



I-70 Floyd Hill

Floyd Hill CMGC Technical Team

Meeting Summary

December 1, 2023, 9:00 to 12:00 PM

Kraemer Floyd Hill Office: 35715 US-40 Building B, Ste 220, Evergreen, CO 90439

1. Introductions, Meeting Purpose and Project Updates

CDR Associates opened the meeting and reviewed the agenda.

TT Agenda 12-1-23

1. *Introductions & Agenda Review*
2. *Project Updates*
3. *Saddle Cut and Bridge M Refinements*
4. *Hidden Valley Interchange*
5. *Wrap Up & Next Steps*

TT members confirmed the meeting agenda with one addition of a Central Section walls update.

2. Project Updates

Main Projects

- *West Section Design* - Moving into final design and negotiations. Rock blasting is expected to start in late summer 2024.
- *East Section Construction* - Wall 9 has been constructed and stained. Work is progressing on walls 8,10, and 11. The drainage ditch is also under construction. There is an upcoming traffic shift in the westbound direction to allow for median work and prep for Phase 2. There is one more blast likely to happen in January. The team is working to reduce impacts to the community to the extent possible.

Early Projects

- *The Genesee Wildlife Crossing* - The team is continuing abutment construction. Girders are planned to be set before the end of December.



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- *Roundabouts* - The team is continuing work until later December and then may pause for a few weeks. The walls are up on Homestead and there is progress along County Road 65. The team anticipates completion in spring of 2024.

Environmental

- *Air Quality Monitors* - Values remain very low. The highest reading was still under 25 micrograms per meter cubed. The environmental team is still meeting bi-weekly, but there have not been any concerning values.
- *Archeological Site Recovery* - The Centennial Archeology team completed the archeological site recovery this week. There were artifacts of interest found which will be sent to Colorado State University for curation.

Utilities

- Utilities work is ongoing both on the western side and eastern side. The western side, which includes Lumen and Comcast communication lines, is progressing well. The eastern side, which includes Excel power lines, is progressing more slowly at 30-40 feet a day. The team has brought in larger equipment this week to help on the eastern side. Work has started on the US 6 utility relocation as well. The communication lines and power lines are working from opposite ends and will ultimately cross each other. There is no projected timeline for completion yet, but Atkins is tracking it closely.

ROW

- Clear Creek County submitted their appraisals on November 17th. Central City turned in a request to extend the ROW request. The next step is working through offers and negotiations. The team is looking at the summer of 2024 to have ROW agreements in place.

3. Saddle Cut and Bridge M Refinements

Daniel Estes, CDR Associates, reintroduced the topic of the Saddle Cut and Bridge M Refinements to the TT. The TT had previously been introduced to the topic in October along with the geotechnical investigation of the Saddle Cut. The investigation showed that the rock in this area was less competent than first anticipated which was the impetus for these design refinements.

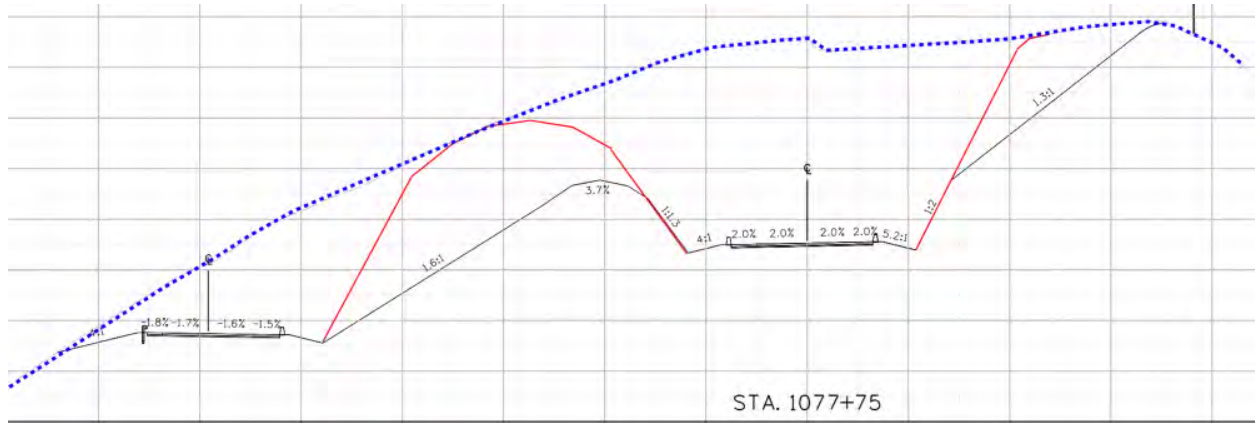
Prior to acquiring the most recent geotechnical data, the Team anticipated that there would be rock that could be cut at a steep slope (shown in red on the diagram below).



