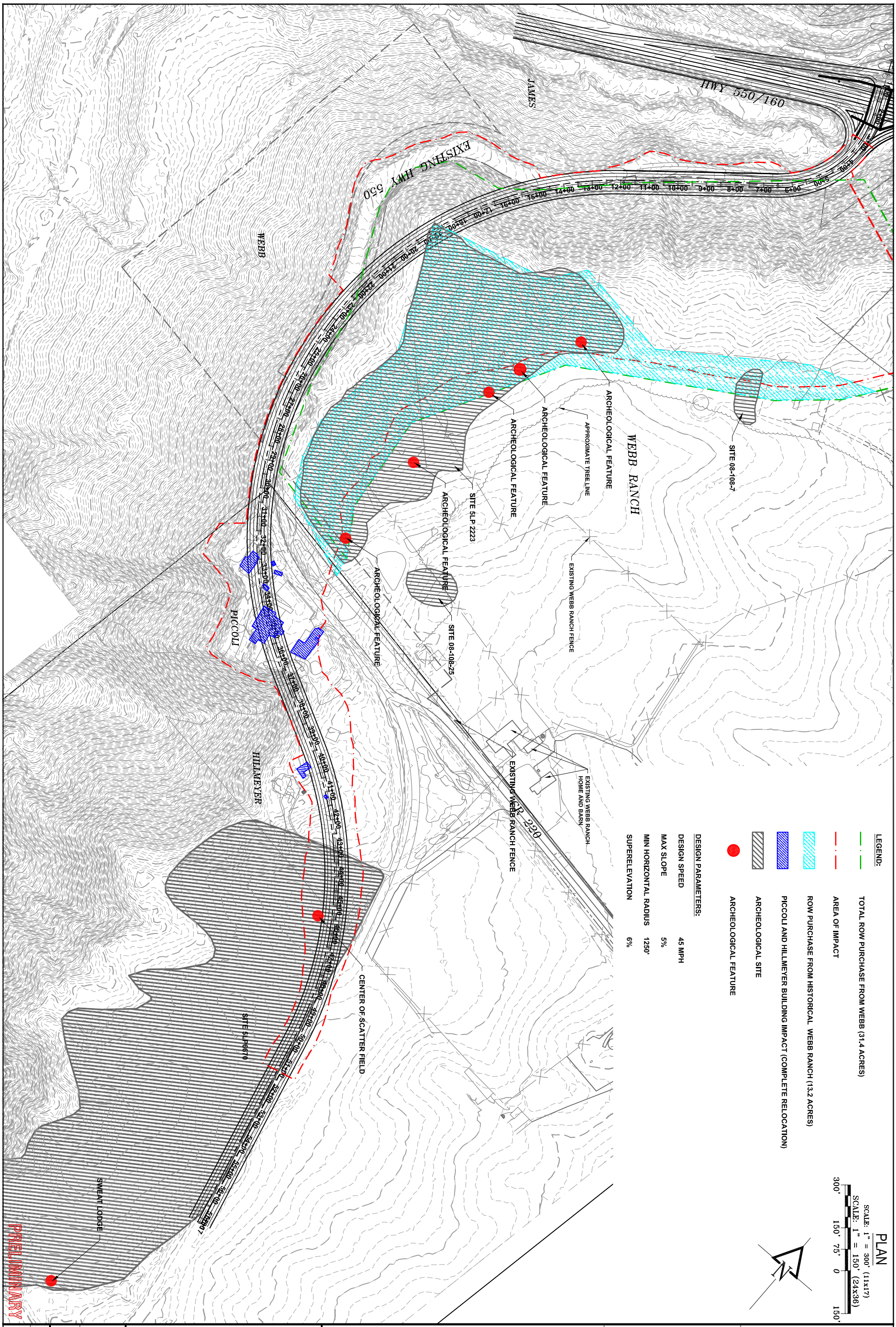
**PLAN**  
 SCALE: 1" = 300' (11x17)  
 SCALE: 1" = 150' (24x36)  
 300' 150' 75' 0 150'

- LEGEND:**
- TOTAL ROW PURCHASE FROM WEBB (26.9 ACRES)
  - - - AREA OF IMPACT
  - ▨ ROW PURCHASE FROM HISTORICAL WEBB RANCH (9.3 ACRES)
  - ▨ PICCOLI AND HILLMEYER BUILDING IMPACT (MINOR IMPACTS)
  - ▨ ARCHAEOLOGICAL SITE
  - ARCHAEOLOGICAL FEATURE
- DESIGN PARAMETERS:**
- DESIGN SPEED 35 MPH
  - MAX SLOPE 6%
  - MIN HORIZONTAL RADIUS 715'
  - SUPERELEVATION 6%

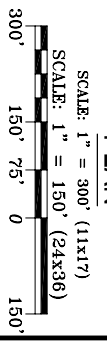
PRELIMINARY

<p><b>R1</b> 1 OF 1</p>	<p>Date of Submittal 11/28/2011</p>	<p>Drawn: KF Drafted: TM Checked: SW</p>	<p><b>Russell Planning &amp; Engineering, Inc.</b>        Civil Engineering Services        934 Main Avenue, Unit C        Durango, Colorado 81301        Phone: (970) 385-4546        Fax: (970) 385-4502</p>	<p><b>WEBB RANCH        FARMINGTON HILL        ALTERNATIVE R1</b></p>	<p>REVISIONS:</p>	<p><b>CALL UNCC        TWO WORKING DAYS        BEFORE YOU DIG        1-800-922-1987        UTILITY NOTIFICATION        CENTER OF COLORADO</b></p>
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**PLAN**



- LEGEND:**
- TOTAL ROW PURCHASE FROM WEBB (31.4 ACRES)
  - AREA OF IMPACT
  - ROW PURCHASE FROM HISTORICAL WEBB RANCH (13.2 ACRES)
  - PICCOLI AND HILLMEYER BUILDING IMPACT (COMPLETE RELOCATION)
  - ▨ ARCHEOLOGICAL SITE
  - ARCHEOLOGICAL FEATURE
- DESIGN PARAMETERS:**
- |                       |        |
|-----------------------|--------|
| DESIGN SPEED          | 45 MPH |
| MAX SLOPE             | 5%     |
| MIN HORIZONTAL RADIUS | 1250'  |
| SUPERELEVATION        | 6%     |

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**WEBB RANCH  
FARMINGTON HILL  
ALTERNATIVE R2**

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Civil Engineering Services  
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Phone: (970) 385-4546  
Fax: (970) 385-4502

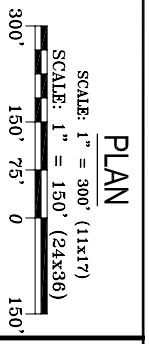
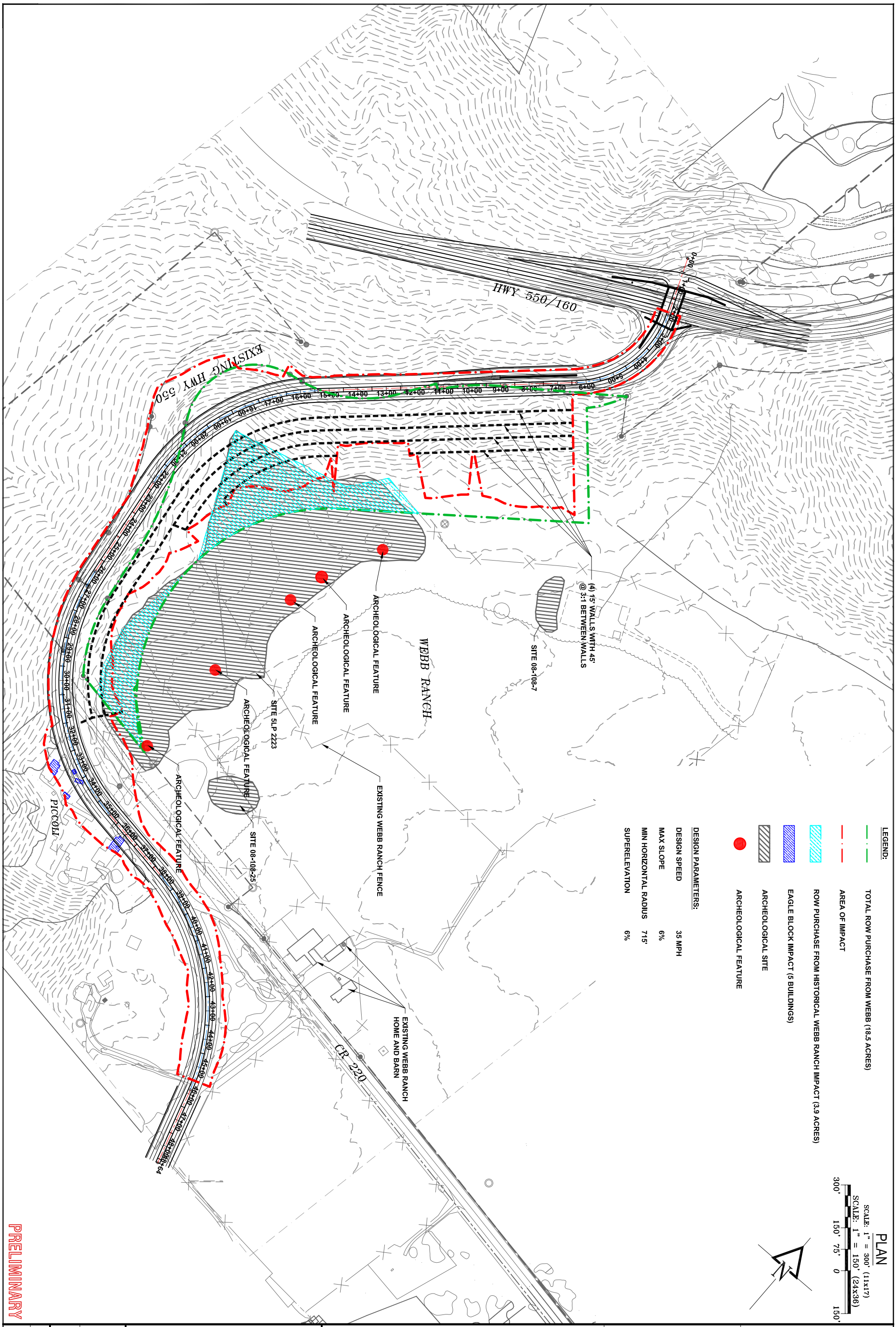


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**R2**



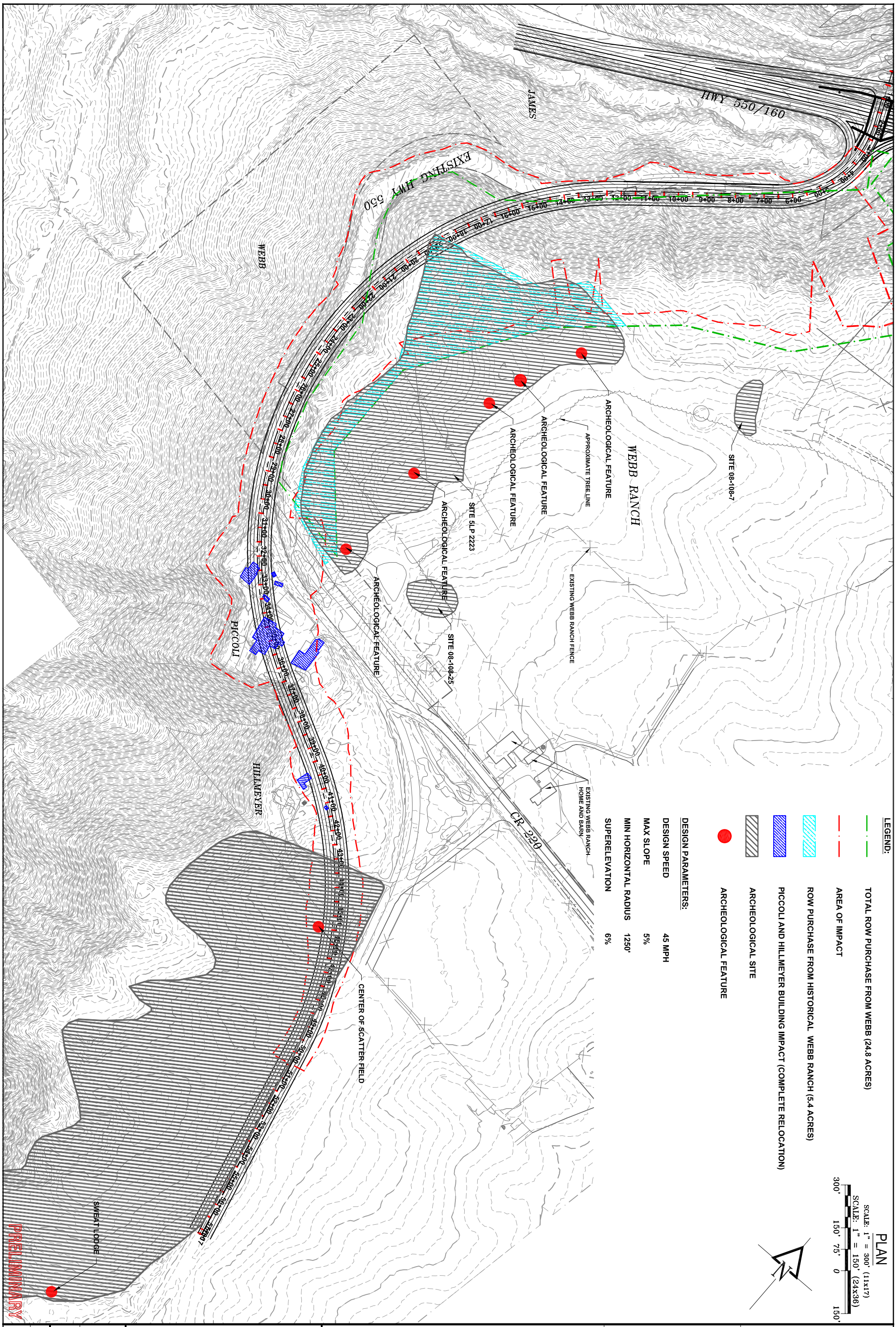


DESIGN PARAMETERS:	
DESIGN SPEED	35 MPH
MAX SLOPE	6%
MIN HORIZONTAL RADIUS	715'
SUPERELEVATION	6%

**PRELIMINARY**

<b>R3</b> 1 OF 1	Date of Submittal 11/28/2011	Russell Planning & Engineering, Inc. Civil Engineering Services 934 Main Avenue, Unit C Durango, Colorado 81301 Phone: (970) 385-4546 Fax: (970) 385-4502	<b>WEBB RANCH                  FARMINGTON HILL                  ALTERNATIVE R3</b>	REVISIONS:	CALL UNCC TWO WORKING DAYS BEFORE YOU DIG 1-800-922-1987 UTILITY NOTIFICATION CENTER OF COLORADO
	Drawn: KF Drafted: TM Checked: SW		File Name: R:\Current Projects\Land Projects 3\Webb\ACADE\Exhibits\20111121 ALT3 EXHIBIT Plotted: 11/28/2011 11:20 AM Plot Style: HALF.STB Plotted By: TRAVIS MOONEY		





**LEGEND:**

- TOTAL ROW PURCHASE FROM WEBB (24.8 ACRES)
- - - AREA OF IMPACT
- ▨ ROW PURCHASE FROM HISTORICAL WEBB RANCH (5.4 ACRES)
- ▨ PICCOLI AND HILLMEYER BUILDING IMPACT (COMPLETE RELOCATION)
- ▨ ARCHEOLOGICAL SITE
- ARCHEOLOGICAL FEATURE

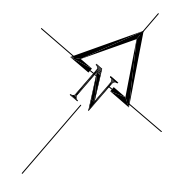
**DESIGN PARAMETERS:**

DESIGN SPEED	45 MPH
MAX SLOPE	5%
MIN HORIZONTAL RADIUS	1250'
SUPERELEVATION	6%

**PLAN**

SCALE: 1" = 300' (11x17)  
 SCALE: 1" = 150' (24x36)

300' 150' 75' 0 150'



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**R4**  
 1 OF 1

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**WEBB RANCH  
 FARMINGTON HILL  
 ALTERNATIVE R4**

