



## MEETING NOTES

<b>PROJECT:</b>	23982-23929 I-70 West Vail Pass Safety and Operations Improvements
<b>PURPOSE:</b>	Design Exception IFT Meeting #4
<b>DATE HELD:</b>	August 23, 2021
<b>LOCATION:</b>	Online Google Meet Meeting
<b>ATTENDING:</b>	John Kronholm, Project Manager, CDOT Region 3 Karen Berdoulay, Resident Engineer, CDOT Region 3 Matt Figgs, Project Manager, CDOT Region 3 James Proctor, CDOT Bridge Enterprise Lisa Schoch, CDOT Historian Carol Huey, US Forest Service Taylor Elm, DNR Greg Hall, Town of Vail Dick Cleveland, Town of Vail Chad Salli, Town of Vail Kevin Sharkey, ECO Trails Siri Roman, ERWSD Len Wright, PhD, ERWSD Larissa Read, ERWSD Tracy Sakaguchi, Colorado Motor Carriers Shannon Anderson, Bicycle Colorado Brian Hearn, R S & H Jeb Sloan, R S & H Mary Jo Vobejda, Jacobs Jim Clarke, Jacobs Candice De, Jacobs Loretta LaRiviere, Jacobs
<b>COPIES:</b>	Attendees

### SUMMARY OF DISCUSSION:

#### 1. Introductions & Meeting Purpose.

- a. Mary Jo explained that Design Exceptions are allowed to help balance a variety of issues. The Design Exceptions we will be talking about today are to protect the environment. We are trying to lessen the footprint to avoid existing vegetation at the MP 185 wall and along the recreation trail. We will review with you and then we'd like to hear back you're your recommendation as to whether we move forward with these exceptions.

#### 2. Cut Wall at MP 185

- a. Brian said just west of the bridge reconstructions we are pushing into the existing hill towards the old US 6 trail. We have a cut wall on the westbound side that is pushed off the edge of pavement and then above that we have the old US 6 trail relocation. What we're trying to do is use a 2:1 slope to minimize the grading impacts and heights of those walls. You can see on the graphic the wall as you come down the westbound lanes turning the corner on the bridge so what we're trying to do is to keep that limited to a two-tiered cut wall and then limit the length of the cut wall along the US 6 trail.



- i. By utilizing the 2:1 slopes we gain a lot of benefit by tightening up the limits of those old US 6 relocations and again limiting how far back we chase our cut slopes.
- ii. By doing the 2:1 slope, US 6 just has a two-tiered short wall, somewhere around 150' long. This area is probably going to be pretty sensitive to the final survey when we look at the topo versus what is in our existing high-level survey now.
- iii. This is going to be very similar to the cut wall typical section we have further down the project at MP 187 where proposed bottom of the wall is shifted and we were able to have a 23' ditch in the INFRA project and by the time we get our future shoulder built out we would have an 11' offset from the edge of pavement to the bottom of the barrier and another 4' to the bottom of the wall.
- iv. The I-70 walls is going to be limited to two 10' tiers and we would like to chase that slope with a 2:1 slope instead a 2.5:1 slope. That saves us about 4' depending on where the alignment and the trail profile on US 6. The higher we can pull that trail profile up for US 6, the shorter the walls can be, and less impact on US 6.
- v. From the old US 6 Trail we are keeping the same trail width that is out there today with a 20' width and keep a 5' shoulder down to the 2:1 slopes. There is a sizable existing ditch, so we'd go ahead and keep a little bit bigger of a ditch than we were showing for other cut wall situations. We are just trying to convey drainage in front of the trail.
- vi. Most of the length of the trail we have just the 2:1 cut slope again coming back up and with the length of the cut slopes it really saved a significant amount of forest impacts and limited the amount of wall needed. To sum it up, we are trying to limit the wall heights and limit the forested impacts by using the 2:1 slopes. With the lengths and offsets, we have from the old US 6, the 2:1 provided a big benefit by reducing impacts to forested areas.
- vii. By doing the 2:1 slopes we will reduce the aesthetic impacts and reduce the relocated trail length. Miller Creek Slide is a named slide, so we are trying to limit how far out into that we are cutting.
  1. Dick said he went out to look at where the US 6 highway would be relocated. From a laymen's perspective, it looked like the trail at MP 185 is on a very steep hillside and it would be significant to cut that corner. Have you looked at that yet or have sufficient topos to do that at this point?