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Additional geotech data has provided a better understanding of the rock strata (shown in black in the diagram below) and results in the need for additional excavation in the area. The rock in the hillside is not all the same type of rock, so the Team is looking at strategies to ensure safety. A key point is that almost all of the existing grade (shown in blue in the diagram below) would be disturbed in either scenario. The key difference between the two is the extent of excavation needed, and that less blasting will be needed with the proposed new direction.

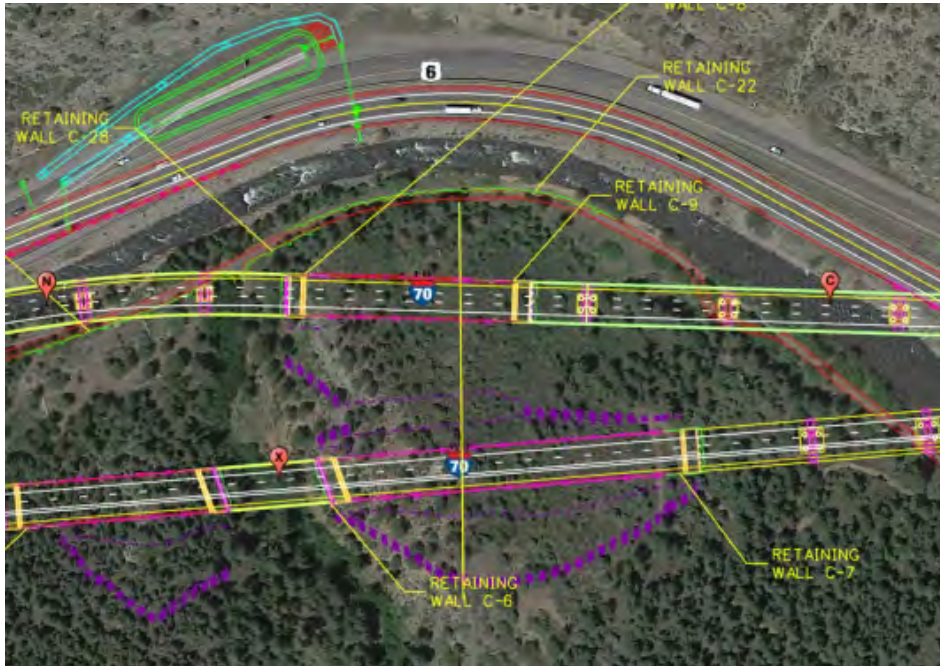
The Team is looking for TT input on the proposed direction as the aesthetics of the saddle cut may change slightly from what was previously presented. Matt Aguirre and Alan Carter, Atkins, walked the TT through Lumen models to show the proposed changes.



Cross section of Saddle Cut area (WB on the right, EB on the left). The blue dotted line represents the existing grade, the red represents what was proposed previously, and the black line is where the actual rock begins based on the new geotechnical data. Scale: 20ft vertical, 40ft horizontal.



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Aerial map view of the Saddle Cut area.



Aerial view Lumen model. The area in brown is the future revegetation area. Bridge M is shown in the upper left, Bridge N is on the lower left.