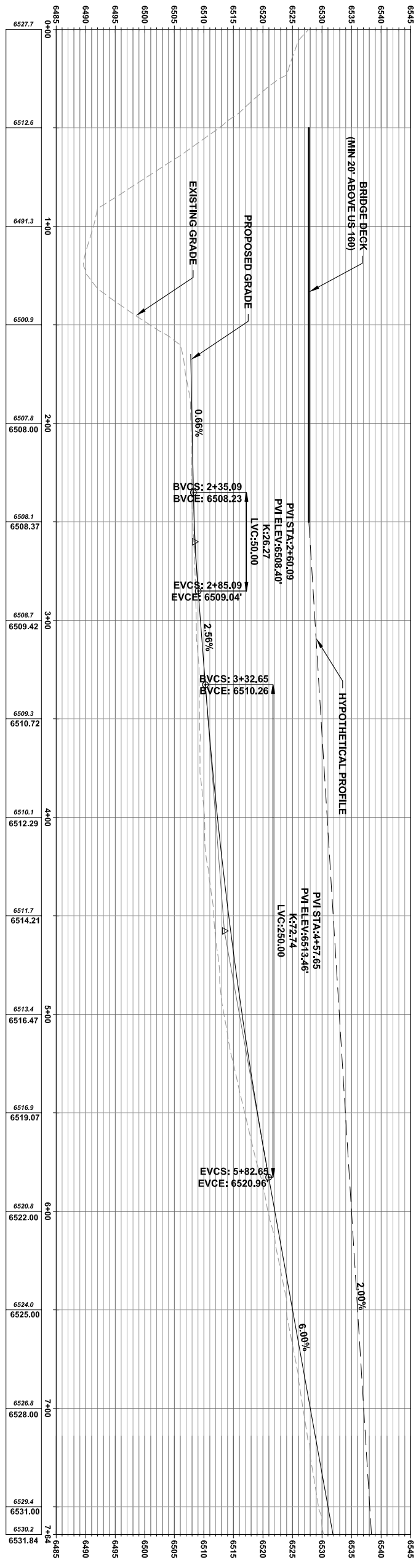
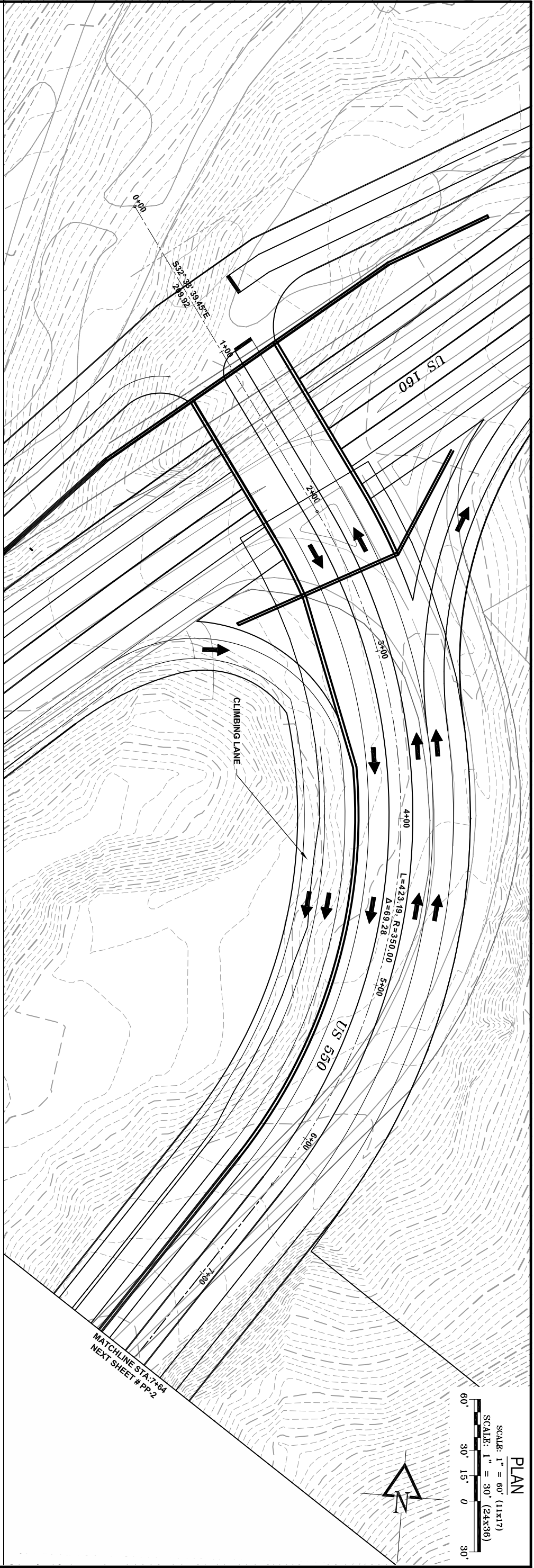
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PROFILE VIEW OF Alternative 1 - Farmington Hill

PROFILE

SCALE: 1" = 60' H 1" = 20' V (11x17)  
SCALE: 1" = 30' H 1" = 10' V (24x36)

PLAN

SCALE: 1" = 60' (11x17)  
SCALE: 1" = 30' (24x36)

0 15' 30' 60'

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REVISIONS:

WEBB RANCH  
FARMINGTON HILL  
ALTERNATIVES R1 AND R3

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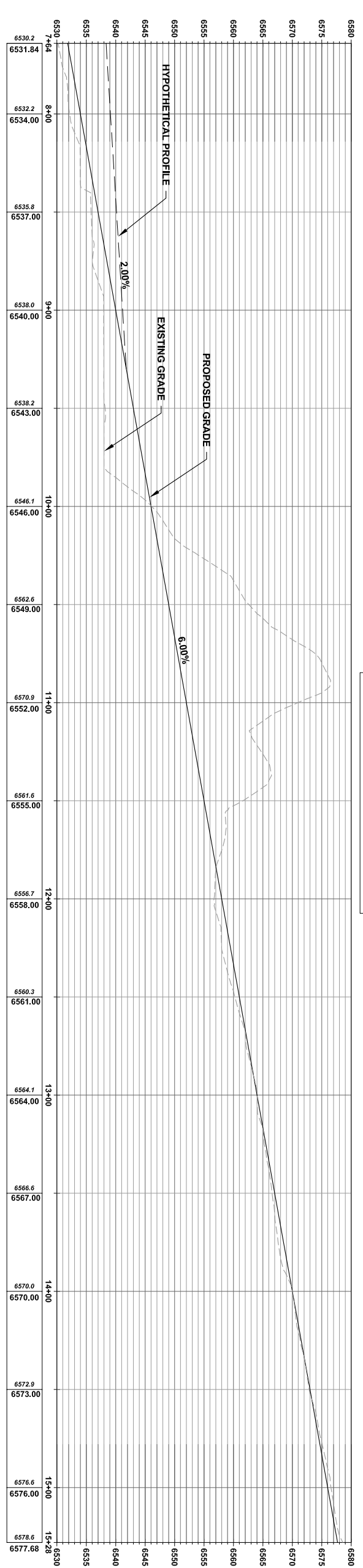
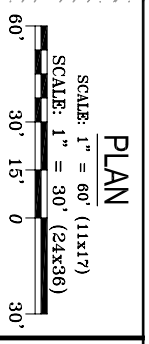
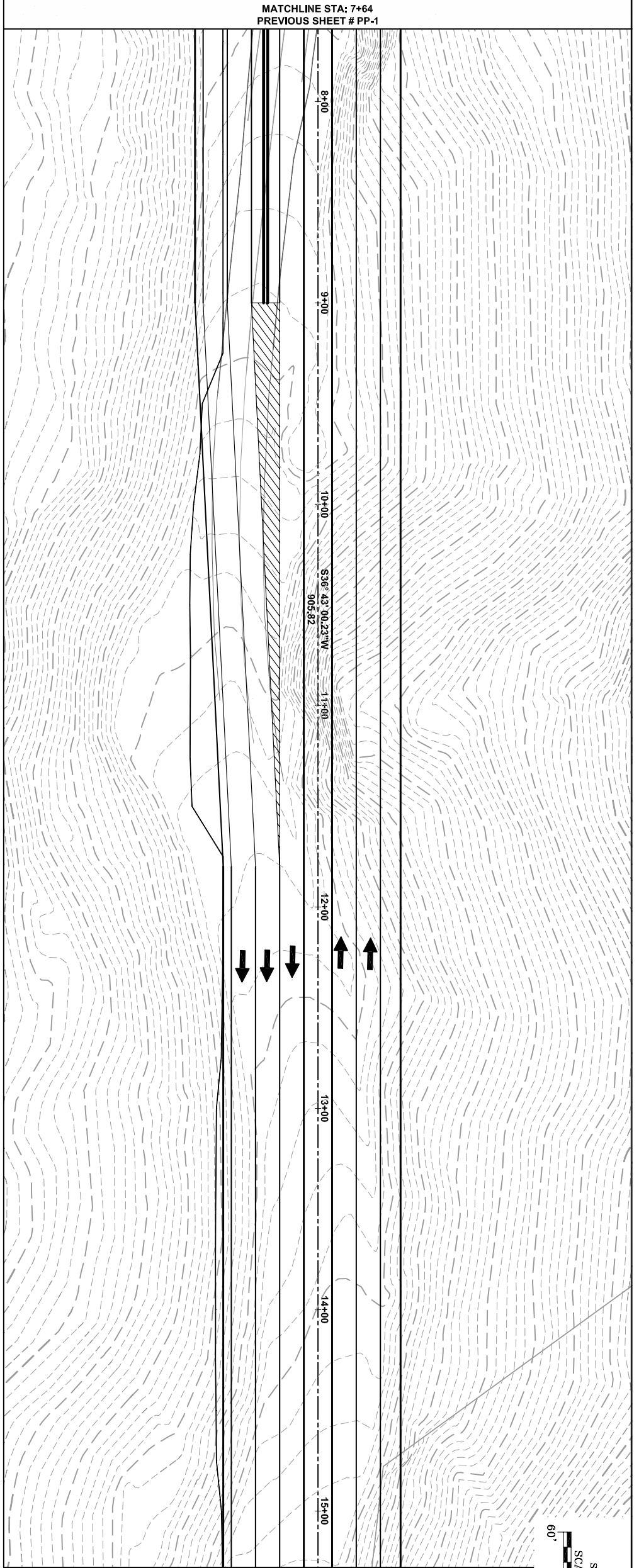


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1 OF 7  
PP-1

PRELIMINARY



**PROFILE**  
 SCALE: 1" = 60' H 1" = 20' V (11x17)  
 SCALE: 1" = 30' H 1" = 10' V (24x36)

PROFILE VIEW OF Alternative 1 - Farmington Hill

PRELIMINARY

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 2 OF 7  
**PP-2**



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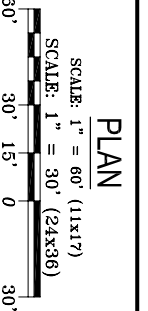
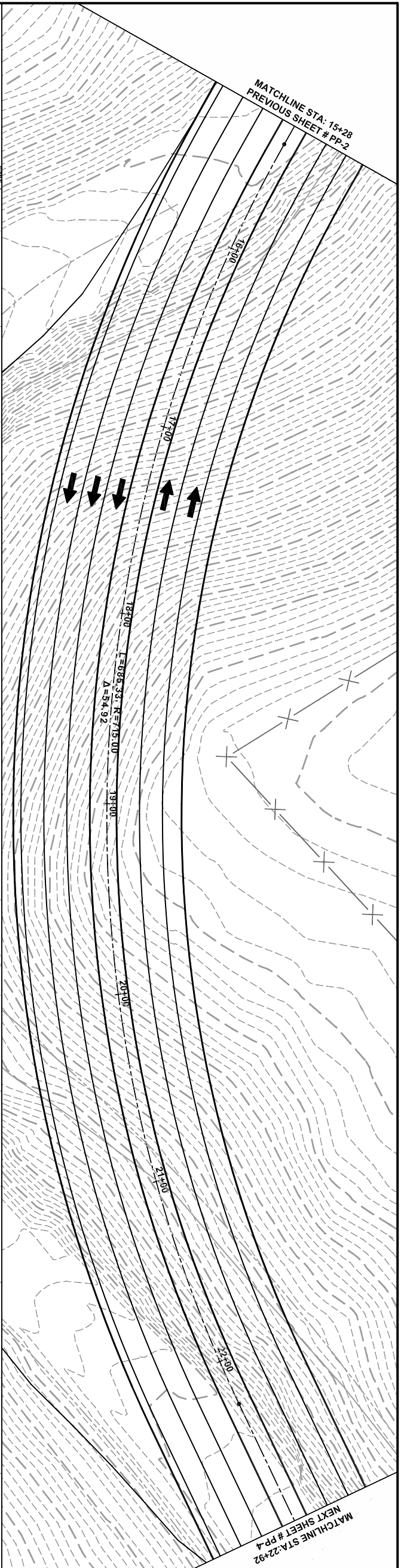
**WEBB RANCH  
 FARMINGTON HILL  
 ALTERNATIVES R1 AND R3**

REVISIONS:

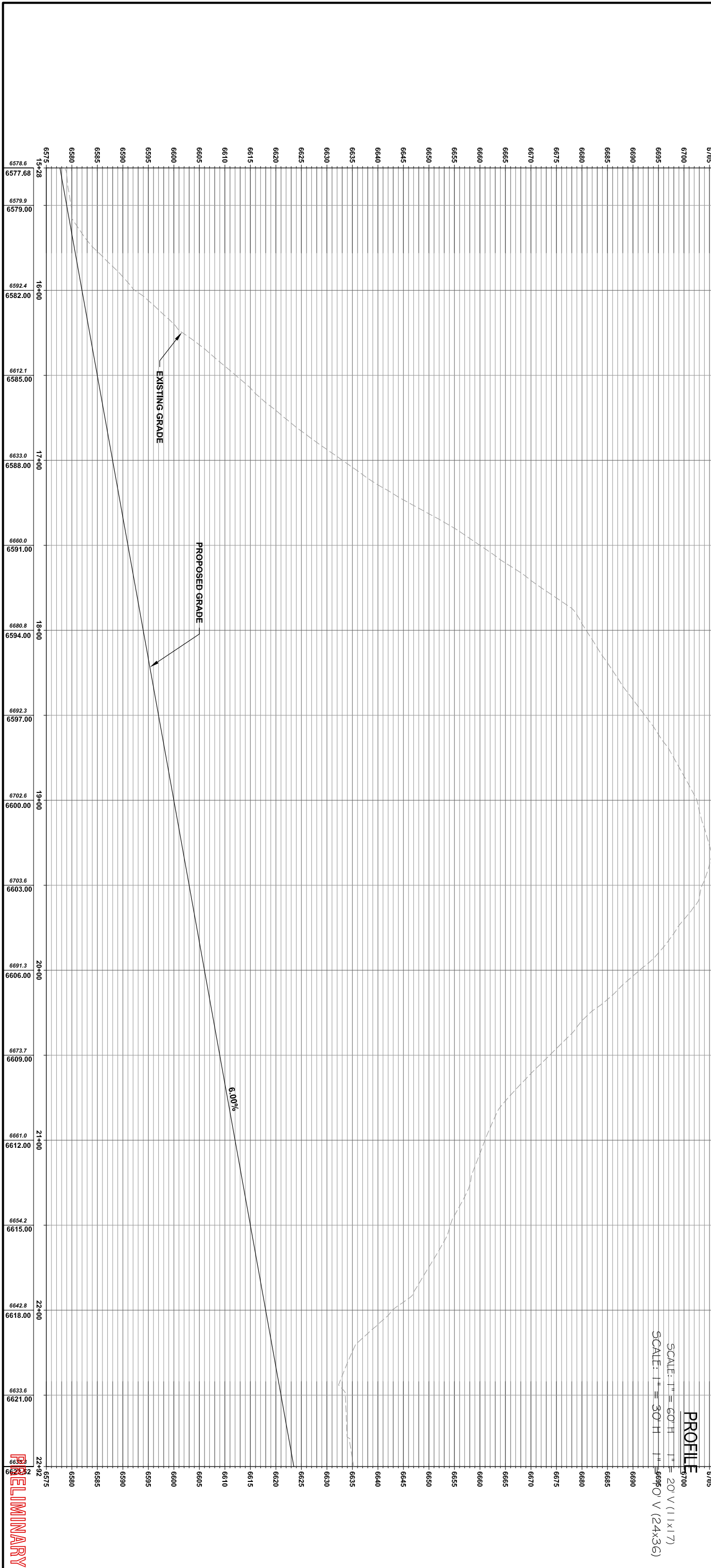


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 CENTER OF COLORADO**





**PROFILE**  
 SCALE: 1" = 60' H 1" = 20' V (11x17)  
 SCALE: 1" = 30' H 1" = 60' V (24x36)



**PRELIMINARY**

**REVISIONS:**

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**WEBB RANCH FARMINGTON HILL ALTERNATIVES R1 AND R3**

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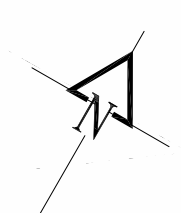
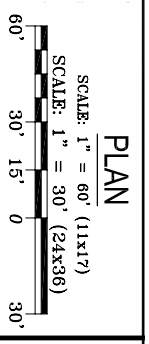
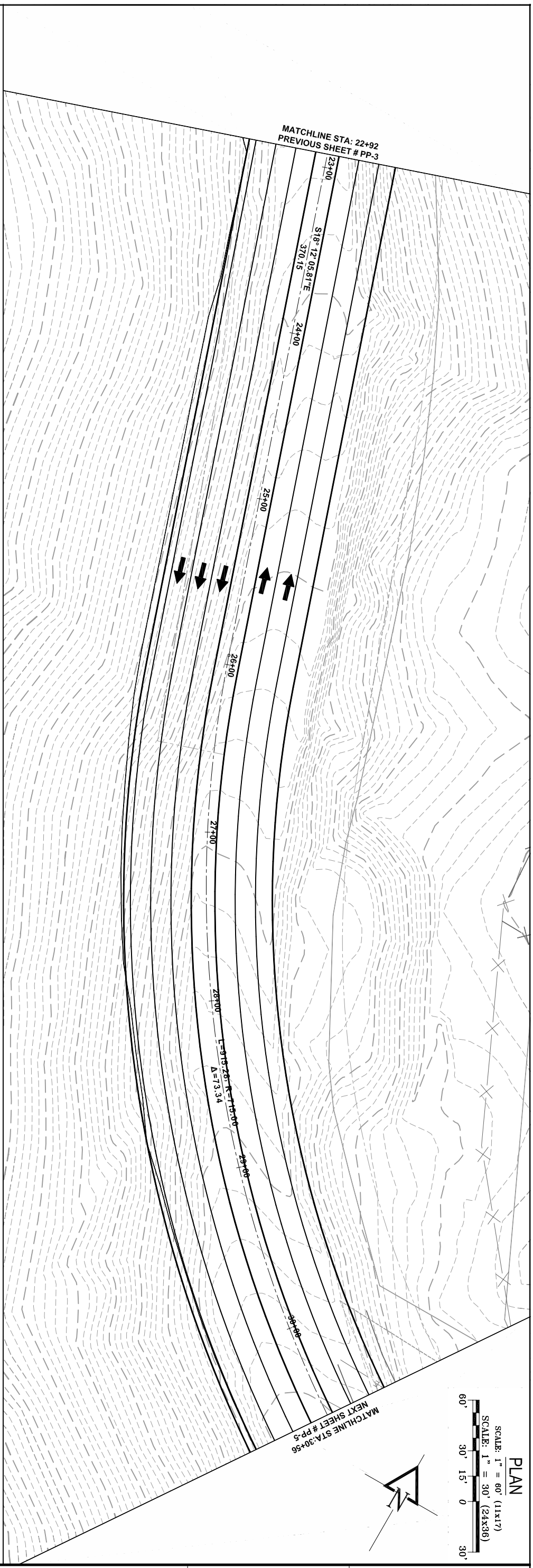
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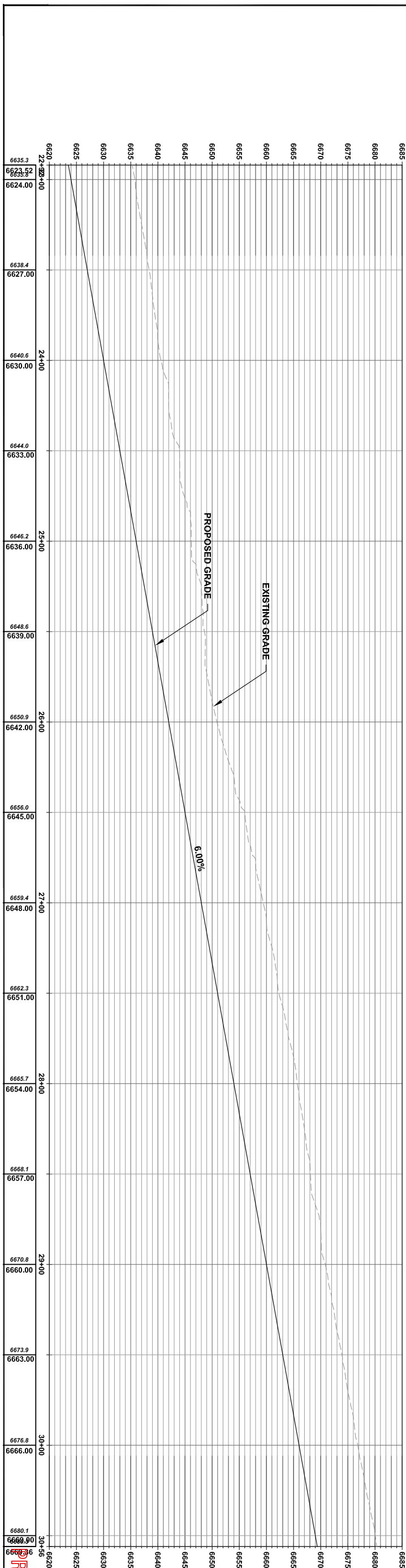
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**3 OF 7**

