



MEETING NOTES

PROJECT:	23982-23929 I-70 West Vail Pass Safety and Operations Improvements
PURPOSE:	106/Aesthetics ITF #4 Meeting
DATE HELD:	March 1, 2021
LOCATION:	Online Google Meet Meeting
ATTENDING:	John Kronholm, Project Manager, CDOT Region 3 Karen Berdoulay, Resident Engineer, CDOT Region 3 Rob Beck, Program Engineer, CDOT Region 3 Jen Klaetsch, CDOT Lisa Schoch, CDOT Carole Huey, USFS Rebecca Sease, US Forest Service Jared Pierce, US Forest Service Mitchell Schaefer, SHPO Jeff Bellen, FHWA Stephanie Gibson, FHWA Greg Hall, Town of Vail Todd Oppenheimer, Town of Vail Kevin Sharkey, ECO Trails Shannon Anderson, Bicycle Colorado Randal Lapsley, R S & H Mary Jo Vobejda, Jacobs Diane Yates, Jacobs Jim Clarke, Jacobs Erin Kraft, Jacobs Loretta LaRiviere, Jacobs
COPIES:	Attendees

SUMMARY OF DISCUSSION:

1. Introductions & Meeting Purpose

- a. Karen introduced the attendees at today's meeting.
- b. Mary Jo reviewed the purpose and goals for today's meeting which is to review the progress on Aesthetics Guidelines and discuss the Wall Aesthetic proposal.
- c. Mary Jo noted a revised presentation was sent out this morning with slight changes from the one that was sent out last week. There are additional slides that we hope will make it a little clearer and give more definition to our conversation. She reminded the group it is their role as a member of this ITF is to give us input and concurrence if our honoring the historic approach is consistent with what is in the EA.
- d. Mary Jo said we will be reviewing sections of the Aesthetic Guidelines specific to the Truck Ramp. It is an EA requirement that the guidelines be completed prior to construction begins. She said we will be giving you more information on how we update the guidelines as time goes on.

2. Work Completed



- a. Mary Jo said the first meetings for the SWEEP, ALIVE & Aesthetics ITF have been held.
- b. The Technical Team Meeting is meeting monthly and the most recent meeting was on February 22nd.
- c. The design team has started working toward refinements for:
 - Truck Escape Ramp
 - Recreation Trail
 - Roadway alignment
 - Bridge Phasing
 - Research on the anti-icing system and highway closure system
- d. Mary Jo said the 30% (FIR) meeting for all the remaining elements of the INFRA Grant is planned for September of this year.
- e. Mary Jo said we are following the methodology presented at the meeting in February.

3. Discuss the Wall Aesthetics Proposal

- a. Mary Jo noted members of this ITF were sent a Wall Aesthetics memo last week. She reviewed the overarching design goals are to honor the original design of the highway, preserve the alpine environment and improve highway safety and operations.
- b. Mary Jo asked Lisa, CDOT's Historian to help us understand the overarching goals and if we are headed in the right direction for honoring the original design, We know the work we are doing is improving the highway safety and operations, and we want to do the two to balance.
 - i. Lisa noted how to honor the original design is a challenging. We have reviewed the Secretary of Interior's Standards which are standards and guidelines which help to guide treatment of historic properties through preservation, reconstruction, rehabilitation, and renovation. The guidelines were originally written for historic buildings because preservation started with architecture. But they are designed to be applied to all different sorts of property types. There is also a set of standards for cultural landscapes.
 - ii. The first thing the team did when we started to think about this internally was to look at how preservation is defined. We decided reconstruction is the best category for what we are doing although reconstruction is defined as if something is removed and replaced. We are going to remove and replace as well as add walls. This doesn't fit the category perfectly but it's probably the best fit for the way the standards are set up.
 - iii. Lisa said the reconstruction guidelines define what is recommended and what is not. She has been looking at both the reconstruction as part of the Secretary of Interior's general standards and also the reconstruction in the context of cultural landscapes. Vail Pass is a linear historic district so there is



a little bit of what fits in the general architectural standards and some that fits under Cultural Landscape Standards.