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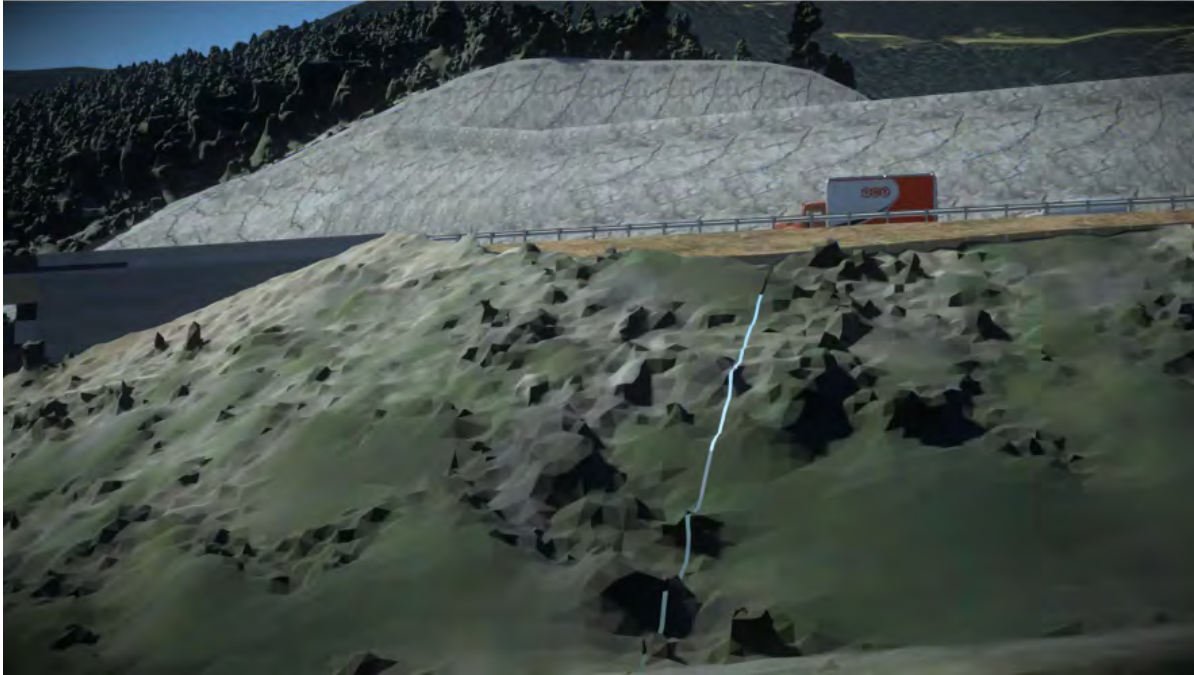
Looking east on WB lane with the new geotechnical data incorporated.



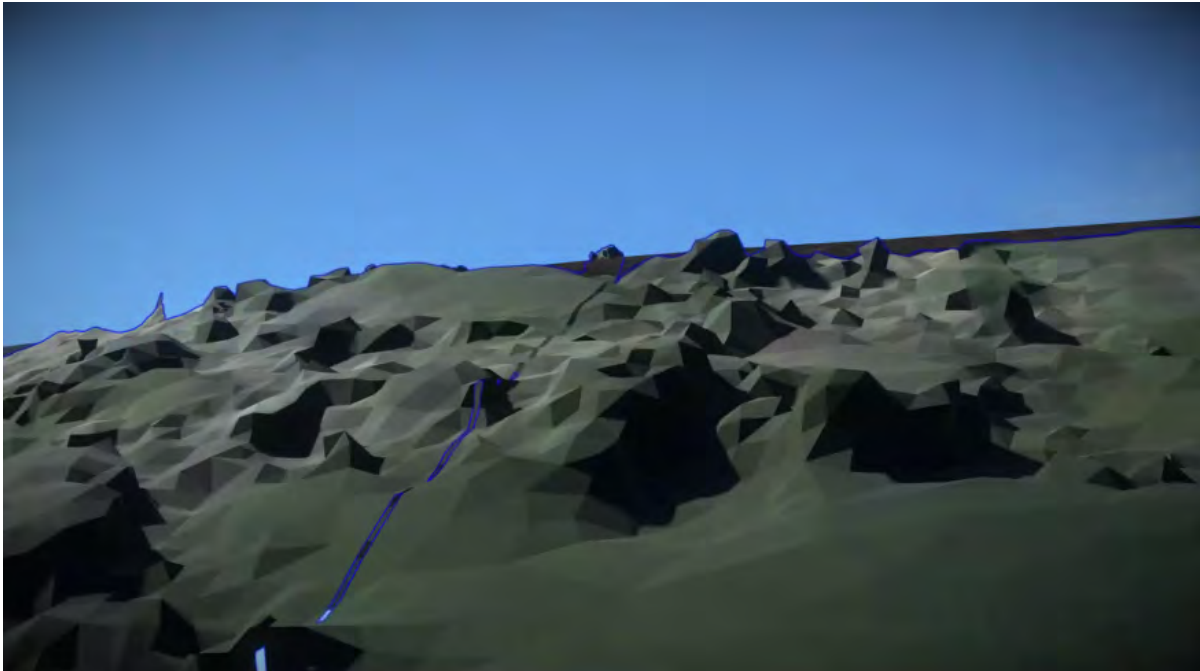
Looking west on WB lane with the new geotechnical data incorporated.