**PP-3**



PROFILE VIEW OF Alternative 1 - Farmington Hill



PROFILE  
 SCALE: 1" = 60' H 1" = 20' V (11x17)  
 SCALE: 1" = 30' H 1" = 10' V (24x36)

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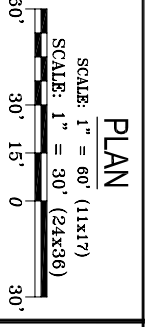
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**WEBB RANCH  
 FARMINGTON HILL  
 ALTERNATIVES R1 AND R3**

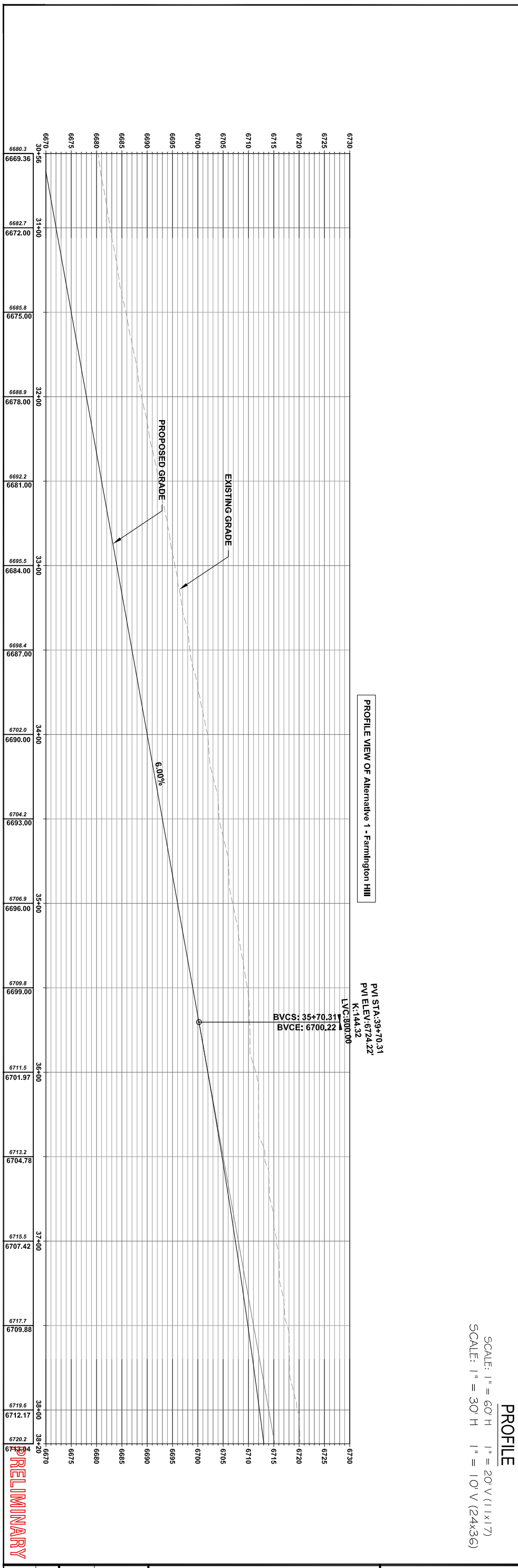
REVISIONS:

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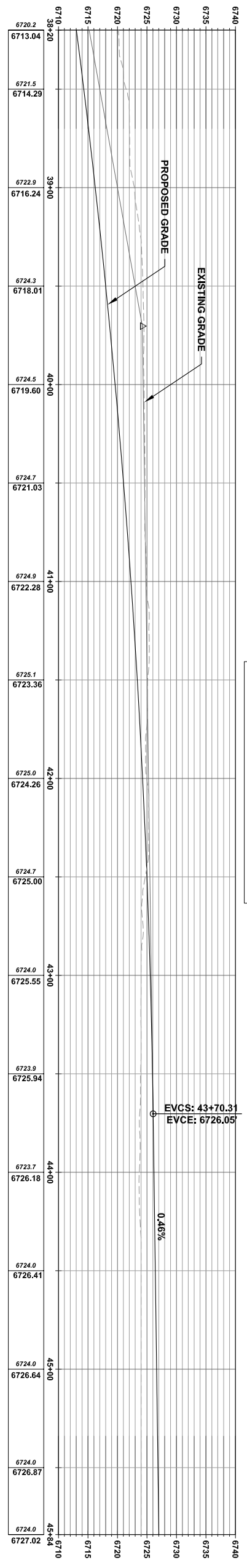
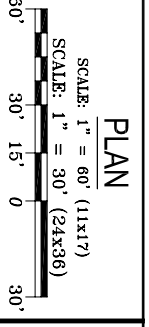
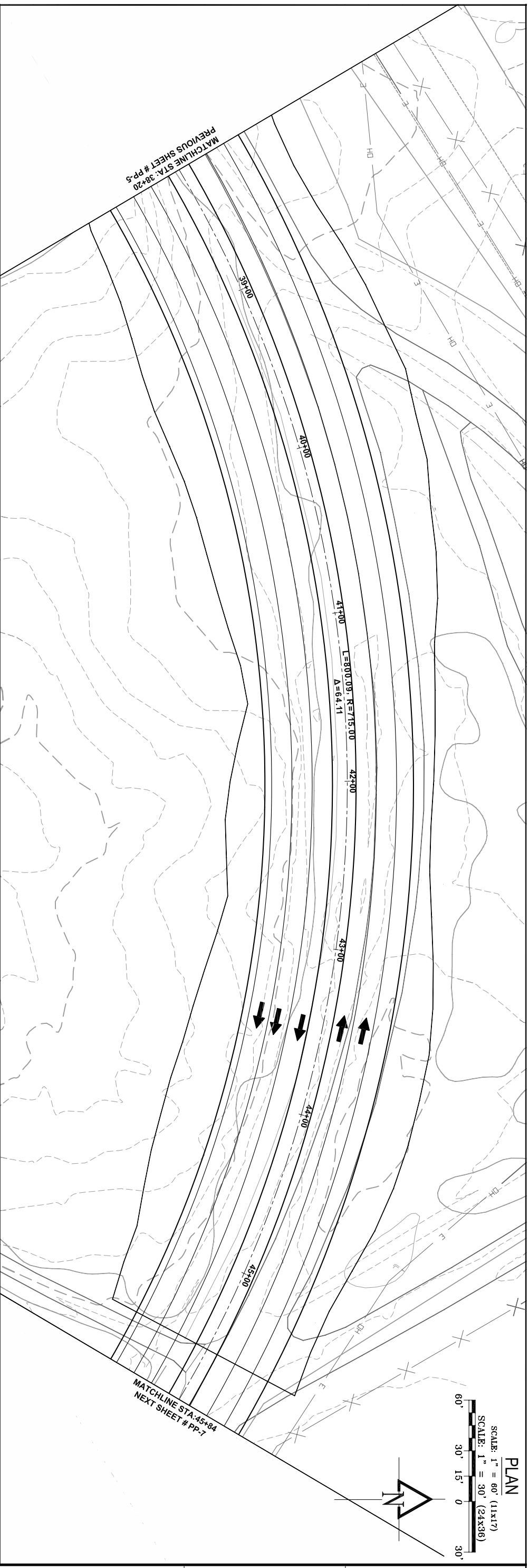
PLAN  
SCALE: 1" = 60' (1x17)  
SCALE: 1" = 30' (24x36)



PROFILE  
SCALE: 1" = 60' H 1" = 20' V (11x17)  
SCALE: 1" = 30' H 1" = 10' V (24x36)

PRELIMINARY

<p>Date of Submittal <b>11/28/2011</b></p> <p>5 OF 7 <b>PP-5</b></p>	 <p><b>Russell Planning &amp; Engineering, Inc.</b> Civil Engineering Services 934 Main Avenue, Unit C Durango, Colorado 81301 Phone: (970) 385-4546 Fax: (970) 385-4502</p>	<p align="center"><b>WEBB RANCH FARMINGTON HILL ALTERNATIVES R1 AND R3</b></p>	<p>REVISIONS:</p>	 <p><b>CALL UNCC TWO WORKING DAYS BEFORE YOU DIG 1-800-922-1987 UTILITY NOTIFICATION CENTER OF COLORADO</b></p>
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**PROFILE**  
 SCALE: 1" = 60' H 1" = 20' V (11x17)  
 SCALE: 1" = 30' H 1" = 10' V (24x36)

PROFILE VIEW OF Alternative 1 - Farmington Hill

PRELIMINARY

REVISIONS:



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 FARMINGTON HILL  
 ALTERNATIVES R1 AND R3**

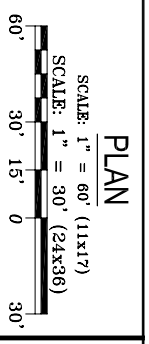
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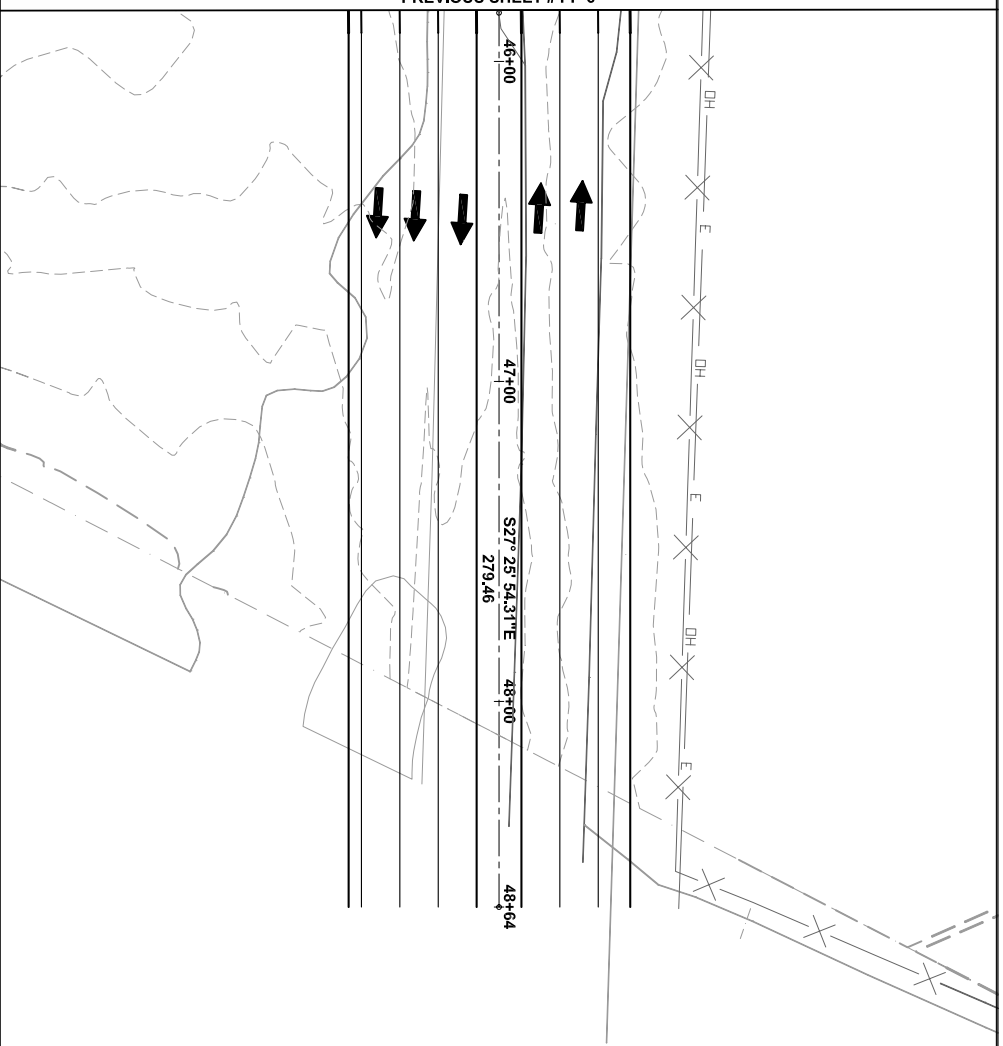
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PP-6

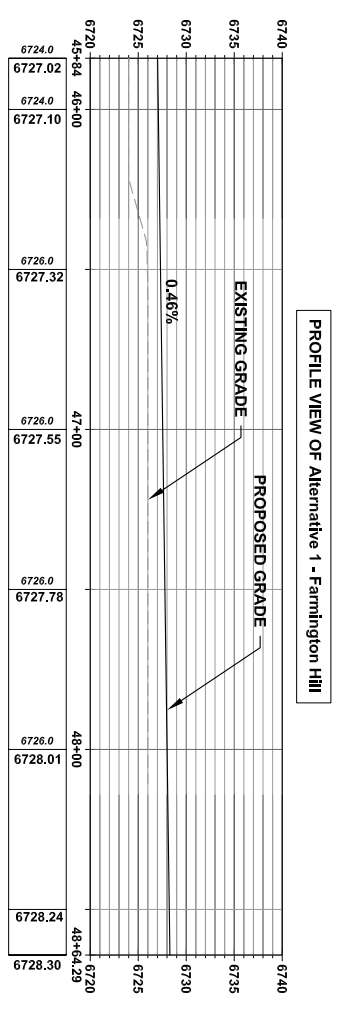


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PREVIOUS SHEET # PP-6



**PROFILE**

SCALE: 1" = 60' H 1" = 20' V (11x17)  
SCALE: 1" = 30' H 1" = 10' V (24x36)



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ALTERNATIVES R1 AND R3**

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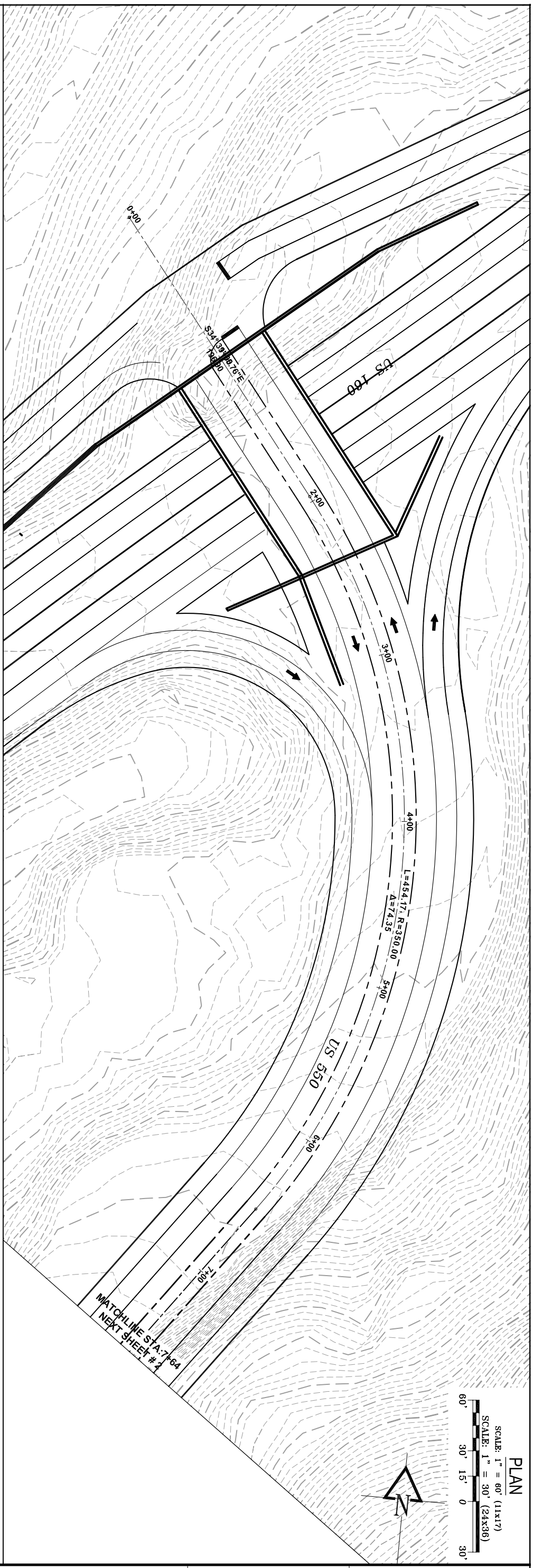
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**PP-7**