Brian said we can't get the trail high enough to overcome all the grade. We are widening into an existing steep slope so pushing it out helps gain some of that grade and it's a pretty straight-line grade. I'm sure we didn't get over 10% in trying to optimize that profile.

Brian said the alignment of the trail on the right side of the bridge swings out a little bit more and provides a consistent radius out to the pinch point at the existing wall to the south. And to limit the maximum grade we have



pulled away from the existing trail and down the hill just a little bit to help keep that profile grade under 10%. That wall also provides a greater separation from eastbound I-70.

2. Greg said I know when we were talking about the roadway design and the bridges, you said the bridges were about 10' apart or parallel and then there was a space when you go to your section, it does not look like we have any kind of median.

Brian said it is shown incorrectly. On the westbound side we have the 6' inside shoulder and there will be a little bit more of an offset. We are working through the details of whether we need to have barrier on eastbound and westbound individually or whether we can have that CD barrier in the middle. There will be just a little bit of an open median through this section. This will be updated to show further separation as there is actually 8-9' feet in there.

3. Greg asked for clarification that the Design Exception is a grading exception, not a wall exception.

Brian confirmed a grading exception is what we are requesting. To reduce the walls, we would like to use the 2:1 slopes grading design exception.

- b. Mary Jo noted the range we chose is not exact. The slopes look better when they undulate. We are looking for a slope range that would give the designers flexibility. The design exception we are recommending is:

*Use slopes ranging from 2.5:1 to 1.8:1 as directed by the project Landscape Architect to create a slope that fits into the adjacent landform, looks natural, sustains vegetation and is maintainable.*

### **3. Recreation Trail Design Exception**

- a. Candice said one of the challenges with the recreation trail is the existing slopes are steep at 2:1. What we found in a quick analyses is that almost 30% of our proposed slopes are 2:1 instead of the preferred 2.5:1. If we don't use a 2:1 slope in the design, our retaining walls almost double. Using 2:1 slopes help keep the cost down quite a bit for the retaining walls. Obviously the walls have the least environmental footprint, but they cost more.
  - i. Candice said you might be thinking, why don't you just bring the profile up to eliminate that? We've thought a lot about it ourselves but because of the overall elevation gain from the starting point to the ending point we have some very steep profile grades. We are trying to navigate the existing steep slopes with proposed slopes with retaining walls. Generally, those 2:1 slopes are approaching the retaining walls or bridges. That is where we are proposing to use the 2:1 slopes.
  - ii. During our field visit we learned a lot and we will continue to evolve the alignment. In the area approaching Bridge 1 we looked at shifting the alignment



a little further down the slope and that allowed some of these 2:1 slopes to be eliminated.

- iii. We've got some cut walls going down towards the creek and others approaching the bridge. Some of the bridge grading will be refined once we get the bridge abutment set and know what the grading all around the abutment and wing walls look like.
  - iv. There are also some cut walls between the rec path and I-70 and the 2:1 slope Design Exception allows a slope instead of a retaining wall with some cut instead of walls the entire length. This is another area we looked at in the field that we might be adjusting based on the existing topography.
    1. Jim said we were out on the wetland field visit updating the EA boundaries and they are changing a bit so there will probably be some minor refinements in the design to account for this.
  - v. Candice said there is a long cut wall where we won't have 2:1 slopes. We're just trying to tie into existing hillside and minimize the height of the cut wall.
  - vi. 2:1 slopes will be used to stay further away from the highway in some locations. We will use an offset barrier in some locations to make sure we tie in at the barrier locations. The proposed slopes will be used to try to catch the tie in points where we have steep grades.
- b. Mary Jo reviewed the mitigations measures that we have talked about with the truck ramps, and these are all things the landscape architect and designers will consider as ways to break up the slopes:
- Boulder could be used to break up slope with random placement
  - Logs and Stumps to reflect natural conditions
  - Trees will be a plant mixture of diverse sizes
  - Landscaping will use native ecosystem species with mat groundcovers and spray on blankets, bonded fiber matrix

Mary Jo acknowledged these don't lessen the steepness of the slopes being proposed to you right now. But there are ways to mitigate so the slopes have a different appearance and that helps with the type of vegetation that can survive. The main reason the Design Exception is recommended for 2.5:1 slopes versus 2:1 slopes is that 2.5:1 slopes are easier to revegetate.

- c. Mary Jo noted the Recreation Trail Design Exception is the same Design Exception for the cut walls:

*Use slopes ranging from 2.5:1 to 1.8:1 as directed by the project Landscape Architect to create a slope that fits into the adjacent landform, looks natural, sustains vegetation and is maintainable.*

1. Greg said the existing slopes from the interstate down, irrigation could be put in to really establish revegetation on the steeper slopes. He has a project that is putting in a lot of temporary irrigation. It seems with summers



getting warmer, we can get vegetation to re-establish better on steep slopes with irrigation.