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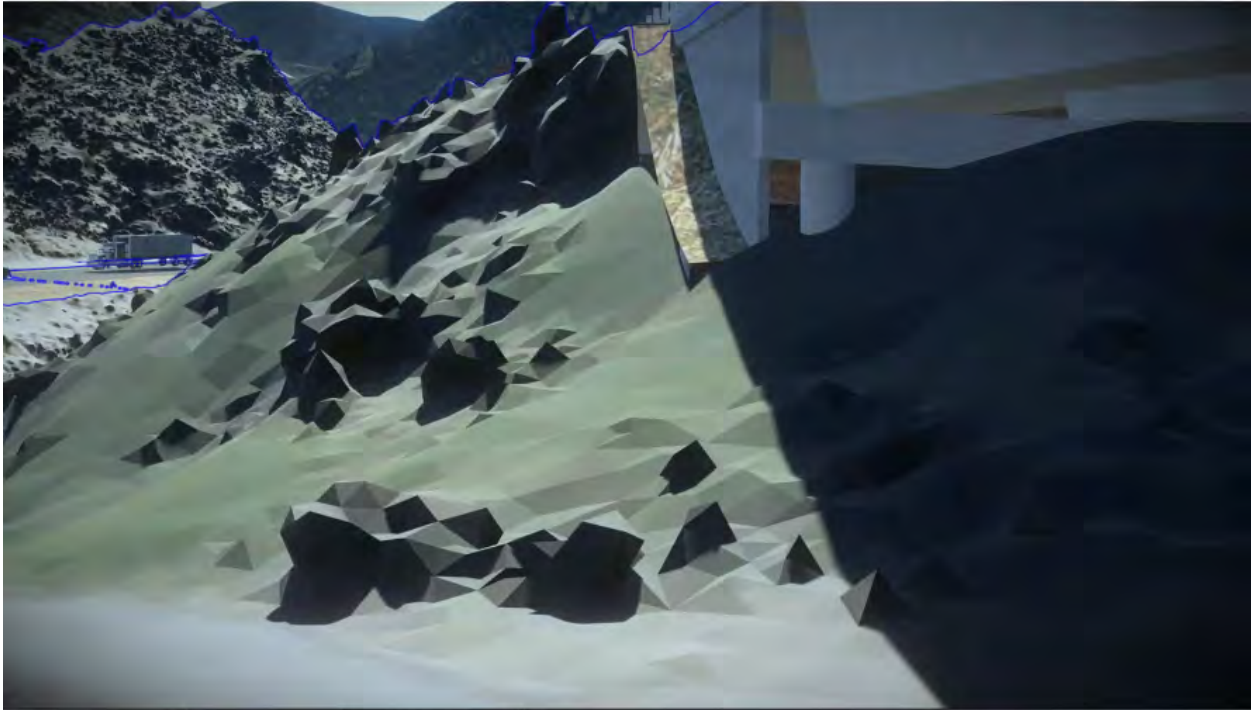
View from US 6 looking left out of a car window. From this view you can see EB but likely won't see what's happening in WB.



View from Greenway trail. You likely won't see the rock cut, but you can see the bridges. If coming from the east on the trail, you'll see the opening where the highway comes through.



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EB view from the trail underneath Bridge N.

During the Lumen model walk-through, it was noted that drivers will get through the 400 foot long Saddle Cut quickly. For the Greenway trail user, the slowest user, they will likely not see much of the rock cut, but it is important to consider what it looks like under Bridge N.

The Team then talked about construction impacts and fill related to Bridge M and N. In order to build the bridges and related construction access, a lot of earth will need to be moved. The Project Team is looking at ways to minimize the footprint of construction in the area. One of these opportunities is to potentially utilize the fill to improve constructability and to help provide a natural fire break. Additional Lumen models were shared with the TT related to fill.



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The area in brown is the fill area.