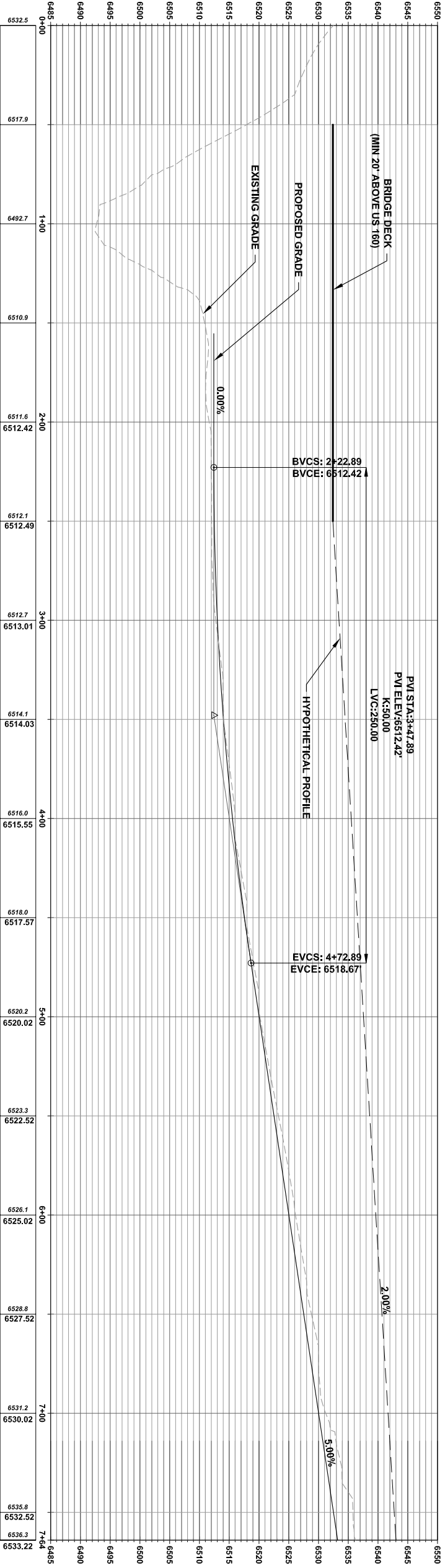
**PRELIMINARY**





**PLAN**  
 SCALE: 1" = 60' (11x17)  
 SCALE: 1" = 30' (24x36)

PROFILE VIEW OF Alternative 2



**PROFILE**  
 SCALE: 1" = 60' H 1" = 20' V (11x17)  
 SCALE: 1" = 30' H 1" = 10' V (24x36)

REVISIONS:

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 FARMINGTON HILL  
 ALTERNATIVES R2 AND R4**

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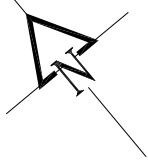
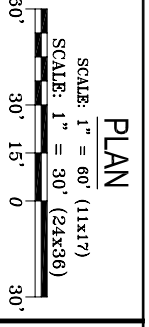
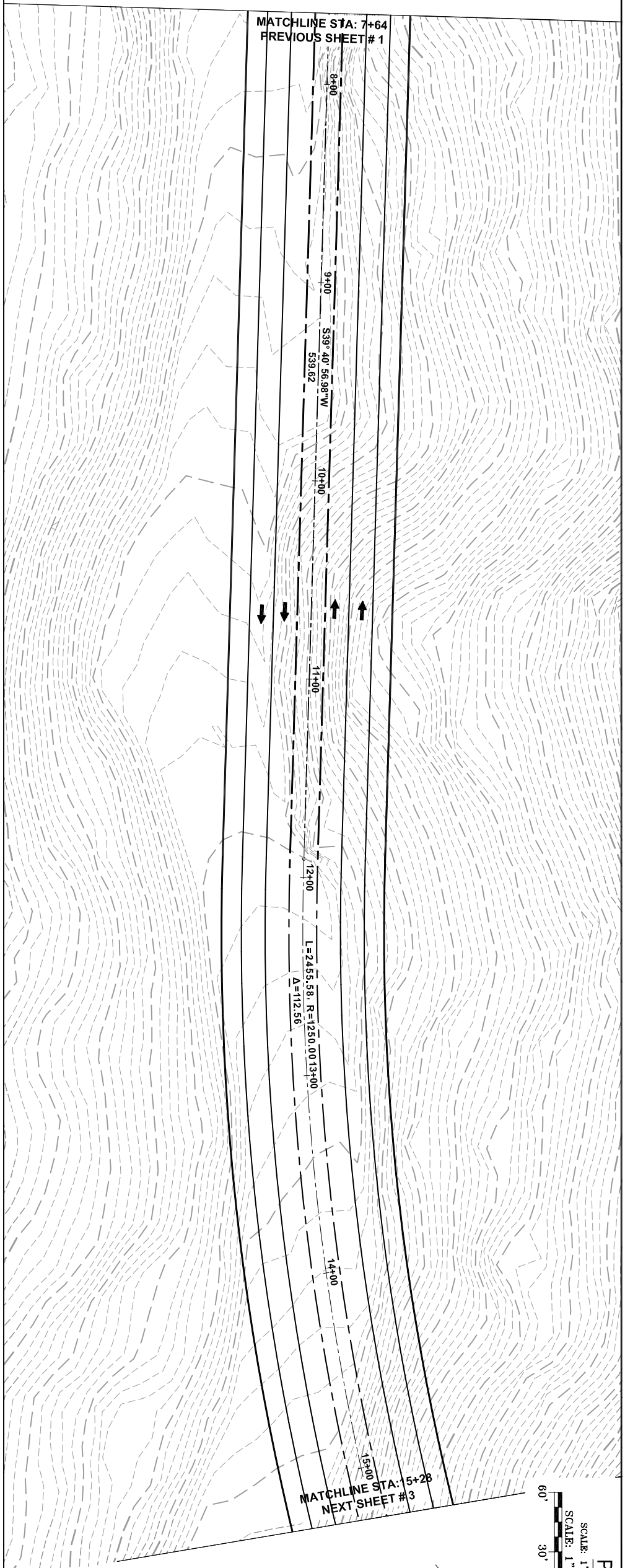


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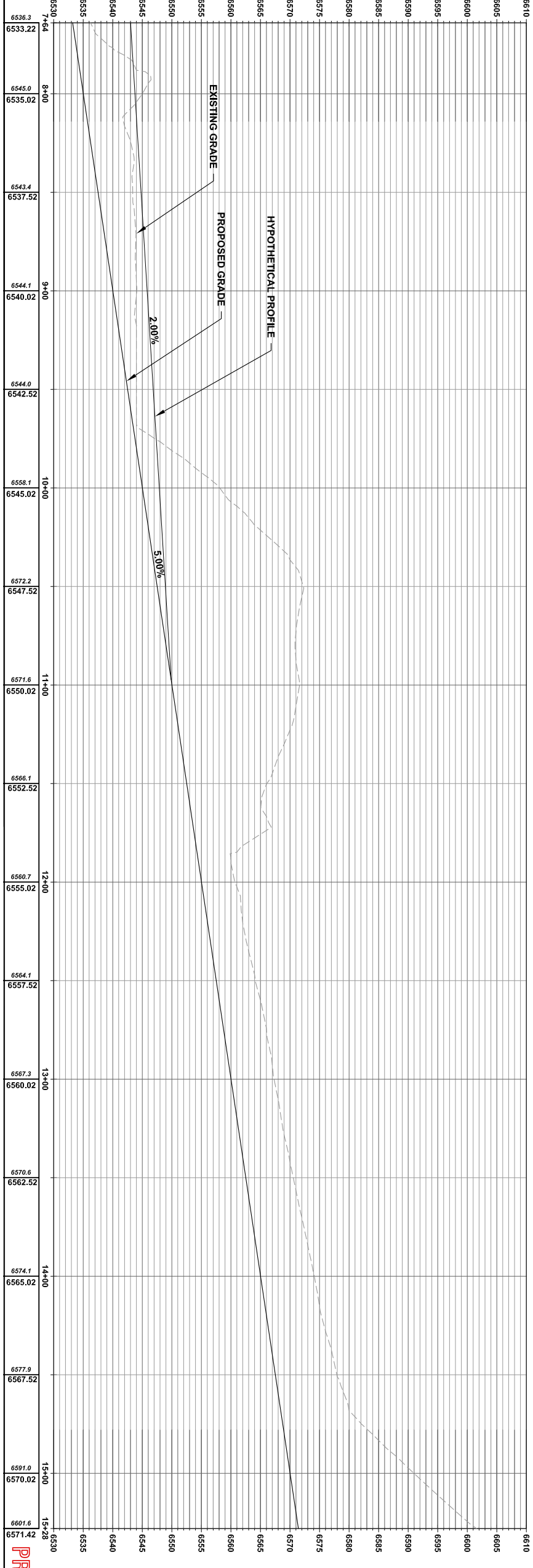
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**PP-8**  
 1 OF 8

PRELIMINARY



PROFILE VIEW OF Alternative 2



**PROFILE**  
 SCALE: 1" = 60' H 1" = 20' V (11x17)  
 SCALE: 1" = 30' H 1" = 10' V (24x36)

**PRELIMINARY**

**PP-9**  
 2 OF 8  
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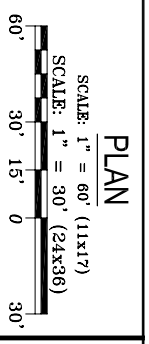
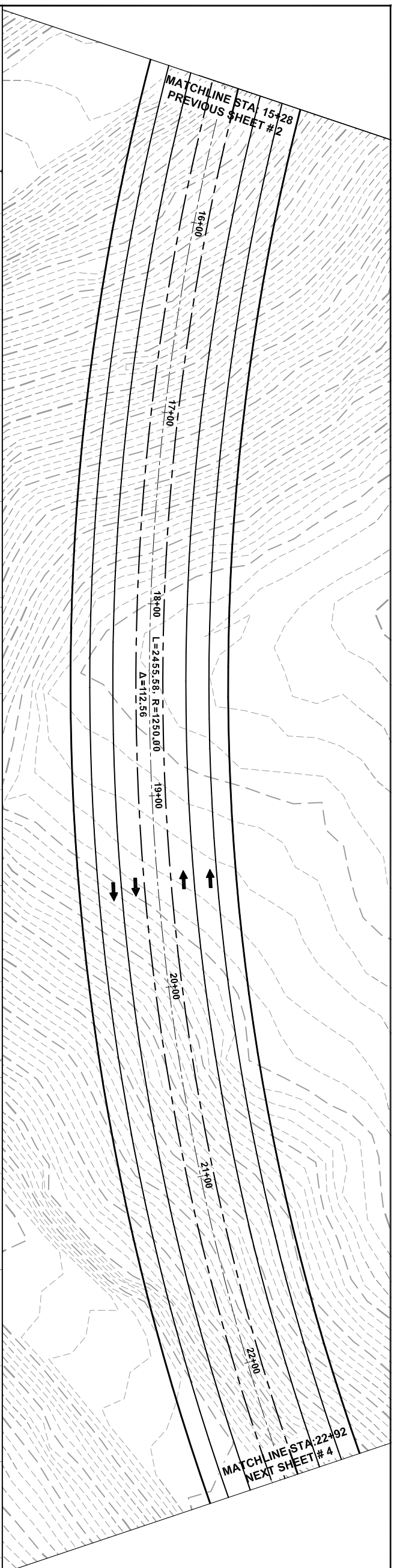


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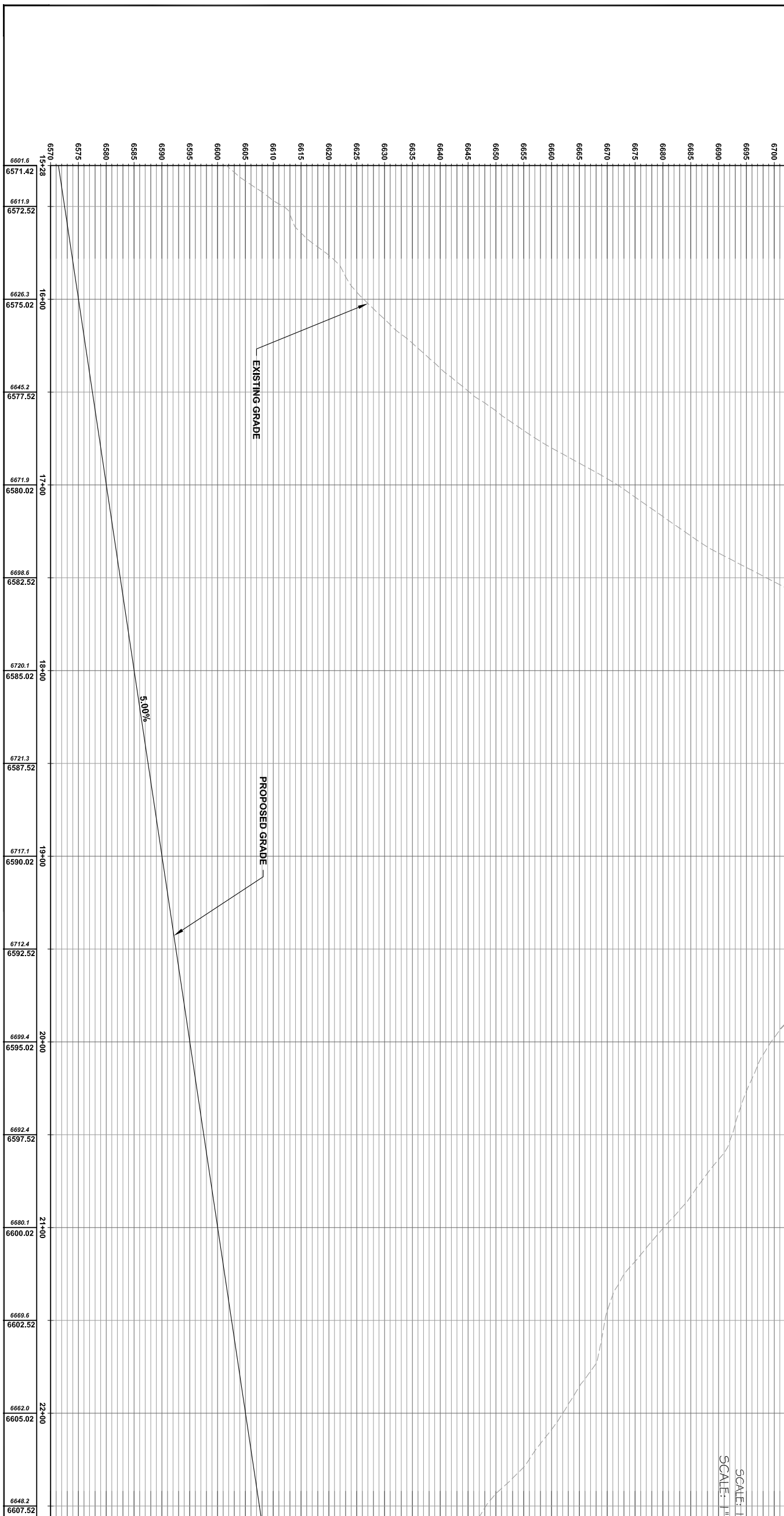
**WEBB RANCH  
 FARMINGTON HILL  
 ALTERNATIVES R2 AND R4**

REVISIONS:





**PROFILE**  
 SCALE: 1" = 60' H  
 1" = 20' V (11x17)  
 SCALE: 1" = 30' H  
 1" = 10' V (24x36)



PRELIMINARY

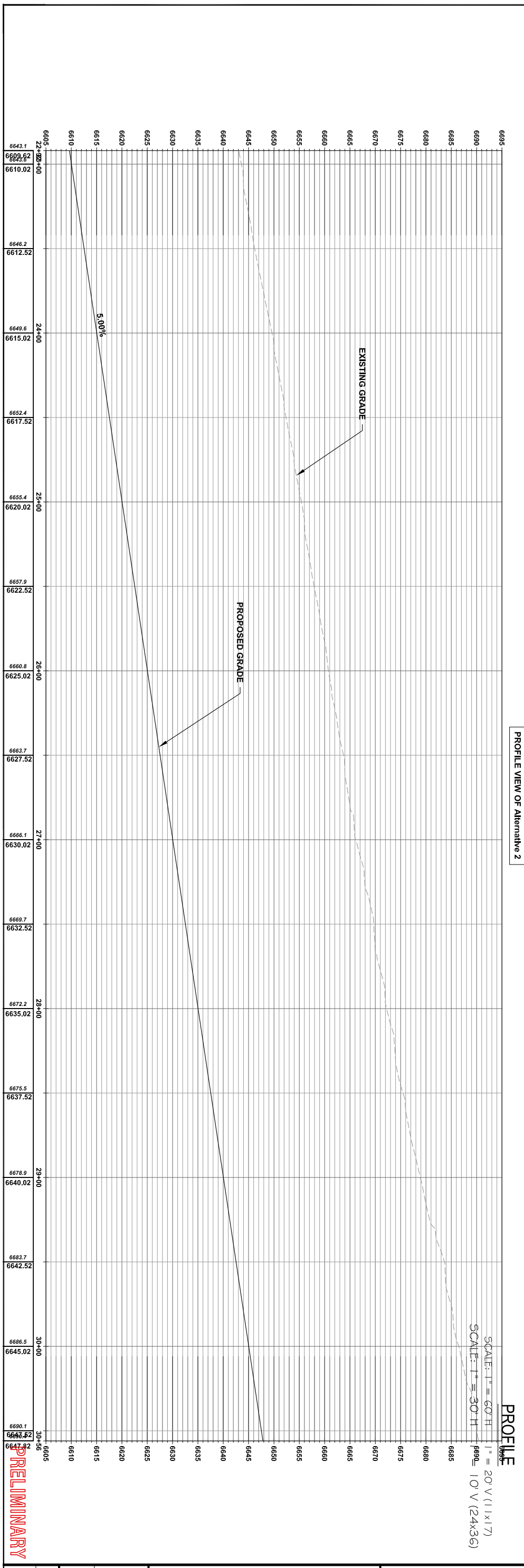
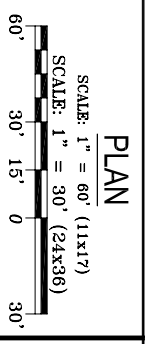
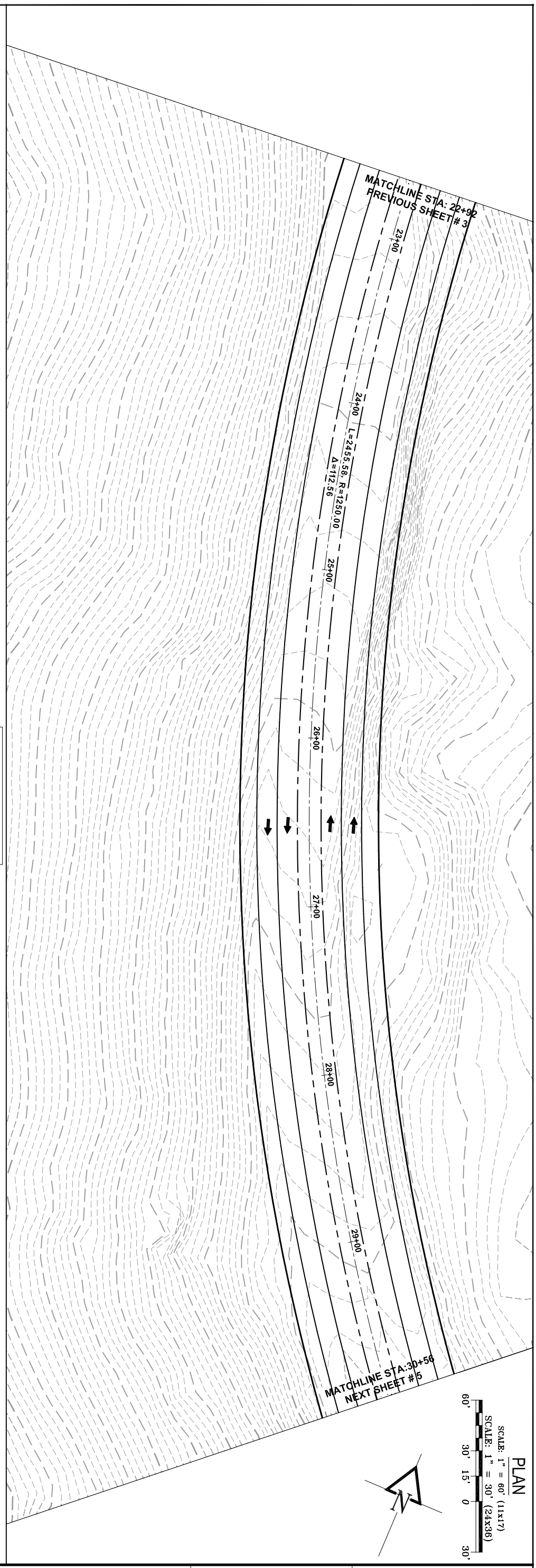
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 Fax: (970) 385-4502