- iv. Lisa said in order to honor the original design, we want to honor the spatial relationship and the materials. We are trying to build something that fits the spirit of how the wall was built and looks but doesn't necessarily replicate it or create the exact same thing.
 - v. Lisa said she wrote the language in the PA and now realizes it is not very easy to define the walls look.
- c. Mary Jo thanked Lisa and said it gives us a good place to start.
- d. Mary Jo noted as background information there are three different kinds of walls on the Corridor:
- i. Concave-panel or curved walls. There are three different ways these tiered walls were built so they are all a little different.
 - ii. Flat panel walls that have a crucible pattern
 - iii. Timber crib walls. CDOT is not looking to build any of these walls because of maintenance issues.
- e. Mary Jo said the focus in this proposal is on the concave panel walls, also referred to as scalloped panel walls. They are precast concrete panels installed between vertical features that look like columns. The walls are tiered with planting areas between each wall tier. Often these walls were built to retain fill slope situations below the highway. Viewed from a distance, with native plants growing between the wall tiers, they beautifully mimic the natural sandstone rock formations seen in this valley. The concave panel walls were also built to retain slopes in the road median.
- f. MaryJo presented a slide with cross-section details of the original and proposed wall and a chart comparing each wall's dominant visual features. It's not the goal of the proposed wall to exactly match the original wall, rather to define and honor the dominant visual features of the original wall. The vertical features for both walls are the columns. A horizontal line will be scored on the proposed wall face to represent where each 3-foot tall panel of the original wall was stacked upon each other. The top of the proposed wall will parallel the grade of the road, an important dominant visual feature for this wall. The original wall color was created from adding iron oxide to the concrete and the proposed wall would match this color.
- g. The feature we want to talk the most about is the dimension from the front of the column to the back of wall. In the original wall design that dimension is approximately 3'. In the wall we are proposing, from the front of the column to the back of the wall is 1'10". So that is fundamentally the difference in the look. There is a shadow line, and the slide is an artist's rendering of the way the shadow of the wall would look.
- h. The memo gives you quite a bit of detail about how the walls were originally built. Each column requires construction of its footing that extended into the cut slope 25 feet. This required the walls to be built from the bottom of the slope up and required



a large excavation area. If this construction method was used today, there would be lots of places where we would have to make large excavation areas and build a temporary sheet wall to hold back the dirt while we built the rest of the wall. We are proposing to build the new walls with a soil nailed system which greatly reduces the disturbance area. This soil nail system minimizes the construction disturbance area.

- i. Karen said we thought it would be appropriate to spend time talking about some of the more dominant features on Vail Pass, like the walls and the bridges. The bridge discussion will be addressed later as we are further in design. Today we want to talk about walls before we get into the rest of the Aesthetic Guidelines.
 1. Stephanie said the rendering show two very different depths between the tiers of the walls. One shows the walls are practically on top of each other and the other shows there is a pretty good gap between the tiers.
 - a. Mary Jo said part of this is a scale issue for this rendering. The lines are 20' apart. There is a plan to have the same space between each wall for plants.
 - b. Diane confirmed that a minimum of 4' between each of the tiered walls for planting is written in the Aesthetic Guidelines. John confirmed 4' of green space is what was on the as-builts for the original tiered walls so we will have the same green space for both.
 2. Stephanie asked if the rendering has the same space between the walls as what there was previously on the existing walls.
 - a. Karen said yes and explained the rendering like a drawing of a sewer pipe where the vertical is at a 10 scale and the horizontal is at a 20 scale. That is what is distorting the space shown between the walls.
 3. Greg said the original design shown is not exactly how they were constructed. The columns are separate footer pieces. The curved pieces are not connected to the columns but rest against the columns, so you have a couple different things going on. You have a very strong joint between the curve and the columns which is very distinct, you see that as a line.
 4. Greg asked why are we not just duplicating the depth of curvature at 2'6"? I understand historic rebuilding have to meet building codes and a lot of structure is hidden. But what you see is the façade which is very distinct. So why not replicate that? You would then keep the bigger planting pockets.
 5. Greg said the I-70 Mountain Corridor Design Criteria doesn't allow tiered walls, but the TT approved the Design Exception to allow them. It seems like we should duplicate the existing tiers including the height and the bench. You're probably going to have more of these in a fill situation than a cut, like the truck ramp you are going to be building. We're saving a little bit of dimension, but don't we have the opportunity



to just replicate the original design regardless of how you structurally build it?