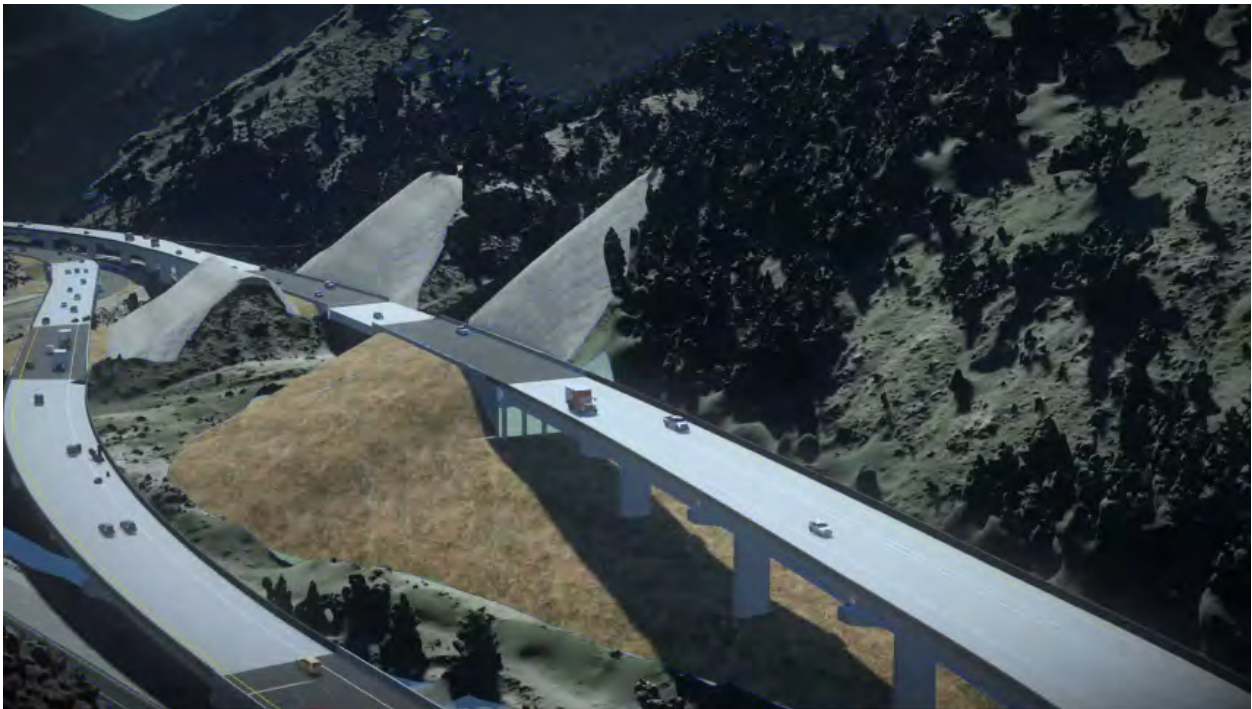
The red line above marks the trail in the fill area. The Team is looking at keeping the existing tree break next to the trail in place, in addition to revegetating the fill slope.



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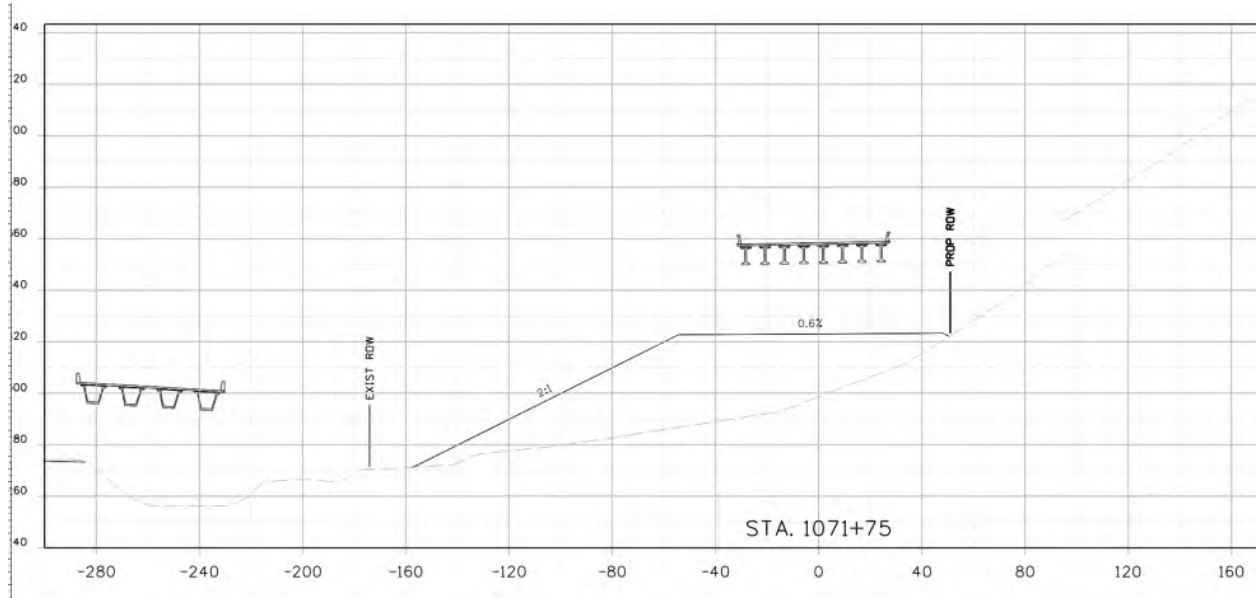
Lumen model view of the trail and existing tree break in between the trail and the power lines. The power lines will be relocated.