**WEBB RANCH  
 FARMINGTON HILL  
 ALTERNATIVES R2 AND R4**



PROFILE  
 SCALE: 1" = 60' H  
 SCALE: 1" = 30' H  
 SCALE: 1" = 10' V (24x36)

PRELIMINARY

**PP-11**  
 4 OF 8  
 Date of Submittal  
 11/28/2011



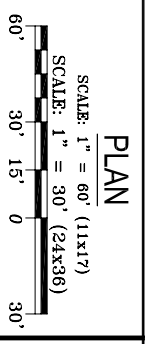
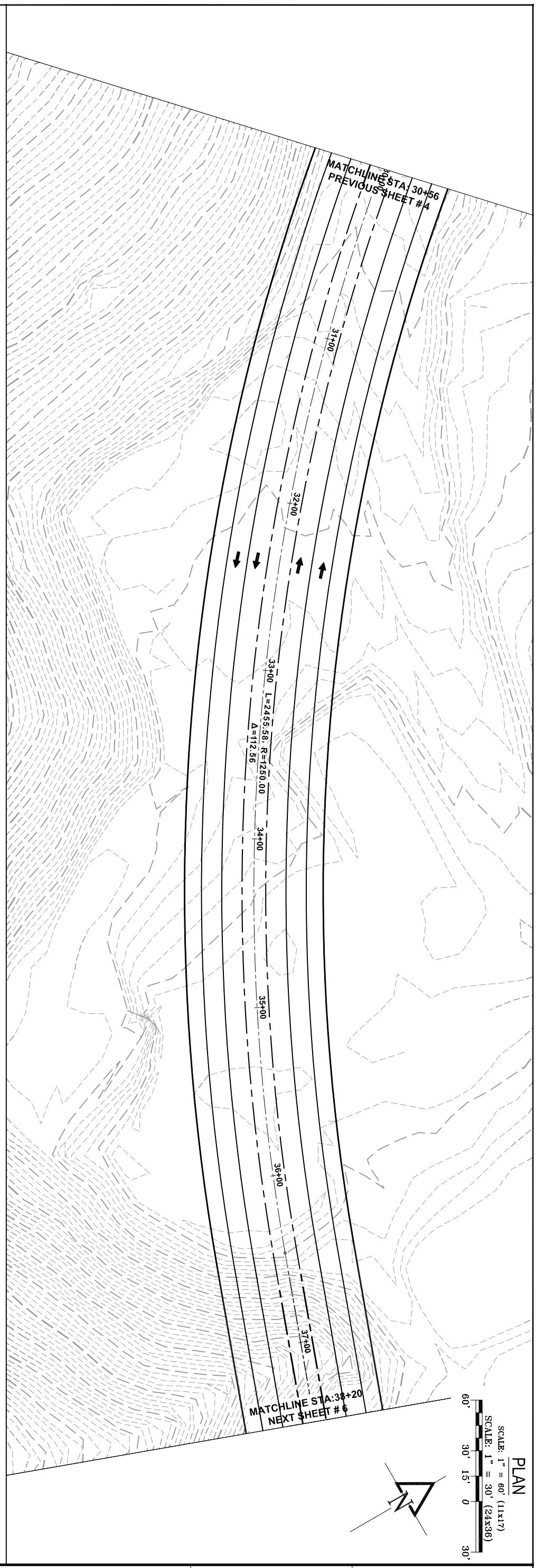
**Russell Planning & Engineering, Inc.**  
 Civil Engineering Services  
 934 Main Avenue, Unit C  
 Durango, Colorado 81301  
 Phone: (970) 385-4546  
 Fax: (970) 385-4502

**WEBB RANCH  
 FARMINGTON HILL  
 ALTERNATIVES R2 AND R4**

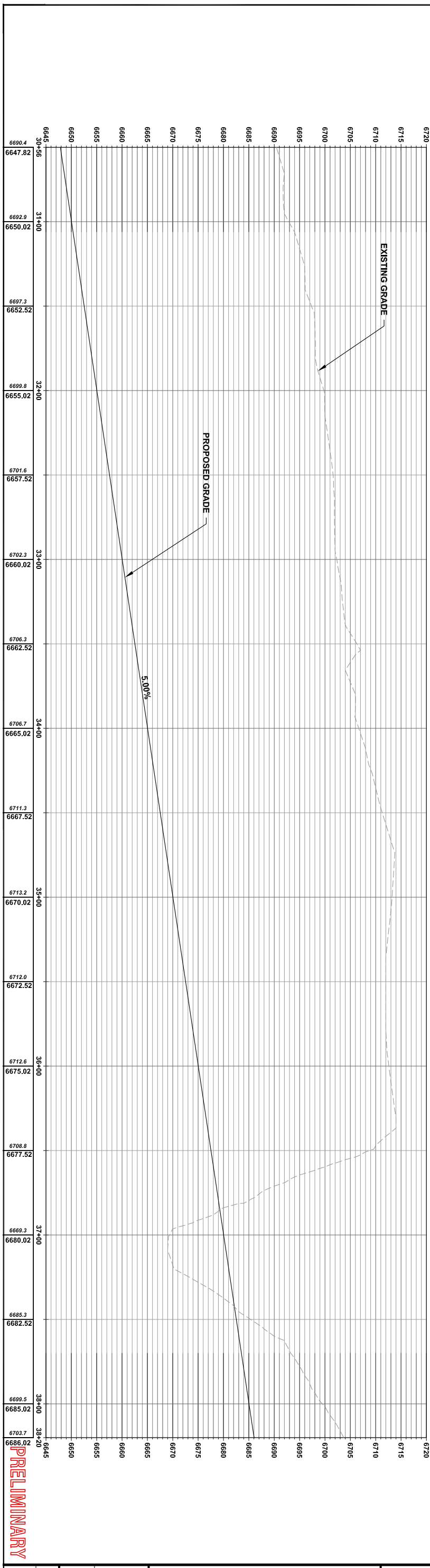
REVISIONS:

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**CALL UNCC  
 TWO WORKING DAYS  
 BEFORE YOU DIG**  
 1-800-922-1987  
 UTILITY NOTIFICATION  
 CENTER OF COLORADO



PROFILE VIEW OF Alternative 2



**PROFILE**  
 SCALE: 1" = 60' H 1" = 20' V (11x17)  
 SCALE: 1" = 30' H 1" = 10' V (24x36)

PRELIMINARY

**PP-12**  
 5 OF 8  
 Date of Submittal  
 11/28/2011



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 Durango, Colorado 81301  
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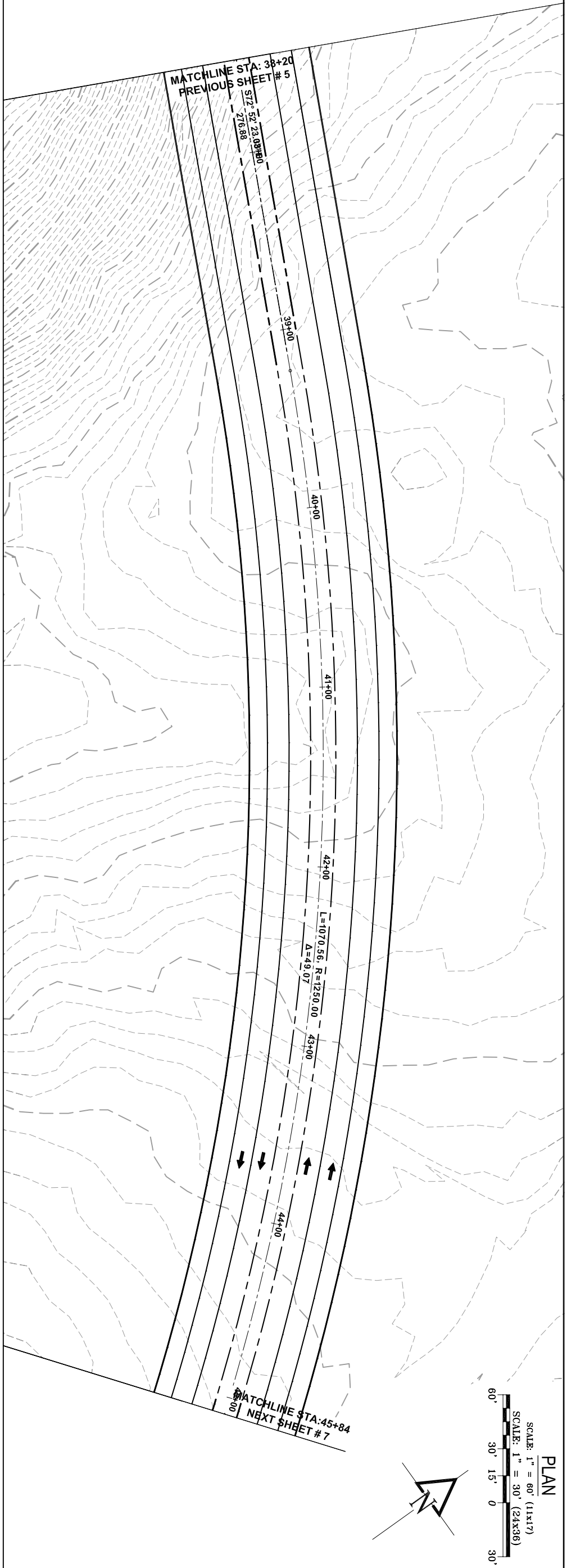
**WEBB RANCH  
 FARMINGTON HILL  
 ALTERNATIVES R2 AND R4**

REVISIONS:

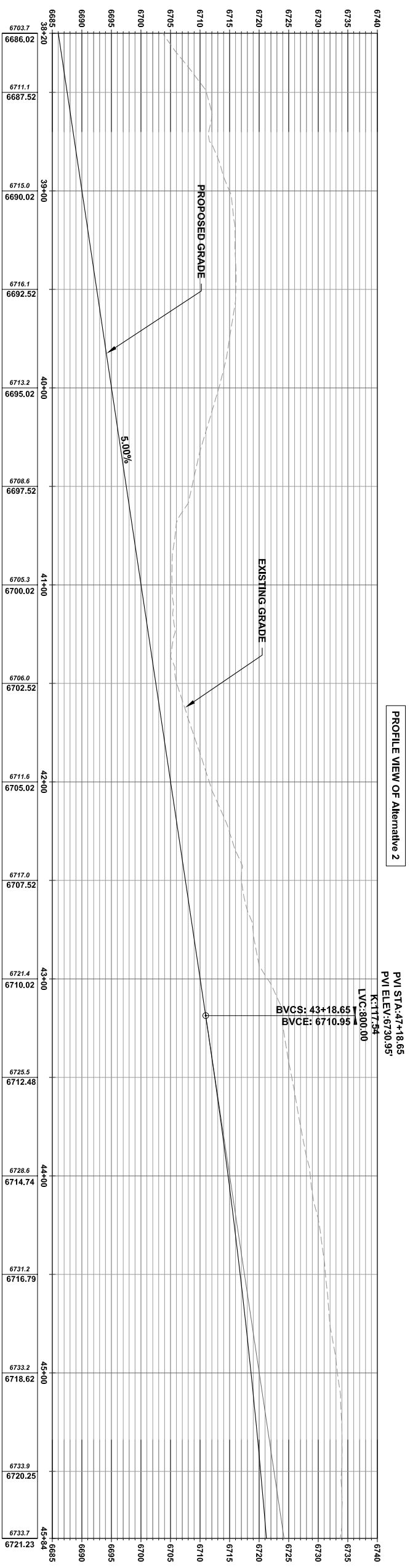
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**CALL UNCC  
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 BEFORE YOU DIG**  
 1-800-922-1987  
 UTILITY NOTIFICATION  
 CENTER OF COLORADO





**PROFILE**  
 SCALE: 1" = 60' H 1" = 20' V (11x17)  
 SCALE: 1" = 30' H 1" = 10' V (24x36)



PROFILE VIEW OF Alternative 2

PRELIMINARY

**PP-13**  
 6 OF 8  
 Date of Submittal  
 11/28/2011



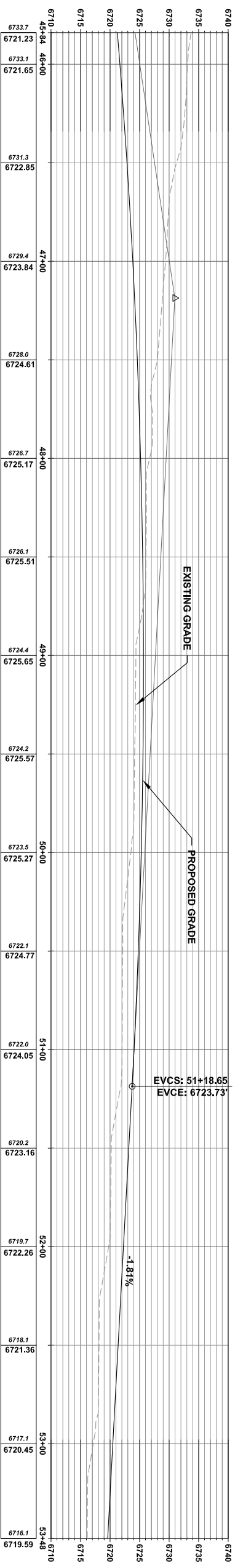
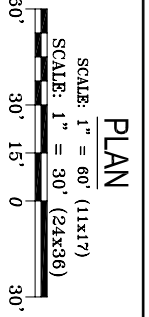
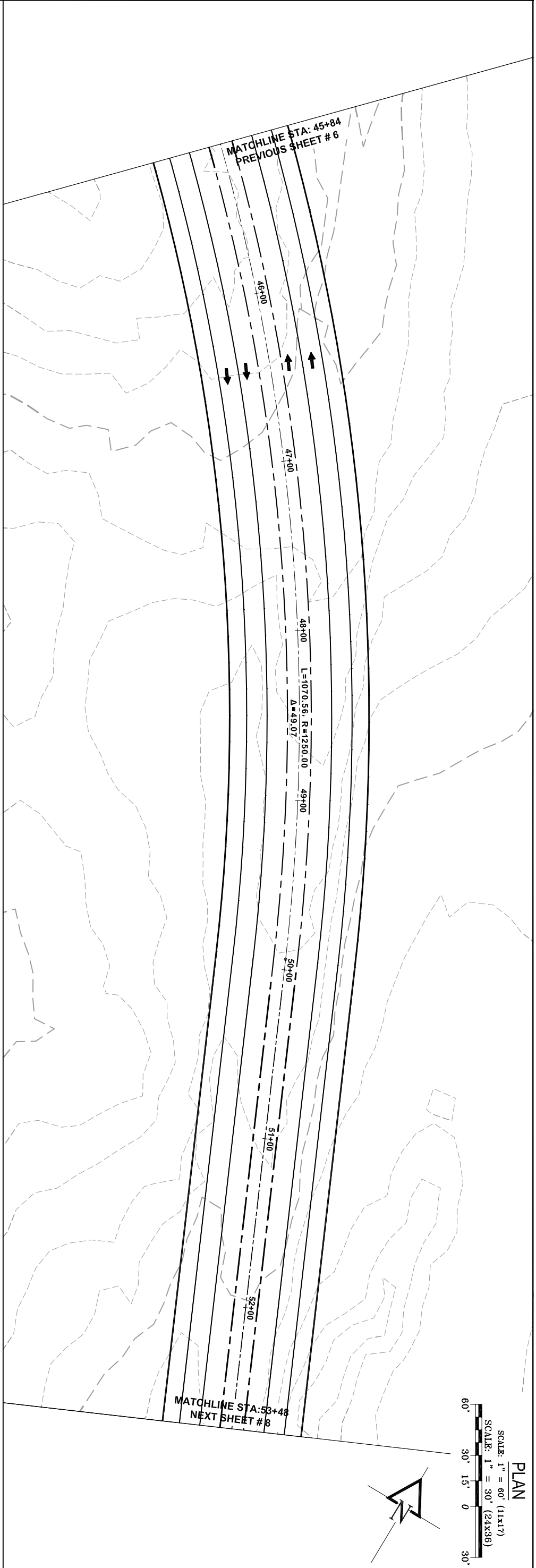
**Russell Planning & Engineering, Inc.**  
 Civil Engineering Services  
 934 Main Avenue, Unit C  
 Durango, Colorado 81301  
 Phone: (970) 385-4546  
 Fax: (970) 385-4502