- a. Karen said this a good question and it is something our team asked. Do we just replicate as much as we can, or do we try to honor the look of what is up there but do it with current practices?
 - b. We looked at the original design and found we would have to cast in place the concave piece, which is very expensive, almost three times the cost of the other option. Also, because of the depth of the curve, it takes up a lot more landscape and so the footprint of the wall is much greater which results in more walls. This may add a third tier in an area where you might only have two tiers.
 - c. Karen said the team is evaluating use of the concave panel walls will be used for fill or cut slopes.
 - d. At the truck ramp, it is going to be cut slope so we're considering a shotcrete wall with a façade that simulates the surrounding bedrock.
 - e. Karen reminded the group this proposed concave panel wall design is not just for the truck ramp, this is for the whole corridor.
 - f. Karen said the context of the original Vail Pass construction was to limit the area of disturbance, to blend with the natural environment, and honor the existing landscape. The more wall we build, the more we violate these philosophies with a bigger footprint.
 - g. Karen said when we had this conversation as a team, Lisa asked what would you want to build with today's modern practices? How do we adapt, honor the characteristics of the Pass, and meet the philosophies? This was how we got to this new tiered wall proposal.
 - h. Lisa said what Karen touched on is a big part of Vail Pass' significance is the light touch of the transportation facility on the landscape.
 - i. Lisa said to keep in mind that we have an adverse effect on the district because we are removing or changing contributing features, and the walls are a contributing features. But we are trying to honor the Secretary of Interior Standards with what we are putting in.
 - j. This proposal is only for new walls. If there is an existing wall that needs to be extended, we would rebuild it so the extension would have the same concave depth of the original wall.
 - k. Jen Klaetsch said that's a really good point that these would not be put up next to an existing wall.
6. Greg said it really doesn't matter what is behind the wall, he cares about the front to the front dimension which is 2'6" in the existing walls. He suggested increasing the slope in the landing between wall tiers to make



- up some vertical difference and maybe keep the same number of wall tiers.
- a. John said he instructed the designers to show the slope as flat because that's how the existing ones are, but the way it is constructed any slope can be placed between the walls. You could go to a 2:1 or 1:4.
7. Greg said if we are doing the 2-3 tier walls it seems like trying to replicate as much as possible might be the easier and then do something with the slopes in between to minimize the impact.
 8. Greg said these guidelines also affect all projects and wondered if the big concave panel wall downhill of the highway would eventually get rebuilt?
 - a. Karen said we aren't touching that wall with this project.
 - b. John said they are going to explore the state of the walls this summer, but it seems like the walls are in 99% great shape. But occasionally, there is a single concrete panel that fails so the walls could be in terrific shape for the most part and just need rehabilitating here and there.
 9. Greg wondered if by going to 2'6" would you really have that much concrete on the back by trying to keep a flat back?
 - a. Karen said that is more to do with the constructability of it. To build the original type of wall, you have to cast both sides of the wall in a curved configuration and the wall dimensions would change the foundation.
 - b. John acknowledged there are some long-term quality issues with the walls that are up there now. You can see those from the road that the way it was built originally hasn't worked long term. The nose pieces that are in the front holding those two concave pieces sometimes tip over and fall off and essentially the whole thing falls apart like a puzzle. Now we've had to do short term fixes to repair the walls with timber pieces. Moving to a more modern interpretation of this wall also give us a sustainable wall that is easier to maintain long term.
 10. Stephanie said there are multiple wall types, is the intention to put them back in the general locations where they were previously or is it based on the type of cut? How do you decide what type of wall goes where?
 - a. Karen said that is a great point and something we are just starting to talk about. We haven't exactly decided what walls will go where but Diane and her team have laid out some great context and when to apply them.



- b. Mary Jo noted where to build the different types of new walls is not addressed in the draft Aesthetic Guidelines Structures section at this time. This direction is being developed.
11. Todd said the slope and the depth of the landing between tiers has a lot of influence on plant material selection. The picture of the massive wall has a lot of plant material and there is a lot of woody shrubs and plants other than grass which adds a lot of texture to the overall appearance of the wall. Have you considered that going with a much shallower concave area limits the landing width between tiers and kind of plant material that you could put in there? Also, plant selection is something that happens late, and have you had any opportunity to address that?
- c. John said for the longevity of the wall you cannot deliberately plant trees that have large root systems on the landing between tiers. We've had that discussion with the landscape architect and every time I say we can't plant trees on the landing between tiers, there's pictures of beautiful trees that mother nature planted herself on the landing between tiers. It's a great question.
12. Todd said he wasn't referring to trees, you wouldn't want to put a spruce tree on the landing between tiers because as the tree grows your surcharge on the wall increases over time and you have no way to monitor that. I was thinking of more woody type of shrub material than any kind of tree.
- a. John said those specifics will be left up to Diane, but the door is open to shrubbery and native grasses and that would be the intent and those conversations have already started. I believe the 4' landing between tiers includes that concaveness of the wall so the maximum green space on the wall is 4'. That is what we have on the modern interpretation of the wall.
 - b. Diane said she agrees there are woody shrubs that would be nice to plant in this area to reduce the visual height of the walls. We are planning on first planting grasses in this area and hopefully bring in some woody shrubs if they can be properly established.
13. Jared thanked Todd for bringing up vegetation. It's really important since we see the existing tiered walls that have a lot of vegetation and has been successful in blending the wall into the surroundings. With the proposed wall increasing in height up to a maximum of 12' it's going to be much more difficult for vegetation to grow high enough to screen the visibility of the wall. I'm wondering with the height of the wall can the depth of the terrace increase to allow for larger materials. Not trees, but shrubs maybe tall enough to screen or blend those taller heights.
- a. Karen said it's good to hear that the proportion of the height to the landing width is important. Jared said the (plant) height is important