View of the future fill which will make the bridge span shorter.



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Cross section diagram under the bridge. The dashed line represents the existing conditions.



Lumen view of the Greenway trail and grading on the South side.



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The TT discussed that the Central Section includes a lot of complicated highway construction. While construction is underway, it will be important to communicate changes to the public in a way that showcases the benefits of this design to the trail and to public safety and to make sure it can be easily understood by the public.

TT Questions

- **Question** (Cindy Neely, Clear Creek County): How does this design refinement impact the types of walls that will be needed between the two cuts?
 - **Response:** As drawn, these are stabilized rock faces, not walls. Walls might be necessary if some other conditions present themselves.
- **Question** (Paul Aguilar, FHWA): What are the backslope constraints of WB?
 - **Response:** There is rock there, but it is less competent due to how the rock fractures are angled. This has to do with the substrata and how they align. Where you see the steeper grade, that is where we expect to hit more competent rock with a more vertical rock cut. This design still falls within ROW.
- **Question:** Is it shotcrete on the walls?
 - **Response:** No, these are natural rock faces. There will be sub stabilization, bolting, and netting put in place. There will be further discussions on netting.

TT Agreement: The TT supports the direction of the design refinements of the Saddle Cut and Bridge M. The Design Team will move forward with this design.

ACTION: As the Team continues to work through design, they will update the TT and share more refined models as well as bring additional related topics to the TT for input including netting + rock stabilization and revegetation.

ACTION: The Team will work on how to help message and communicate changes to the public during construction of this section.

4. Hidden Valley Interchange

Matt Aguirre, Atkins, provided the TT with a brief update on the status of the Hidden Valley Interchange. The Team is still working on design concepts for this interchange. Key considerations include how it interacts with the CDOT maintenance facility, Bridge Q, and the Hidden Valley interchange itself. More details need to be worked out internally before presenting updated design concepts to the TT.



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4. Central Section Walls Update

Matt Aguirre and Alan Carter, Atkins, provided an overview of the walls in the Central Section and led the Technical Team through Lumen models of 16 walls. There are over 20 walls in the Central Section which the Project Team is working to categorize based on their level of visual impact. Once categorized, the Project Team will bring them back to the TT for further discussion on highly visible walls.



Aerial map of the section of walls discussed. Hidden Valley Pavement is just left of the image.



C-1: wraparound wall for where Bridge M (seen on right) lands (west abutment); very visible