Candice said the slopes vary. Some are 3:1, some are 2:1 and some are steeper than 2:1.

Karen said we haven't gotten that far in the landscaping design yet. Traditionally if it is 2:1 or steeper we put a blanket down on top of seeding. There is no water source so it will have to be completely portable and could be quite challenging.

Matt said we are a little far out to be having detailed discussions on this, but we have talked about it quite a bit. Getting the seed to establish is really important in holding the slopes.

2. Greg said that's the hard part when you go to 2:1. You're kind of in a catch 22 situation. You use a steeper slope and put the protection on there but if your seeding doesn't take, it's really hard to reseed it a second time to get it to take. That would be my concern about these design exceptions.

John said he has seen some great results in the valley seeding and grass growing with the cold air blankets on steeper slopes. We put the onus on the contractor, but the state holds the SWMP Permit and is responsible to get the vegetation to come back so one way or another vegetation gets re-established.

Karen said a lot of the trail will be built in 2022 but we will be constructing through 2024 and will have a landscape period after that. It's usually a year to make sure everything is established so this is a little different than a typical project.

We can't close our SWMP permit until we get 80% of the disturbance area has established vegetation. We then transfer that permit to maintenance. They have the ability to contract to pay additional funds for additional seeding which we've had to do on other projects. There is a way to do it regardless of who pays for it. We'll be up there for a while so we'll definitely have time, and we will have a landscape warranty period like we had on Vail Underpass.

- d. Mary Jo asked if anyone objects to these design exceptions or if there was anything you would like us to change in the text to better address any of the concerns that have been brought up.

Hearing no objections or language change suggestions, Mary Jo said we will move forward with the assumption that everyone is comfortable with these slope design exceptions and with the PLT approval, our designers will move forward using these design exceptions.

1. Carole said she wants the caveat of running this by the Forest Service staff for a quick review because the bike path location has changed a little big even though

it is in the EA project area and she also wanted to share the wall information. She will forward the presentation to staff and request a five-day turnaround for comments and report back to CDOT that it has been reviewed.

2. Dick asked since this project is going to be constructed over a three-year period, will early phases like the recreation trail landscaping begin when that portion is completed, or will it not be done until the final year?

Karen said we will revegetate the projects as they are completed but detailed landscaping like adding trees and planting in certain areas, will all be done at once. We will bring in the specialist at the end of the project to ensure the landscaping is right for the area.

3. Greg said he noticed on the wall sections you are using the flat panel and not the scallop. Has the final decision been made to use the modified scallop or is it still being discussed?

Karen said we are planning to use the scallop in the medians if the wall is visible from the roadway but if it is below the roadway we are planning to use a flat panel and on the recreation path we will consider using some more natural looking rock type walls.

We took the tremendous feedback we received about checking the existing scalloped walls. Our team has talked about scalloped walls more than we ever thought we would. We are making progress and we should have some information back for the team in the next few weeks. We are learning new things and looking at different options for the full scallop and the modified scallop, so the decision has not been made. We all see our projects through our own lens, and everyone has different experiences and the more we hear back from everyone, the more it helps to make a better project in the end.

4. Mary Jo said Margaret Mead once said "*never doubt the power of a small, committed group of citizens to change the world. It is in fact the only thing that ever has.*" You do make a difference, it does affect how the designs come out so you should all be really proud of yourselves. This team has really taken this scallop wall issue to heart.
5. Kevin commented in the chat box: Great job on defining the design exceptions and walking through the recreation trail design. I appreciate all of the work done to date in terms of keeping us informed, collecting input, and updating the design. I believe the final product will be great!

#### 4. Next Steps

- ALIVE ITF meeting September 13<sup>th</sup> and it should be the final meeting.
- SWEEP ITF Meeting is September 16<sup>th</sup>, and the field trip is September 27<sup>th</sup>



- There were no substantial comments received on the Aesthetic Guidance, so we do not anticipate this ITF will meet again unless there are substantial changes that need to be reviewed for 106 compliance.
- Project Groundbreaking August 25<sup>th</sup> (in person)
- TT Field Trip has been scheduled for morning of September 27<sup>th</sup>
- TT Meetings invites sent out for October, November, and December
- The September PLT Meeting has been rescheduled to November 12<sup>th</sup>