and maybe if the planting area width increased, there would be an opportunity to plant vegetation that might be able to grow taller.

- b. Karen noted that looking at that picture of the large wall, it looks like the existing vegetation might go a foot or two up the scallop panel. I think that is something we can consider as we look at this design further.
- c. Karen said we will adjust the proposal based on your feedback and come back to recap your feedback at the end of the meeting. The process laid out in the EA is the proposal will be submitted to SHPO and the consulting parties by Lisa and we will review their comments.

14. Carole Huey asked if the consulting parties includes the Forest Service. Diane Yates confirmed they are included.

4. Review Sections of the Aesthetic Guidelines

- i. Diane gave an overview of the chapters and the reference documents:
 - Chapters that have elements for the Emergency Escape Truck Ramp at MP 182 which is in the first construction package for 2021.
 - The I-70 Aesthetic Guidelines follows *Crest of the Rockies* format which covers I-70 Aesthetics from Edwards to the top of the Eisenhower Tunnel, but we focused mainly on what pertains to Vail Pass.
 - The Historic Context Report was also used because the Corridor is eligible for the National Register of Historic Places. This provides the designers a general description of aesthetic features that makes it historic.
 - The draft chapters were reviewed by CDOT and for constructability by Kiewit. They were also reviewed by our environmental planners to ensure we are meeting the EA mitigation measures.

a. Introduction

- i. Diane said this section was designed to inform the designers on where the information came from and how it is to be used. She said it sets the stage for them to understand the Guidance purpose and how to use the I-70 West Vail Pass Aesthetic Guidance (AG).
 - Provides background of both the original PEIS and the Section 106 Programmatic Agreements (PA) for the I-70 Mountain Corridor and West Vail Pass.
 - It describes the unique alpine setting and West Vail Pass viewers which includes motorists, bicyclists, and neighbors.
 - It notes the many sources that we drew from to put the guidance together
 - It also outlines the number of features that contribute to the Eligible Historic District with a general landmarks map



b. Chapter 03: Transportation Supporting Structures

- i. Diane said for now this chapter is focused on elements that might be a part of the construction at the Lower Truck Ramp. The truck ramp to be reconstructed is at mile marker (MM) 182. The truck ramp is a contributing feature as it was built as part of the original project.
- ii. The strategies or options which the designers should consider to honor the historic design are to:
 - Minimize impact to vegetation
 - Blend new landform into existing
- iii. The second section of Chapter 03: Transportation Supporting Structures are the retaining walls. the prescriptive measures are the mitigation measures described in the Section 106 PA which requires new walls to honor the original design and rehabilitate the existing walls if possible. Generally, for all walls we want to integrate those walls into the natural features adjacent to it and that could be by blending the wall edges into landforms and native plantings and disguising the drainage valley gutters better.
- iv. Design Strategies describe the four wall types originally built, including:
 - Concrete curve panel tiered walls
 - a. This wall has an area between tiers for planting.
 - b. The modern interpretation for new wall will honor the vertical and horizontal pattern and color. Where new walls are built we could use the more contemporary or modern interpretation of the original wall. The color and material would match the original, but the wall face would not be an exact replica of the panel form. These walls would be used throughout West Vail Pass, not just at the Lower Truck Ramp.
 - c. Additions to existing walls will complement the original wall panel form, material and color. The idea is to complement the original wall design and build it with a similar depth to the original design.
- v. Tall vertical flat 'crucible' shaped paneled wall
 - d. These were historically built on the downhill side of the highway and would not be seen from the highway. The advantage of tall vertical walls is it reduces impact to existing vegetation. It would be colored to blend into the nature environment. The landscaping in front of and at wall edges would help to blend the wall into the landscape. These walls are:
 - Viewed from the recreation trail by bicyclists and pedestrians.
 - Minimizes impacts to existing vegetation.
 - Provides a buffer between the wall and the trail.
 - Blends the end of walls into the landscape.