**WEBB RANCH  
 FARMINGTON HILL  
 ALTERNATIVES R2 AND R4**

REVISIONS:

--	--

**CALL UNCC  
 TWO WORKING DAYS  
 BEFORE YOU DIG  
 1-800-922-1987  
 UTILITY NOTIFICATION  
 CENTER OF COLORADO**



PROFILE VIEW OF Alternative 2

**PROFILE**  
 SCALE: 1" = 60' H 1" = 20' V (11x17)  
 SCALE: 1" = 30' H 1" = 10' V (24x36)

**PLAN**

**WEBB RANCH  
 FARMINGTON HILL  
 ALTERNATIVES R2 AND R4**

REVISIONS:



**CALL UNCC  
 TWO WORKING DAYS  
 BEFORE YOU DIG  
 1-800-922-1987  
 UTILITY NOTIFICATION  
 CENTER OF COLORADO**



**Russell Planning & Engineering, Inc.**  
 Civil Engineering Services  
 934 Main Avenue, Unit C  
 Durango, Colorado 81301  
 Phone: (970) 385-4546  
 Fax: (970) 385-4502

Drawn: SW  
 Drafted: TM  
 Checked: SW

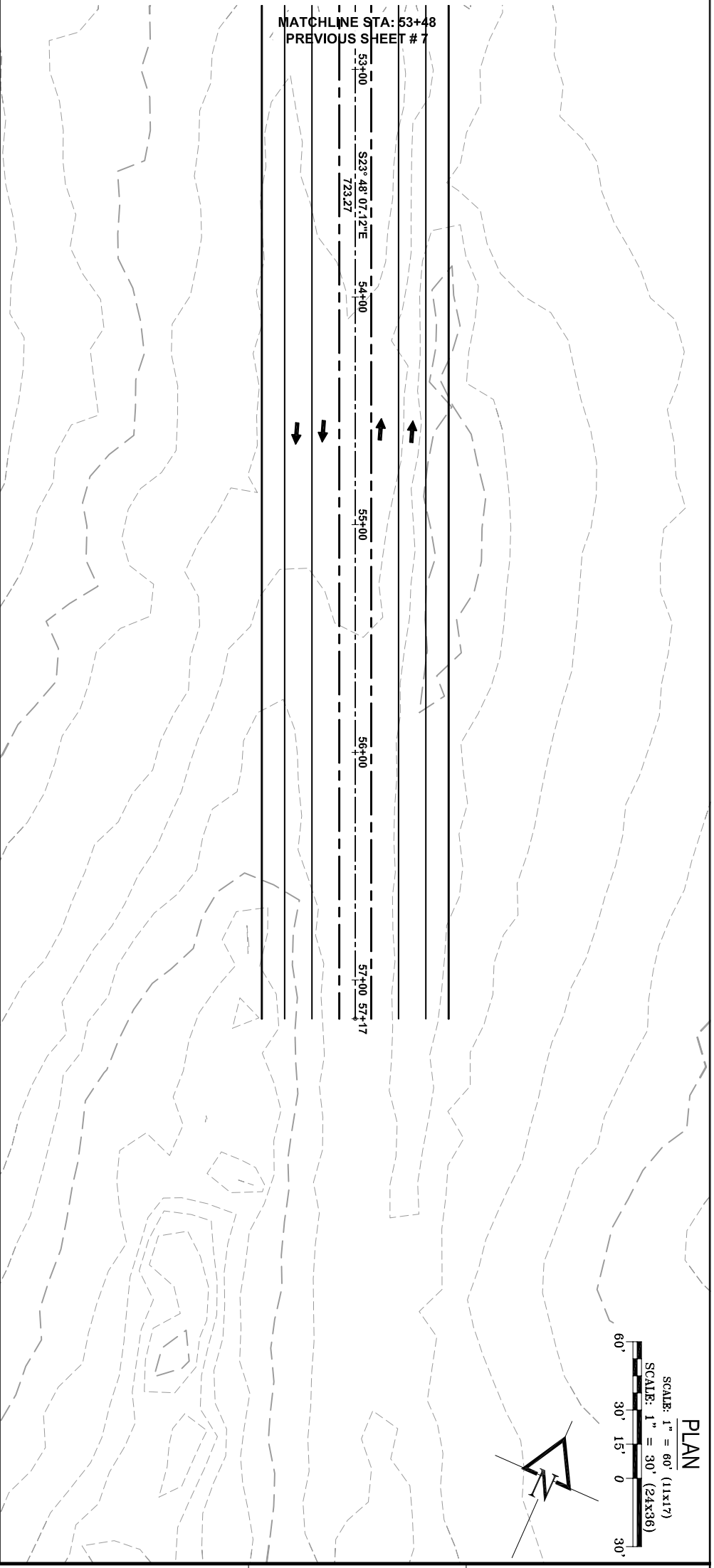
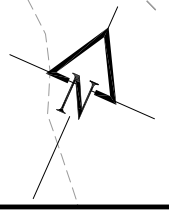
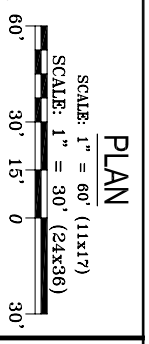
Date of Submittal  
 11/28/2011

7 OF 8

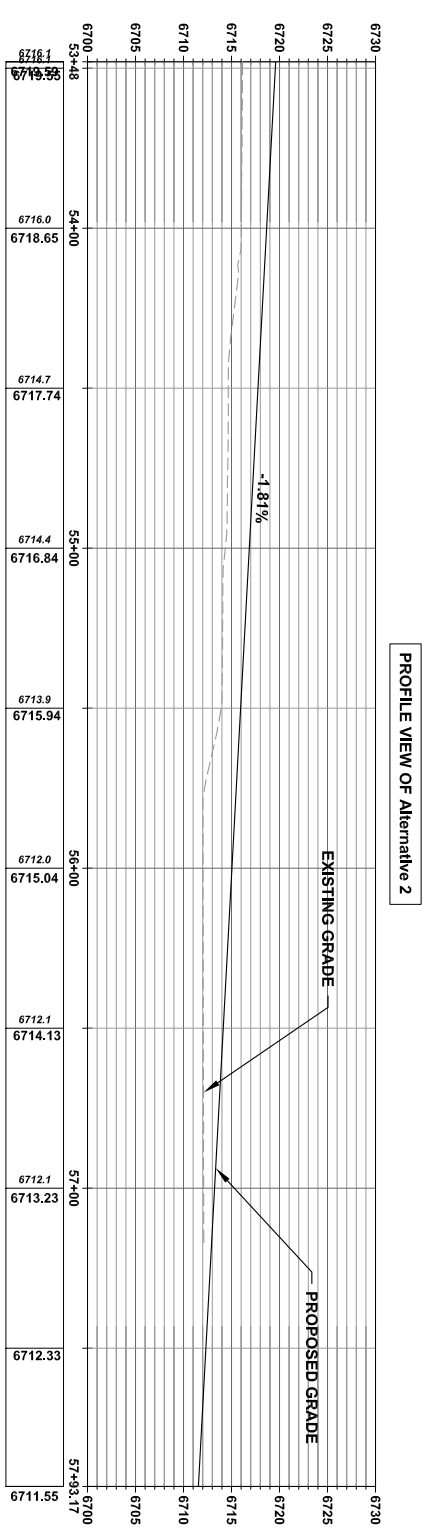
**PP-14**

**PRELIMINARY**





**PROFILE**  
 SCALE: 1" = 60' H 1" = 10' V (11x17)  
 SCALE: 1" = 30' H 1" = 5' V (24x36)



PROFILE VIEW OF Alternative 2

**CALL UNCC TWO WORKING DAYS BEFORE YOU DIG**  
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 UTILITY NOTIFICATION CENTER OF COLORADO

REVISIONS:

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**WEBB RANCH FARMINGTON HILL ALTERNATIVES R2 AND R4**

**Russell Planning & Engineering, Inc.**  
 Civil Engineering Services  
 934 Main Avenue, Unit C  
 Durango, Colorado 81301  
 Phone: (970) 385-4546  
 Fax: (970) 385-4502

Drawn: SW  
 Drafted: TM  
 Checked: SW

Date of Submittal  
 11/28/2011

8 OF 8  
**PP-15**

PRELIMINARY

## **APPENDIX C – Calculations**

Report 1 – Grandview Interchange LOS Calculations  
Report 2 – Farmington Hill Interchange LOS Calculations  
Report 3 – Weighted Travel Time Calculations



2: Int Performance by movement

Movement	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.2	0.2	0.2	0.0	0.6
Delay / Veh (s)	3.5	8.0	47.2	0.7	5.7
Total Stops	0	1	16	0	17
Travel Dist (mi)	81.5	36.4	2.9	16.3	137.0
Travel Time (hr)	2.9	1.5	0.3	0.6	5.3
Avg Speed (mph)	28	25	9	29	26
Fuel Used (gal)	2.6	1.1	0.1	0.5	4.2
HC Emissions (g)	16	12	2	6	36
CO Emissions (g)	421	274	28	116	839
NOx Emissions (g)	55	37	4	16	112
Vehicles Entered	191	81	16	97	385
Vehicles Exited	189	90	17	100	396
Hourly Exit Rate	1134	540	102	600	2376
Input Volume	1075	510	110	615	2310
% of Volume	105	106	93	98	103
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

Total Network Performance

Total Delay (hr)	0.8
Delay / Veh (s)	7.2
Total Stops	17
Travel Dist (mi)	249.6
Travel Time (hr)	9.4
Avg Speed (mph)	27
Fuel Used (gal)	7.9
HC Emissions (g)	77
CO Emissions (g)	1768
NOx Emissions (g)	232
Vehicles Entered	385
Vehicles Exited	400
Hourly Exit Rate	2400
Input Volume	4620
% of Volume	52
Denied Entry Before	0
Denied Entry After	0

---

Intersection: 2: Int

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Movement	NB	SB
Directions Served	R	L
Maximum Queue (ft)	20	140
Average Queue (ft)	4	88
95th Queue (ft)	17	151
Link Distance (ft)		
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	600	600
Storage Blk Time (%)		
Queuing Penalty (veh)		

---

Network Summary

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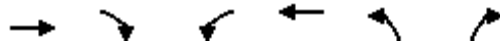
Network wide Queuing Penalty: 0

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WEBB RANCH - FARMINGTON HILL ACCESS, AM

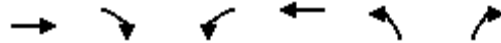
2: Int

11/10/2011



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	0	240	0	1000	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected			0.950		0.950	
Satd. Flow (prot)	0	0	1770	0	1770	0
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	0	0	1770	0	1770	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	30			30	30	
Link Distance (ft)	302			301	1191	
Travel Time (s)	6.9			6.8	27.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	261	0	1087	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	261	0	1087	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	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)		9	15		15	9
Turn Type		custom				
Protected Phases					2	
Permitted Phases			8			
Minimum Split (s)			20.0		20.0	
Total Split (s)	0.0	0.0	16.0	0.0	39.0	0.0
Total Split (%)	0.0%	0.0%	29.1%	0.0%	70.9%	0.0%
Maximum Green (s)			12.0		35.0	
Yellow Time (s)			3.5		3.5	
All-Red Time (s)			0.5		0.5	
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?						
Walk Time (s)			5.0		5.0	
Flash Dont Walk (s)			11.0		11.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)			12.0		35.0	
Actuated g/C Ratio			0.22		0.64	
v/c Ratio			0.68		0.97	
Control Delay			30.7		32.4	
Queue Delay			0.0		0.0	
Total Delay			30.7		32.4	
LOS			C		C	





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay					32.4	
Approach LOS					C	

**Intersection Summary**

Area Type:	Other
Cycle Length:	55
Actuated Cycle Length:	55
Offset:	0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
Natural Cycle:	75
Control Type:	Pretimed
Maximum v/c Ratio:	0.97
Intersection Signal Delay:	32.1
Intersection LOS:	C
Intersection Capacity Utilization	75.4%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 2: Int



## Report #3 - Weighted Travel Time Calculations

### Alternative R1:

Durango to Farmington: 0.84 miles at 35mph = 86 seconds of travel time

Farmington to Durango: 0.84 miles at 35mph = 86 seconds of travel time

Bayfield to Farmington: 0.97 miles at 50mph and 0.84 miles at 35mph = 156 seconds of travel time

Farmington to Bayfield: 0.97 miles at 50mph and 0.84 miles at 35mph = 156 seconds of travel time

Using the SEIS ADTs for the turning movements a weighted travel time was found for all of the traffic utilizing US 550 from CR 220 to the Farmington Hill Intersection.

Durango to Farmington = 10,650 ADT = 39.2% of traffic

Farmington to Durango = 10,000 ADT = 36.8% of traffic

Bayfield to Farmington = 1,400 ADT = 5.2% of traffic

Farmington to Bayfield = 5,100 ADT = 18.8% of traffic

**Weighted Average Travel Time =**

**86 sec x 0.392 + 86 sec x 0.368 + 156 sec x 0.052 + 156 sec x 0.188 = 102.8 sec**

**Alternative R2:**

Durango to Farmington: 0.84 miles at 45mph = 67 seconds of travel time

Farmington to Durango: 0.84 miles at 45mph = 67 seconds of travel time

Bayfield to Farmington: 0.97 miles at 50mph and 0.84 miles at 45mph = 137 seconds of travel time

Farmington to Bayfield: 0.97 miles at 50mph and 0.84 miles at 45mph = 137 seconds of travel time

Using the SEIS ADTs for the turning movements a weighted travel time was found for all of the traffic utilizing US 550 from CR 220 to the Farmington Hill Intersection.

Durango to Farmington = 10,650 ADT = 39.2% of traffic

Farmington to Durango = 10,000 ADT = 36.8% of traffic

Bayfield to Farmington = 1,400 ADT = 5.2% of traffic

Farmington to Bayfield = 5,100 ADT = 18.8% of traffic

Weighted Average Travel Time =

$$67 \text{ sec} \times 0.392 + 67 \text{ sec} \times 0.368 + 137 \text{ sec} \times 0.052 + 137 \text{ sec} \times 0.188 = 83.8 \text{ sec}$$

**Alternative R3:**

Durango to Farmington: 0.84 miles at 35mph = 86 seconds of travel time

Farmington to Durango: 0.84 miles at 35mph = 86 seconds of travel time

Bayfield to Farmington: 0.97 miles at 50mph and 0.84 miles at 35mph = 156 seconds of travel time

Farmington to Bayfield: 0.97 miles at 50mph and 0.84 miles at 35mph = 156 seconds of travel time

Using the SEIS ADTs for the turning movements a weighted travel time was found for all of the traffic utilizing US 550 from CR 220 to the Farmington Hill Intersection.

Durango to Farmington = 10,650 ADT = 39.2% of traffic

Farmington to Durango = 10,000 ADT = 36.8% of traffic

Bayfield to Farmington = 1,400 ADT = 5.2% of traffic

Farmington to Bayfield = 5,100 ADT = 18.8% of traffic

Weighted Average Travel Time =

$$86 \text{ sec} \times 0.392 + 86 \text{ sec} \times 0.368 + 156 \text{ sec} \times 0.052 + 156 \text{ sec} \times 0.188 = 102.8 \text{ sec}$$

**Alternative R4:**

Durango to Farmington: 0.84 miles at 45mph = 67 seconds of travel time

Farmington to Durango: 0.84 miles at 45mph = 67 seconds of travel time

Bayfield to Farmington: 0.97 miles at 50mph and 0.84 miles at 45mph = 137 seconds of travel time

Farmington to Bayfield: 0.97 miles at 50mph and 0.84 miles at 45mph = 137 seconds of travel time

Using the SEIS ADTs for the turning movements a weighted travel time was found for all of the traffic utilizing US 550 from CR 220 to the Farmington Hill Intersection.

Durango to Farmington = 10,650 ADT = 39.2% of traffic

Farmington to Durango = 10,000 ADT = 36.8% of traffic

Bayfield to Farmington = 1,400 ADT = 5.2% of traffic

Farmington to Bayfield = 5,100 ADT = 18.8% of traffic

Weighted Average Travel Time =

$$67 \text{ sec} \times 0.392 + 67 \text{ sec} \times 0.368 + 137 \text{ sec} \times 0.052 + 137 \text{ sec} \times 0.188 = 83.8 \text{ sec}$$

### **Revised Modified G Alternative**

Durango to Farmington: 0.95 miles at 60mph and 0.95 miles at 50mph = 124 seconds of travel time

Farmington to Durango: 0.95 miles at 60mph and 0.95 miles at 50mph = 124 seconds of travel time

Bayfield to Farmington: 1.52 miles at 60 mph = 91 seconds of travel time

Farmington to Bayfield: 1.33 miles at 60mph = 80 seconds of travel time

Using the SEIS ADTs for the turning movements a weighted travel time was found for all of the traffic utilizing US 550 from CR 220 to the Farmington Hill Intersection.