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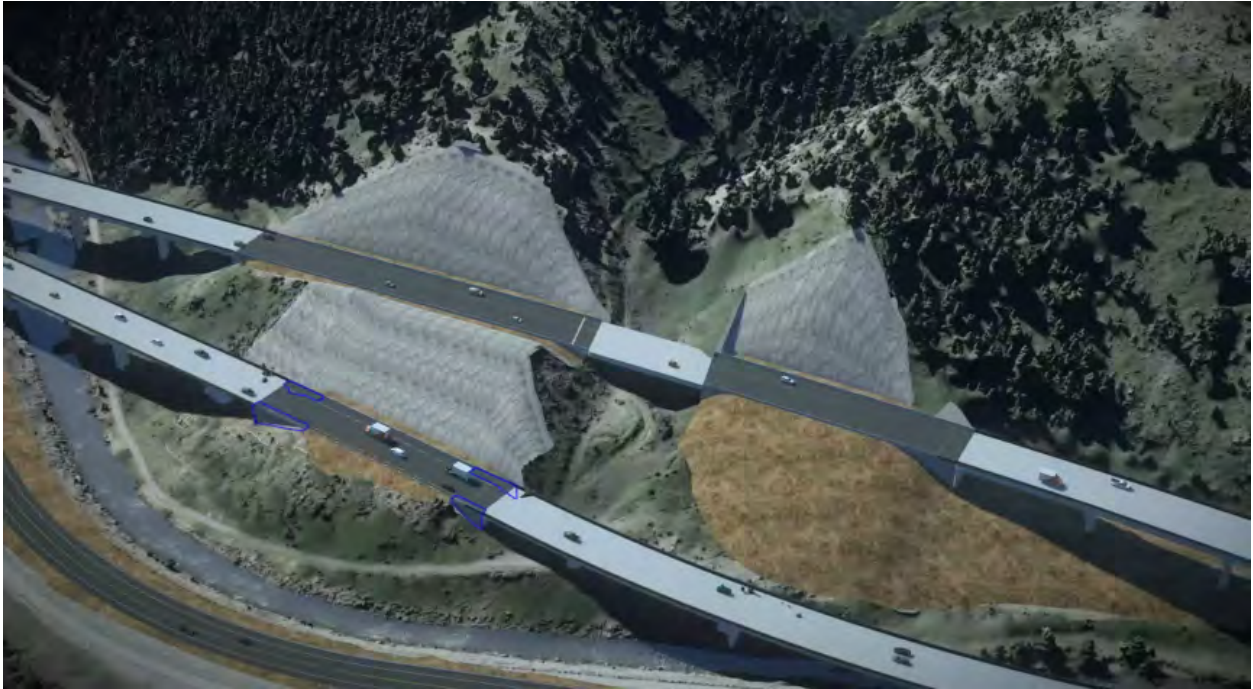
C-2: EB underneath bridge M, adjacent to the creek



C-3: EB wall that you need for grade difference to get to Bridge N (visible wall seen from creek, Greenway, and US 6th)



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C-4,5,6,7,8,9: all abutment walls going into the saddle cut; shorter walls that get taller up to the abutment



C-10: wall along EB in the narrows that runs from Bridge C abutment to Bride B abutment, runs along US 6 (one of the longer and taller walls)



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C-11 (north side) & **C-12**: Abutment walls near bridge P & G (interchange at US 6); similar to bridge 241; **C:12** wall along greenway trail that covers the grade difference for trail to get under Bridges P & G- likely to change to a grading solution versus a wall, more to come



C-16: wall runs along outside of WB off-ramp (visible from US 6 and maintenance access road along Bridge A)



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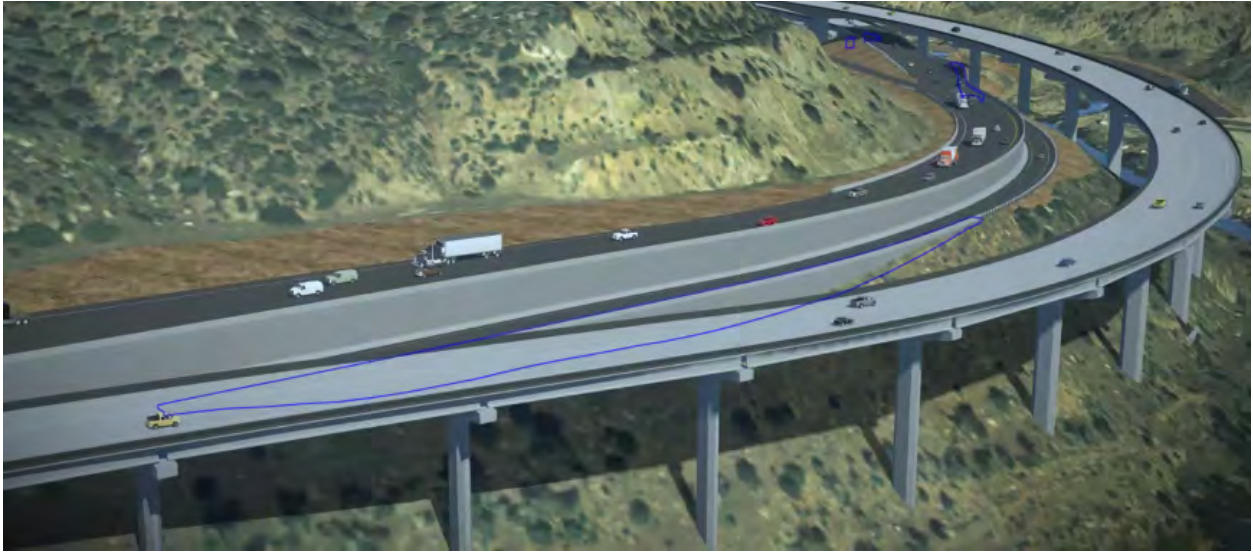
C-17: runs all the way from Bridge B abutment up the hill to Bridge A abutment along EB/WB off-ramp