- Uses landforms to minimize height of the walls.
- vi. Sculpted shotcrete faced walls are a new wall type for West Vail Pass, but they are an option for meeting the overall intent of blending walls into the natural landscape. They could be built either adjacent to existing rock cuts or perhaps in new locations where the format and color looks natural to the landscape setting.
- vii. Timber crib walls will not to be used due to maintenance issues. These were only used in a few places and primarily close to the residences along Big Horn Road.

c. Chapter 06: Color

- i. Diane said the overall goal is to apply the I-70 Vail Pass Historic Context color palette for all new walls and bridge structures. We are in the process of identifying exactly what those colors are, defined by Federal Color Numbers or other color description systems.
- ii. People who that know the Pass well, know the characteristic reddish tan color from native sandstone rock formations that is on the bridges and on the walls. That color would be matched for new structures, as applied for the original project features.
- iii. The tall vertical crucible panel wall would have a darker grey color
- iv. All metal components such as sign or light poles would match the Forest Service Brown color that is consistent along the I-70 Corridor.

d. Chapter 07: Earthwork

- i. Diane said landscaping is one the contributing features to the eligible historic district. The intent would be for all new earthwork to try to match those guidelines. A lot of these design strategies are typical for CDOT projects in modern times.
- ii. The strategy would be to replicate the slope conditions as much as possible, and round the top and bottom of slopes to blend new slopes into existing.
- iii. When rock cuts are needed, we would sculpt those to break and expose the natural rock fractures.
- iv. If rock protection is needed such as mesh, the goal would be to try to reduce the visual clutter of the mesh by coloring it to blend into the rock face as much as possible.
- v. Preserve significant stands of vegetation as much as possible.
- vi. Landscape walls that might be used along the recreation trail or next to residential areas would have a different kind of image that wouldn't match the highway structures.

e. Chapter 09: Landscaping



- i. We needed to define the landscaping early to make sure we accommodate landscaping as part of our design packages. Once again, from the 106 PA we want to honor the original design by installing new planting to make it difficult to discern change in the environment once construction is over.
- ii. Where trees or forests need to be cleared, the goal would be to try to have an irregular edge to the forest and avoid a linear cut.
- iii. New plantings would mimic the plant compositions next to it with similar sizes and species.
- iv. We will pull out and use natural rock from the site and use that on the slopes, so it looks natural.
- v. Add a more diverse and dense planting of native plants that bicyclists and pedestrians see because they are traveling at a slower speed. It could be more dense planting than the open plant groupings seen by motorists traveling at a faster speed.

f. Chapter 19: Construction Material Management

- i. We wanted to guide how to manage the visibility of construction material storage and locations. Once again, the prescriptive measure is to try to preserve existing landforms, rock cuts, vegetation, and drainage features to the extent possible where they would store material or equipment. The goal is to have a Construction Management Plan that clearly outlines this before they start moving material.
- ii. Manage dust and also think ahead to designate a location to store landscape materials, especially plant materials waiting to be installed. That takes some thought because water needs to be available to keep the plants alive, as well as protected from browsing animals.
 1. Todd said in Vail for a lot of years they have been doing revegetation along Gore Creek and have pretty good success with collecting native seeds and having plant material grown from seeds that are native to the area. That way you get the right species and geno type. There is a large variation sometimes between aspen trees imported from somewhere else and locally collected aspen with weeks difference for budding and leaves changing times. Is there an opportunity to get out there and collect some native seed? Vail had their plants grown by the State Forest Service and I can get your information on that.
 - a. Diane said that was a great suggestion. In her early work on Glenwood Canyon she used the same approach as well as on the more recently on flood damaged canyons and highways on the Front Range. It is the best way to help plants get established and is more important than the size of what is planted. She'll work with CDOT to evaluate this option.