Durango to Farmington = 10,650 ADT = 39.2% of traffic

Farmington to Durango = 10,000 ADT = 36.8% of traffic

Bayfield to Farmington = 1,400 ADT = 5.2% of traffic

Farmington to Bayfield = 5,100 ADT = 18.8% of traffic

Weighted Average Travel Time =

$$124 \text{ sec} \times 0.392 + 124 \text{ sec} \times 0.368 + 91 \text{ sec} \times 0.052 + 80 \text{ sec} \times 0.188 = 114.0 \text{ sec}$$





## **APPENDIX D – Cost Estimates**

Table 1 – Alternative R1 Cost Estimate

Table 2 – Alternative R2 Cost Estimate

Table 3 – Alternative R3 Cost Estimate

Table 4 – Alternative R4 Cost Estimate

Table 5 – Farmington Hill Intersection Improvements Cost Estimate

Table 6 – Revised Modified G Cost Estimate



**Farmington Hill - Alternative R1 (35 mph)**

**Conceptual Cost Estimate**

Russell Planning and Engineering

November 28, 2011

	Item		Quantity	Unit Cost	Extended Cost	Comments	
1	201-00000	Clearing and Grubbing	Acre	33.6	\$3,773.00	\$126,772.80	
2	203-00010	Unclassified Excavation (CIP)	CY	1800000.0	\$6.00	\$10,800,000.00	
3	203-00060	Embankment Material (CIP)	CY	12000.0	\$8.00	\$96,000.00	
4	212-00006	Seeding (Native)	Acre	25.0	\$509.00	\$12,732.20	
5	212-00006	Soil Conditioning	Acre	25.0	\$2,049.00	\$51,253.98	
6	213-00003	Mulching (Weed Free)	Acre	25.0	\$362.00	\$9,055.12	
7	304-00000	ABC	Ton	45000.0	\$17.00	\$765,000.00	
8	403-33851	HMA	Ton	15000.0	\$89.53	\$1,342,950.00	
9	504-00000	Retaining Walls (Cut)	SF	1100.0	\$85.00	\$93,500.00	
10	504-00000	Retaining Walls (Fill)	SF	17000.0	\$115.00	\$1,955,000.00	
11		Bridge	SF	0.0	\$170.00	\$0.00	
12		Gas Well	Each	0.0	\$1,500,000.00	\$0.00	
13		Local access roads	LF	500.0	\$95.00	\$47,500.00	CR 220
14		Large wildlife crossing/farm access (bridges)	SF	0.0		\$0.00	
				<b>TOTAL</b>		<b>\$15,299,764.09</b>	
				<b>% Range</b>	<b>% Used</b>	<b>Cost</b>	
		Project Construction Bid Items				\$15,299,764.09	
		Contingencies			30.0%	\$4,589,929.23	
					<b>Subtotal</b>	<b>\$19,889,693.32</b>	
		ITS			2.0%	\$397,793.87	
		Drainage/Utilities			10.0%	\$1,988,969.33	
		MS4 and environmental mitigations			2.0%	\$397,793.87	
		Signing and Striping			2.0%	\$397,793.87	
		Construction Signing & Traffic Control			5.0%	\$994,484.67	
		Mobilization			5.0%	\$994,484.67	
		<b>Total of Construction Bid Items</b>			<b>Subtotal</b>	<b>\$25,061,013.58</b>	
		Force Account - Misc.			10.0%	\$2,506,101.36	
		<b>Subtotal of Construction Cost</b>			<b>Subtotal</b>	<b>\$27,567,114.94</b>	
		Total Construction Engineering			23.95%	\$6,602,324.03	
		Total Preliminary Engineering			10.0%	\$2,756,711.49	
		<b>Subtotal of Construction Cost</b>			<b>Subtotal</b>	<b>\$36,926,150.47</b>	
		Right of Way	Acre		\$0.00	\$0.00	
		Residences	Each		\$0.00	\$0.00	
		Business	Each		\$0.00	\$0.00	
		Gravel Mining Rights	CY		\$0.00	\$0.00	
		Right of Way costs/damage			0.0%	\$0.00	
					<b>Subtotal ROW<sup>1</sup></b>	<b>\$0.00</b>	
		<b>Subtotal of Construction Cost</b>				<b>\$36,926,150.47</b>	
		Inflation (4 years)		4.0	3.0%	\$4,431,138.06	
					<b>Total Project Cost</b>	<b>\$41,357,288.52</b>	
					US 550	\$41,357,288.52	
					Farmington Hill Ramps	\$26,760,296.20	
					CR 220 Detour/Extra Construction Cost	\$4,400,000.00	
					<b>Total</b>	<b>\$72,517,584.72</b>	

<sup>1</sup> It is our understanding that CDOT has understated the cost of acquisition of Webb Ranch Property "Inclusive of Gravel and Solar". Therefore, acquisition costs have been excluded for all alternatives

Farmington Hill - Alternative R2 (45 mph)							
Conceptual Cost Estimate							
Russell Planning and Engineering							
November 28, 2011							
		Item		Quantity	Unit Cost	Extended Cost	Comments
1	201-00000	Clearing and Grubbing	Acre	43.5	\$3,773.00	\$164,125.50	
2	203-00010	Unclassified Excavation (CIP)	CY	3100000.0	\$6.00	\$18,600,000.00	
3	203-00060	Embankment Material (CIP)	CY	5000.0	\$8.00	\$40,000.00	
4	212-00006	Seeding (Native)	Acre	34.5	\$509.00	\$17,542.27	
5	212-00006	Soil Conditioning	Acre	34.5	\$2,049.00	\$70,617.12	
6	213-00003	Mulching (Weed Free)	Acre	34.5	\$362.00	\$12,476.04	
7	304-00000	ABC	Ton	45000.0	\$17.00	\$765,000.00	
8	403-33851	HMA	Ton	15000.0	\$89.53	\$1,342,950.00	
9	504-00000	Retaining Walls (Cut)	SF	3000.0	\$85.00	\$255,000.00	
10	504-00000	Retaining Walls (Fill)	SF	9000.0	\$115.00	\$1,035,000.00	
11		Bridge	SF	0.0	\$170.00	\$0.00	
12		Gas Well	Each	0.0	\$1,500,000.00	\$0.00	
13		Local access roads	LF	500.0	\$95.00	\$47,500.00	CR 220
14		Large wildlife crossing/farm access (bridges)	SF			\$0.00	
					<b>TOTAL</b>	<b>\$22,350,210.93</b>	
				<b>% Range</b>	<b>% Used</b>	<b>Cost</b>	
		Project Construction Bid Items				\$22,350,210.93	
		Contingencies			30.0%	\$6,705,063.28	
					<b>Subtotal</b>	<b>\$29,055,274.21</b>	
		ITS			2.0%	\$581,105.48	
		Drainage/Utilities			10.0%	\$2,905,527.42	
		MS4 and environmental mitigations			2.0%	\$581,105.48	
		Signing and Striping			2.0%	\$581,105.48	
		Construction Signing & Traffic Control			5.0%	\$1,452,763.71	
		Mobilization			5.0%	\$1,452,763.71	
		<b>Total of Construction Bid Items</b>			<b>Subtotal</b>	<b>\$36,609,645.50</b>	
		Force Account - Misc.			10.0%	\$3,660,964.55	
		Subtotal of Construction Cost			Subtotal	\$40,270,610.05	
		Total Construction Engineering			23.95%	\$9,644,811.11	
		Total Preliminary Engineering			10.0%	\$4,027,061.00	
		<b>Subtotal of Construction Cost</b>			<b>Subtotal</b>	<b>\$53,942,482.16</b>	
		Right of Way	Acre		\$0.00	\$0.00	
		Residences	Each		\$0.00	\$0.00	
		Business	Each		\$0.00	\$0.00	
		Gravel Mining Rights	CY		\$1.00	\$0.00	
		Right of Way costs/damage			0.0%	\$0.00	
					<b>Subtotal ROW<sup>1</sup></b>	<b>\$0.00</b>	
		<b>Subtotal of Construction Cost</b>			<b>Subtotal</b>	<b>\$53,942,482.16</b>	
		Inflation (4 years)			3.0%	\$6,473,097.86	
					<b>Total Project Cost</b>	<b>\$60,415,580.02</b>	
					US 550	\$60,415,580.02	
					Farmington Hill Ramps	\$26,760,296.20	
					CR 220 Detour/Extra Construction Cost	\$4,400,000.00	
					<b>Total</b>	<b>\$91,575,876.22</b>	

<sup>1</sup> It is our understanding that CDOT has understated the cost of acquisition of Webb Ranch Property "Inclusive of Gravel and Solar". Therefore, acquisition costs have been excluded for all alternatives

Farmington Hill - Alternative R3 (35 mph, terraced walls to east)							
Conceptual Cost Estimate							
Russell Planning and Engineering							
November 28, 2011							
	Item	Quantity	Unit Cost	Extended Cost	Comments		
1	201-00000	Clearing and Grubbing	Acre	24.4	\$3,773.00	\$92,061.20	
2	203-00010	Unclassified Excavation (CIP)	CY	810000.0	\$6.00	\$4,860,000.00	
3	203-00060	Embankment Material (CIP)	CY	15500.0	\$8.00	\$124,000.00	
4	212-00006	Seeding (Native)	Acre	15.8	\$509.00	\$8,049.40	
5	212-00006	Soil Conditioning	Acre	15.8	\$2,049.00	\$32,403.18	
6	213-00003	Mulching (Weed Free)	Acre	15.8	\$362.00	\$5,724.72	
7	304-00000	ABC	Ton	45000.0	\$17.00	\$765,000.00	
8	403-33851	HMA	Ton	15000.0	\$89.53	\$1,342,950.00	
9	504-00000	Retaining Walls (Cut)	SF	115440.0	\$85.00	\$9,812,400.00	
10	504-00000	Retaining Walls (Fill)	SF	16982.5	\$115.00	\$1,952,987.50	
11		Bridge	SF	0.0	\$170.00	\$0.00	
12		Gas Well	Each	0.0	\$1,500,000.00	\$0.00	
13		Local access roads	LF	500.0	\$95.00	\$47,500.00	CR 220
14		Large wildlife crossing/farm access (bridges)	SF	0.0		\$0.00	
					<b>TOTAL</b>	<b>\$19,043,075.99</b>	
				<b>% Range</b>	<b>% Used</b>	<b>Cost</b>	
		Project Construction Bid Items				\$19,043,075.99	
		Contingencies			30.0%	\$5,712,922.80	
					<b>Subtotal</b>	<b>\$24,755,998.79</b>	
		ITS			2.0%	\$495,119.98	
		Drainage/Utilities			10.0%	\$2,475,599.88	
		MS4 and environmental mitigations			2.0%	\$495,119.98	
		Signing and Striping			2.0%	\$495,119.98	
		Construction Signing & Traffic Control			5.0%	\$1,237,799.94	
		Mobilization			5.0%	\$1,237,799.94	
		<b>Total of Construction Bid Items</b>			<b>Subtotal</b>	<b>\$31,192,558.48</b>	
		Force Account - Misc.			10.0%	\$3,119,255.85	
		<b>Subtotal of Construction Cost</b>			<b>Subtotal</b>	<b>\$34,311,814.32</b>	
		Total Construction Engineering			23.95%	\$8,217,679.53	
		Total Preliminary Engineering			10.0%	\$3,431,181.43	
		<b>Subtotal of Construction Cost</b>			<b>Subtotal</b>	<b>\$45,960,675.29</b>	
		Right of Way	Acre		\$0.00	\$0.00	
		Residences	Each		\$0.00	\$0.00	
		Business	Each		\$0.00	\$0.00	
		Gravel Mineral Rights	CY		\$0.00	\$0.00	
		Right of Way costs/damage			0.0%	\$0.00	
					<b>Subtotal ROW<sup>1</sup></b>	<b>\$0.00</b>	
		<b>Subtotal of Construction Cost</b>				<b>\$45,960,675.29</b>	
		Inflation (4 years)		4.0	3.0%	\$5,515,281.03	
					<b>Total Project Cost</b>	<b>\$51,475,956.32</b>	
					US 550	\$51,475,956.32	
					Farmington Hill Ramps	\$26,760,296.20	
					CR 220 Detour/Extra Construction Cost	\$4,400,000.00	
					<b>Total</b>	<b>\$82,636,252.52</b>	

<sup>1</sup> It is our understanding that CDOT has understated the cost of acquisition of Webb Ranch Property "Inclusive of Gravel and Solar". Therefore, acquisition costs have been excluded for all alternatives



Farmington Hill - Alternative R4 (45 mph, terraced walls to east)							
Conceptual Cost Estimate							
Russell Planning and Engineering							
November 28, 2011							
	Item	Quantity	Unit Cost	Extended Cost	Comments		
1	201-00000	Clearing and Grubbing	Acre	36.8	\$3,773.00	\$138,846.40	
2	203-00010	Unclassified Excavation (CIP)	CY	1625000.0	\$6.00	\$9,750,000.00	
3	203-00060	Embankment Material (CIP)	CY	5200.0	\$8.00	\$41,600.00	
4	212-00006	Seeding (Native)	Acre	27.8	\$509.00	\$14,131.97	
5	212-00006	Soil Conditioning	Acre	27.8	\$2,049.00	\$56,888.82	
6	213-00003	Mulching (Weed Free)	Acre	27.8	\$362.00	\$10,050.64	
7	304-00000	ABC	Ton	45000.0	\$17.00	\$765,000.00	
8	403-33851	HMA	Ton	15000.0	\$89.53	\$1,342,950.00	
9	504-00000	Retaining Walls (Cut)	SF	129955.0	\$85.00	\$11,046,175.00	
10	504-00000	Retaining Walls (Fill)	SF	8803.8	\$115.00	\$1,012,431.25	
11		Bridge	SF	0.0	\$170.00	\$0.00	
12		Gas Well	Each	0.0	\$1,500,000.00	\$0.00	
13		Local access roads	LF	500.0	\$95.00	\$47,500.00	CR 220
14		Large wildlife crossing/farm access (bridges)	SF			\$0.00	
					<b>TOTAL</b>	<b>\$24,225,574.08</b>	
			<b>% Range</b>	<b>% Used</b>	<b>Cost</b>		
		Project Construction Bid Items				\$24,225,574.08	
		Contingencies		30.0%		\$7,267,672.22	
				<b>Subtotal</b>		<b>\$31,493,246.30</b>	
		ITS		2.0%		\$629,864.93	
		Drainage/Utilities		10.0%		\$3,149,324.63	
		MS4 and environmental mitigations		2.0%		\$629,864.93	
		Signing and Striping		2.0%		\$629,864.93	
		Construction Signing & Traffic Control		5.0%		\$1,574,662.32	
		Mobilization		5.0%		\$1,574,662.32	
		<b>Total of Construction Bid Items</b>			<b>Subtotal</b>	<b>\$39,681,490.34</b>	
		Force Account - Misc.		10.0%		\$3,968,149.03	
		Subtotal of Construction Cost			Subtotal	\$43,649,639.37	
		Total Construction Engineering		23.95%		\$10,454,088.63	
		Total Preliminary Engineering		10.0%		\$4,364,963.94	
		<b>Subtotal of Construction Cost</b>			<b>Subtotal</b>	<b>\$62,436,840.97</b>	
		Right of Way	Acre		\$0.00	\$0.00	
		Residences	Each		\$0.00	\$0.00	
		Business	Each		\$0.00	\$0.00	
		Gravel Mineral Rights	CY		\$0.00	\$0.00	
		Right of Way costs/damage			0.0%	\$0.00	
					<b>Subtotal ROW<sup>1</sup></b>	<b>\$0.00</b>	
		<b>Subtotal of Construction Cost</b>			<b>Subtotal</b>	<b>\$62,436,840.97</b>	
		Inflation (4 years)			3.0%	\$7,492,420.92	
					<b>Total Project Cost</b>	<b>\$69,929,261.89</b>	
					US 550	\$69,929,261.89	
					Farmington Hill Ramps	\$26,760,296.20	
					CR 220 Detour/Extra Construction Cost	\$4,400,000.00	
					<b>Total</b>	<b>\$101,089,558.09</b>	

<sup>1</sup> It is our understanding that CDOT has understated the cost of acquisition of Webb Ranch Property "Inclusive of Gravel and Solar". Therefore, acquisition costs have been excluded for all alternatives

**Farmington Hill - Intersection Improvements**

**Conceptual Cost Estimate**

Russell Planning and Engineering

November 28, 2011

Item		Quantity	Unit Cost	Extended Cost	Comments
1	201-00000 Clearing and Grubbing	Acre	9.0	\$3,773.00	\$33,957.00
2	203-00010 Unclassified Excavation (CIP)	CY	18000.0	\$6.00	\$108,000.00
3	203-00060 Embankment Material (CIP)	CY	130000.0	\$8.00	\$1,040,000.00
4	212-00006 Seeding (Native)	Acre	5.0	\$509.00	\$2,545.00
5	212-00006 Soil Conditioning	Acre	5.0	\$2,049.00	\$10,245.00
6	213-00003 Mulching (Weed Free)	Acre	5.0	\$362.00	\$1,810.00
7	304-00000 ABC	Ton	9000.0	\$17.00	\$153,000.00
8	403-33851 HMA	Ton	3500.0	\$89.53	\$313,355.00
9	504-00000 Retaining Walls (Cut)	SF	12000.0	\$85.00	\$1,020,000.00
10	504-00000 Retaining Walls (Fill)	SF	28000.0	\$115.00	\$3,220,000.00
11	Bridge	SF	11100.0	\$170.00	\$1,887,000.00
12	Gas Well	Each	0.0	\$1,500,000.00	\$0.00
13	Local access roads	LF	0.0	\$95.00	\$0.00
14	Intersection Signalization	LS	1.0	\$1,000,000.00	\$1,000,000.00
				<b>TOTAL</b>	<b>\$8,789,912.00</b>
		<b>% Range</b>	<b>% Used</b>	<b>Cost</b>	
Project Construction Bid Items					\$8,789,912.00
Contingencies			30.0%		\$2,636,973.60
			<b>Subtotal</b>		<b>\$11,426,885.60</b>
ITS			2.0%		\$228,537.71
Drainage/Utilities			10.0%		\$1,142,688.56
MS4 and environmental mitigations			2.0%		\$228,537.71
Signing and Striping			2.0%		\$228,537.71
Construction Signing & Traffic Control			5.0%		\$571,344.28
Mobilization			5.0%		\$571,344.28
<b>Total of Construction Bid Items</b>			<b>Subtotal</b>		<b>\$14,397,875.86</b>
Force Account - Misc.			10.0%		\$1,439,787.59
<b>Subtotal of Construction Cost</b>			<b>Subtotal</b>		<b>\$15,837,663.44</b>
Total Construction Engineering			23.95%		\$3,793,120.39
Total Preliminary Engineering			10.0%		\$1,583,766.34
<b>Subtotal of Construction Cost</b>			<b>Subtotal</b>		<b>\$21,214,550.18</b>
Right of Way		Acre		\$0.00	\$0.00
Residences		Each		\$0.00	\$0.00
Business		Each		\$0.00	\$0.00
Gravel Mineral Rights		CY		\$0.00	\$0.00
Right of Way costs/damage				0.0%	\$0.00
			<b>Subtotal ROW<sup>1</sup></b>		<b>\$0.00</b>
<b>Subtotal of Construction Cost</b>					<b>\$21,214,550.18</b>
Tie Into Ramp A instead of US 160 EB					\$3,000,000.00
Inflation (4 years)				3.0%	\$2,545,746.02
			<b>Total Project Cost</b>		<b>\$26,760,296.20</b>
				Farmington Hill Ramps <sup>2</sup>	\$26,760,296.20
			<b>Total<sup>2</sup></b>		<b>\$26,760,296.20</b>

<sup>1</sup> It is our understanding that CDOT has understated the cost of acquisition of Webb Ranch Property "Inclusive of Gravel and Solar".