C-17: view from corner of left eye (not the most visual impact); almost like a tall median wall



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C-25: along outside of WB off-ramp; not visible from EB but potentially from WB



C-18: on WB inside off-ramp before you go under bridge A (top)

C-19: on outside of WB off ramp (bottom), trees from bottom will likely be shielding it, construction access is from the top



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A-1, A-2: Bridge A access road walls. **A-1** is a long wall along the creek, **A-2** is a shorter wall providing access to piers near US 40.

C-21, 22, 28, 29 are landscape boulder walls along the Greenway trail.

TT Questions

- **Question** (Cindy Neely): There are many bridge abutments in this section, can they be handled in a category while attempting to keep the aesthetics similar?
 - **Response:** Yes, the team is looking to put bridge abutments into one category.
- **Question:** What is the treatment on the walls? In some areas where a wall abuts to an existing concrete wall, do we want to match that?
 - **Response:** The treatment will be CO Random Reveal with some potential alterations, taken on a case by case basis, depending on what already exists. That will be in the next level of details the Team looks at.

ACTION: The Team will go through and categorize each wall by visual impact and will bring this categorization back to the TT for further discussion on highly visible walls.

ACTION: The Team will continue to use Lumen models and supplement with more detailed renderings of critical viewpoints of highly visible walls.

ACTION: Atkins to send out Draft Wall Data spreadsheet for TT reference.



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5. Wrap Up & Next Steps

Future TT Topics

- Walls categorized by visual impact
- Hidden Valley Interchange
- Noise walls

Additional TT Comments

- Access for Construction Package 3 at 30% design was not clear to Clear Creek. Clear Creek needs further information to include this in the 1041 package.

ACTION: Kurt to set up separate conversation with Cindy, Amy, Matt, and Fred

Upcoming ITFs

- Greenway Shuttle + Alternate Route ITF: CDR to send out agenda on Monday
- Deicer ITF: CDOT is working to bring in outside expertise and needs to receive their availability to then schedule the ITF with the larger group

ACTION: CDR to Distribute West Section Plans to the group

Holiday Schedule

- December 15: last TT of the year, start back with every-other week cadence on January 5th

ACTION ITEMS:

- **ACTION:** As the Team continues to work through design, they will update the TT and share more refined models as well as bring additional related topics to the TT for input including netting + rock stabilization and revegetation.
- **ACTION:** The Team will work on how to help message and communicate changes to the public during construction of this section.
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- **ACTION:** CDR to Distribute West Section Plans to the group



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6. Attendees

Amy Saxton, Cindy Neely (Clear Creek County); Jonathan Cain (Idaho Springs); Margaret Bowes (I-70 Coalition); Lynette Hailey (Black Hawk); Paul Aguilar, Liz Cramer (FHWA); John Curtis (UCCWA); Bill Coffin (Floyd Hill POA/Saddleback POA); Stefi Szrek, Mike Vanatta (Jefferson County); Lisa Wolff (Floyd Hill HOA); Jessica North (Clear Creek County School District); Sam Hoover (Central City); Tyler Weldon (Bridge Enterprise/AECOM); Tracy Sakaguchi (CMCA); Mike Raber (Clear Creek Bicycle Users Group); Vanessa Halladay, Mandy Whorton (PEAK Consulting); Kevin Shanks, Sam Spicer (THK); Tammy Heffron (HDR); Matt Hogan (Kraemer); Matt Aguirre, Alan Carter, Anthony Pisano (Atkins); Tyler Brady, Kurt Kionka, Abbie Modafferi, Francesca Tordonato, Jeffery Hampton (CDOT); Daniel Estes, Julia Oleksiak (CDR Associates)