Therefore, acquisition costs have been excluded for all alternatives

<sup>2</sup> Per the Krager and Associates Report dated November 22, 2011 an at grade intersection may be a viable alternative to an interchange, which would eliminate much of the costs associated with this estimate

Revised Modified G Alternative							
Conceptual Cost Estimate							
Russell Planning and Engineering							
November 28, 2011							
		Item		Quantity	Unit Cost	Extended Cost	Comments
1	201-00000	Clearing and Grubbing	Acre	57.1	\$3,773.00	\$215,438.30	
2	203-00010	Unclassified Excavation (CIP)	CY	1600000.0	\$6.00	\$9,600,000.00	
3	203-00060	Embankment Material (CIP)	CY	0.0	\$8.00	\$0.00	
4	212-00006	Seeding (Native)	Acre	37.8	\$509.00	\$19,240.20	
5	212-00006	Soil Conditioning	Acre	37.8	\$2,049.00	\$77,452.20	
6	213-00003	Mulching (Weed Free)	Acre	37.8	\$362.00	\$13,683.60	
7	304-00000	ABC	Ton	111640.0	\$17.00	\$1,897,880.00	
8	403-33851	HMA	Ton	42180.0	\$89.53	\$3,776,375.40	
9	504-00000	Retaining Walls (Cut)	SF	0.0	\$85.00	\$0.00	
10	504-00000	Retaining Walls (Fill)	SF	0.0	\$115.00	\$0.00	
11		Bridge	SF	52800.0	\$170.00	\$8,976,000.00	Bridges over Draw
12		Gas Well	Each	0.0	\$1,500,000.00	\$0.00	
13		Local access roads	LF	500.0	\$95.00	\$47,500.00	CR 220
14		Large wildlife crossing/farm access (bridges)	SF	2050.0	\$170.00	\$348,500.00	
						<b>TOTAL</b>	<b>\$24,972,069.70</b>
				<b>% Range</b>	<b>% Used</b>	<b>Cost</b>	
Project Construction Bid Items							\$24,972,069.70
Contingencies						30.0%	\$7,491,620.91
						<b>Subtotal</b>	<b>\$32,463,690.61</b>
ITS						2.0%	\$649,273.81
Drainage/Utilities						10.0%	\$3,246,369.06
MS4 and environmental mitigations						4.0%	\$1,298,547.62
Signing and Striping						2.0%	\$649,273.81
Construction Signing & Traffic Control						5.0%	\$1,623,184.53
Mobilization						5.0%	\$1,623,184.53
<b>Total of Construction Bid Items</b>						<b>Subtotal</b>	<b>\$41,553,523.98</b>
Force Account - Misc.						10.0%	\$4,155,352.40
<b>Subtotal of Construction Cost</b>						<b>Subtotal</b>	<b>\$45,708,876.38</b>
Total Construction Engineering						23.95%	\$10,947,275.89
Total Preliminary Engineering						10.0%	\$4,570,887.64
<b>Subtotal of Construction Cost</b>						<b>Subtotal</b>	<b>\$61,227,039.91</b>
Right of Way			Acre		\$0.00	\$0.00	
Residences			Each		\$0.00	\$0.00	
Business			Each		\$0.00	\$0.00	
Gravel Mineral Rights			CY		\$0.00	\$0.00	
Right of Way costs/damage					50.0%	\$0.00	
						<b>Subtotal ROW<sup>1</sup></b>	<b>\$0.00</b>
<b>Subtotal of Construction Cost</b>							<b>\$61,227,039.91</b>
Inflation (4 years)				4.0	3.0%	\$7,347,244.79	
						<b>Total Project Cost</b>	<b>\$68,574,284.70</b>
						US 550	\$68,574,284.70
						Alternative G Ramps	\$18,754,114.05
						<b>Total</b>	<b>\$87,328,398.75</b>

<sup>1</sup> It is our understanding that CDOT has understated the cost of acquisition of Webb Ranch Property "Inclusive of Gravel and Solar". Therefore, acquisition costs have been excluded for all alternatives

## **APPENDIX E – Alternative Comparison Table**

Table 1 – Alternative Comparison Table



Table 1 - Alternative Comparison Table

Alternative	CDOT Purpose and Need Criteria														-Other Factors				
	-Increase travel efficiency/capacity to meet current and future needs.		-Improve safety for the traveling public by reducing the number and severity of crashes											-Control access for safety and mobility flow improvements					
	Weighted Travel Time	LOS Issues	Sharp Horizontal Curves <sup>1</sup>	Steep Roadway Grade <sup>1</sup>	Minimal Paved Shoulders <sup>1</sup>	Narrow Traversable Ground Outside Roadway <sup>1</sup>	Limited Guardrail Along Roadway <sup>1</sup>	Steep Hillside Above and Below the Roadway <sup>1</sup>	Bottom Toe of Hillside Below Roadway is High <sup>1</sup>	Existing Roadway Runs Primarily Along the North Facing Slope <sup>1</sup>	Cobble and Boulders Fall onto the Roadway <sup>1</sup>	Driver Visibility Along Roadway is Limited <sup>1</sup>	Other Safety Considerations <sup>2</sup>	Reduction in the number of access points	Historic Webb Ranch Impacts	ROW purchase from Webb	Other Property Impacts	Cost	
<b>Alternative R1</b>	102.8 seconds	LOS C at Interchange	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	Yes, Eagle Block and Private Residences combined	9.3 acres	26.9 acres	Eagle Block Access Revision	\$ 72,517,584.72	
<b>Alternative R2</b>	83.8 seconds	LOS C at Interchange	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	Yes, Eagle Block and Private Residences combined	13.2 acres	31.4 acres	Eagle Block and Hillmeyer Residence Eliminated/Relocated	\$ 91,575,876.22	
<b>Alternative R3</b>	102.8 seconds	LOS C at Interchange	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	Yes, Eagle Block and Private Residences combined	3.9 acres	18.5 acres	Eagle Block Access Revision	\$ 82,636,252.52	
<b>Alterantive R4</b>	83.8 seconds	LOS C at Interchange	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	Yes, Eagle Block and Private Residences combined	5.4 acres	24.8 acres	Eagle Block and Hillmeyer Residence Eliminated/Relocated	\$ 101,089,558.09	
<b>Revised Modified G</b>	114.0 seconds	LOS E left turns to Bayfield	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	Yes, Eagle Block and Private Residences combined	46 acres	46 acres	Frontage Road Construciton for Private Access Revision	\$ 87,328,398.25	

<sup>1</sup>Yes means that alternative address this concern discussed by CDOT in EIS and SEIS

<sup>2</sup>Yes means that there are additional safety elements associate with alternative not discussed by CDOT in EIS and SEIS





**APPENDIX F – Report(s)**  
Report 1 – Trautner Geotech LLC Report



November 22, 2011

Mr. Thomas G. McNeill  
500 Woodward Avenue  
Suite 4000  
Detroit, MI 48226

Via E-mail [tmcneill@dickinsonwright.com](mailto:tmcneill@dickinsonwright.com)

PN: 52616PE

Subject: Geotechnical Engineering Comments for  
The Webb Ranch, US 550, Four Alternative "R" Alignments  
Durango, Colorado

Mr. McNeill,

On behalf of the owners of Webb Ranch, you have retained our firm to offer opinion and comment from a geotechnical perspective on the four R Alternatives developed by Russell Engineering. We have provided comments for each of the R Alternatives as depicted on the preliminary concept drawing attached to this letter. We have provided comments specific to each of the R Alternatives followed by general comments specific to the 3:1, h:v, slope gradients that are appropriate for considerations of each alignment. The comments below are based on observations of the existing cut slopes along the roadway and my experience with the geotechnical engineering conditions in the area gained over X years in the field.

**Alternative R1 (Red Alignment, 3:1 Cut Slopes) 35mph design speed with 6% slope, 15' maximum fill walls, no cut walls, 3:1 slope on the east side of the project.**

The fifteen (15) foot tall fill and associated retaining structures will impose about 1,800 to 2,000 pounds per square foot of additional load on the slopes below the roadway. The feasibility of this depth of fill obviously is influenced by the stability of the slope below the fill. Generally this depth of fill is relatively common in the areas and portions of the existing alignment may have fill depths similar to this. The base of the fill will need to be keyed and benched into competent material along the base of the fill and include subsurface drainage at the back of the toe key and a mid-height bench. In my professional opinion, there are no unrealistic geotechnical engineering constraints on this alignment, but in order to key the bottom of the fill into the competent material underlying the slope the actual fill depth may be greater than the apparent depth of fill based strictly on topographic considerations. It is anticipated that relatively competent material may be encountered within 5 to 8 feet of the sloped surface. A mechanically Stabilized Earth (MSE) fill is likely the best choice for the fill and the best material to consider for use from the project site is the gravel soils which will be encountered within the cut areas where this alignment is cut through the prow, or nose, of the slope where the existing sharp curve exists. MSE structures are commonly used in the area and consist of geotextile reinforcement of

the fill that is tied into the wall facing. It is possible, but less likely, that the excavation of the formational material (Animas Formation) will produce material suitable for use in MSE structures. The suitability of the material for this use is typically based on an angle of internal friction of about 25 to 28 degrees, which would need to be determined as part of a geotechnical engineering feasibility study.

**Alternative R2 (Blue Alignment, 3:1 Cut Slopes) 45 mph design speed with 5% slope, 30' maximum fill section , no cut walls, 3:1 slope on the east side of the project.**

The general comments for construction of the 15 foot tall fill are appropriate for considerations for this alternative with the following additional comments.

It is likely that the greatest thickness of fill proposed along this alignment is near the existing Eagle Block Plant, or along the crest of the slope near Eagle Block. The fill will impose about 3,600 to 4,000 pounds per square foot of load on the underlying soil. As mentioned above the fill will need to be supported by a competent stratum which might increase the apparent needed fill depth by 5 to 8 feet. Settlement of fill occurs both within the fill mass as well as within the underlying support materials. It is typical to have about 2 to 5 percent, sometimes greater, of settlement of compacted clay fill material, even if this fill is monitored and tested. As with the R1 Alternative discussed above an MSE structure is likely to be the best choice for this alternative with the granular material being desirable not only for purposes of reinforcement, but also to help decrease the total post construction settlement. Granular material will settle less than will cohesive soils.

**Alternative R3 (Red Alignment, Walls) 35mph design speed with 6% slope 15' maximum fill walls, large multi-level wall system, 4 level maximum.**

The preliminary concept drawing for the R3 Alternative depicts the use of multi level retaining walls with terraced benches. The drawing shows a slope gradient of 3:1, h:v between the walls. This configuration probably would be stable for most types of retaining structures, but it would be best to resolve lateral forces associated with the walls through the use of soil anchors or tie-back anchors into the formational material. Anchors are a better choice than nails for this application. The primary difference between anchors and nails are that anchors are pre-loaded during the installation process. The use of anchors in combination with the concept shown makes this a geotechnically viable wall configuration.

**Alternative R4 (Blue Alignment, Walls) 45mph design speed with 5% slope 30' maximum fill section, large multi-level wall system, 4 level maximum.**

A tiered MSE wall is probably a good choice for the 30 foot tall fill, basically two 15 foot tall sections would allow for maintaining the base of each fill within more competent fill foundation soils as well as decrease the potential for excessive post-construction settlement of the soils directly under the roadway.

### **Additional Comments**

I recognize that the 3:1, h:v, slope gradient threshold is utilized in the R Alternatives to provide direct comparison to the Revised G Modified Alternative which presently is CDOT's preferred alternative. It is worth noting, however, that this slope gradient will cause excessive denudation of the slopes above the existing roadway alignment. Establishment of vegetation on these large open cut faces will require soil nutrient amendment and/or placement of topsoil materials with significant attendant costs and associated surface erosion until vegetation is established. In my professional opinion, from a geotechnical engineering perspective, a steeper slope, perhaps as much as 2:1, h:v, along most of the roadway, and potentially steeper for shorter cut slope heights, would be stable

In addition, it should be noted that cut heights could be minimized by reducing horizontal surface widths. I would recommend the development of a design that includes the existing alignment, or variant thereof, for south bound traffic, with a completely separate roadway for the north bound two lane roadway. The northbound lanes could be located near the crest of the slope for the initial portion of the downslope and subsequently tying into the US160 roadway at a location nearer to the existing Ramp A area, or near the existing C&J Gravel intersection. This variation of the R Alternatives is worth considering both for construction logistics as well as slope stability/reduction of cut heights. There may be other traffic and civil engineering considerations that reduce the viability of this concept.

I reviewed the cost estimates for the various options that were prepared by CDOT. The unit cost (per face foot) for retaining structures was generally \$115.00, for all of the alternates except for Alternate A. The unit cost used for retaining structures for Alternate A, along the existing alignment, was \$382.00. During our November 1, 2011 meeting with CDOT engineering staff, Mr. Steven Cross, PE, CDOT, he stated that this cost was higher due to the type of multi-terraced fill retaining wall needed to retain the 85 feet of fill material that was required for the alignment chosen by CDOT. In my opinion the alignment chosen for cost analysis is not reasonable option from a technical perspective due to the deep fill required to establish the roadway grade. Mr. Cross indicated that the alignment options were partially influenced by the locations of existing archeological sites. We understand that the potential influence of the archeological sites on the alignment is currently being determined. Using the Alternate R alignments developed by Russell Engineering, there is no need for fill material placement in excess of about 15 to 20 feet, therefore tall retaining structures for deep fill are not needed. Since the geotechnical engineering conditions along any excavation cut portion of the Alternate R alignment options are similar to the conditions that were encountered along the recent construction of Ramp A, the unit cost for retention of excavation cuts for Alternate R should be approximately the same as those for Ramp A.

Finally, I note that within the Supplemental Draft EIS, CDOT comments upon purported "challenging geotechnical issues with known subsurface water problems (springs) which create drainage and slope stability issues," as a problem common to the at-grade intersection, partial interchange and revised preliminary alternatives. See, pages 2-18, 19 and 22. In my professional

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opinion, this assertion is erroneous with respect to the three existing grade alternatives and the four R alternatives. I do not concur with this assertion in that significant water and slope stability issues of greater severity are regularly encountered throughout the mountainous areas of Colorado where development and highway construction has occurred. In these instances economically viable and technically sound engineering solutions have been developed to mitigate subsurface water and associated slope stability considerations.

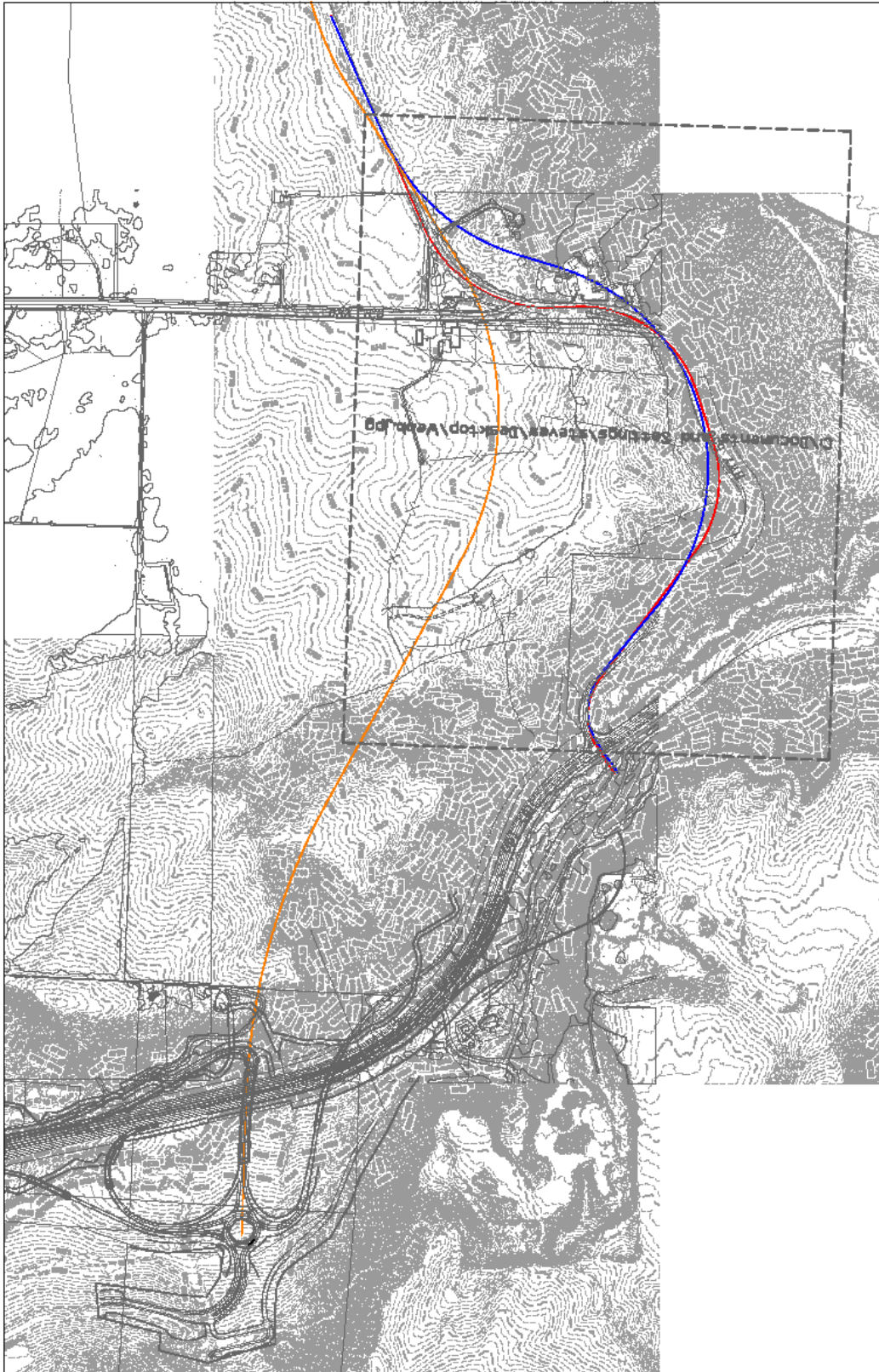
We appreciate the opportunity to consult with you on this project. Please contact us if you have any questions, or if we may be of additional service.

Respectfully,

TRAUTNER GEOTECH

A handwritten signature in blue ink, appearing to read "David L. Trautner".

David L. Trautner, PE, CPG



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