- b. Karen asked Jen if we have ever done this before and if you knew what percentage was collected in Glenwood Canyon? She also asked if the seeds be bought from local sources?
 - i. Jen said she doesn't have any experience doing this. On Rabbit Ears Pass they did work with the Forest Service and they cultivated and grew the willow species and some other things for a revegetation project. She agrees that would be beneficial to get the species that will have a better chance at survival in the harsh conditions on the Pass rather than importing nursery stock from somewhere else. It might have to be a partnership but isn't sure how we go about it.
2. Jared said he has heard a bit about rockfall netting and hadn't heard about its application on West Vail Pass, so he was wondering where that might be proposed and how much. Is there anything existing out there that we can match or take precedence from? Has there been any discussion about the wildlife fencing that I've heard about because these two items are possibly two new types of structures that would be in this Corridor?
 - a. John said he hasn't heard any plans to install rockfall netting on Vail Pass like you see down in Georgetown. For rockfall mitigation at the Narrows we are simply accommodating a buffer zone for rock to fall safely between the rock cliff and the roadway.
 - b. John said what we do have proposed is avalanche mitigation in The Narrows. It would be a passive avalanche mitigation system strategy which would look like something in Glenwood Canyon with a rockfall fence but not draping the slope with netting. It is in the EA and something CDOT is going to pursue installing in that area.
 - c. John noted wildlife fencing is proposed and the benefit of that is 5.4% of the crashes on Vail Pass are wildlife/vehicle collisions. Putting up the fencing has two purposes. One, it will protect the traveling public and second, it will benefit the wildlife because it will direct them towards the new wildlife underpasses.
 - d. John said The Crest of the Rockies said CDOT should install the same kind of wildlife fence we put everywhere else, which is essentially wooden posts with the high tensile fence strung between them. At the moment, that's our plan to install some variation of that and perhaps some of the subtleties are the location and how best to install it.



- e. Karen said we haven't gotten to fencing aesthetics yet because it is not part of the CAP #1 project so will be in the future Aesthetic chapters. Diane said her next step is to talk to the wildlife biologists and the roadway designers to hear what changes are going to happen along I-70. She stressed the Aesthetic Guidance is not just for the initial INFRA construction or Auxiliary Lane project, it is for projects in the future that we may not even have an idea of what they are right now.
 - f. Diane said in the Aesthetic Guidance chapter that deals with rock cuts, there is a picture of the rockfall fence in Glenwood Canyon. She hasn't had a chance to talk with the geotechnical engineers but was wondering if that is kind of what would be used for the avalanche protection.
3. Greg spoke about the tiered walls - it looks like they stagger the vertical pieces. Is the farthest point forward is staggered to the farthest point back? And for the bench, is it from the closest point or is it something different? Because with a deeper scallop you get a bigger pockets if you offset so you get close pockets and deep pockets. I think the other thing you to note about the original design of the scallop was that a deeper curvature took less pressure off the wall structurally. By going away from the original design, you are taking away that very significant (structural) design feature.
 4. Greg said the other issue is you show the shotcrete sculpted walls. This type of wall works pretty well with light colored sandstone, but on Vail Pass there are mostly red and maroons. If it was a rock cut, you would get some soil pockets and anytime you do the shotcrete you get zero soil pockets. If you think you are going to use it, where are you going to use it? It works in some places and not others very well at all.
 - a. Karen said we have seen poor examples of shotcrete walls and have also seen some very good ones. We are still considering a shotcrete wall for the Truck Ramp but don't know for sure yet. It's important to know you can paint these, require certain dimensions and you can include tiering. The nice thing about delivering this with the Construction Manager/General Contractor method we can bring the subcontractor to the table and say this is our goal to have a very natural looking wall that matches Vail Pass specifically.
 - b. John agreed that the original design did distribute forces along the concave wall. We wouldn't need to design anything like that today because the way we hold the walls up now is either through the soil nails, or through MSE geogrid or tie backs.. That thought process (using concave panels for structural stability) has changed a little bit.

- c. Additionally, if you look at the walls with a bad concrete panel, they are 4" thick and have rebar in them, once they go, (concrete degrades) they fall apart.
 5. Greg said he's not saying to use separate vertical pieces. I think if you use those vertical pieces you're going to have to have a very hard form liner to show that it really looks like a separate piece. But I think the shadow lines that people see is a detail that you can match and I'm trying to understand why not try to match it.
 - a. John said the offsets between the walls are offset with a nosed scallop from tier to tier. He will look at the design plans to see if we are that far along. He thinks the intent the minimum distance is going to be 4' but we may end up with a little extra planting pocket.
 - b. Diane said she thinks Greg was talking about the vertical column between the two-tiered walls are on an offset, they aren't lined up back to back. Mary Jo said that is part of the plan that the column on the lower wall is halfway between the two columns on the upper tier.
 6. Greg asked if you can introduce shotcrete walls as a new element?
 - c. Karen said we are allowed to consider adding new elements to the Pass. The intent with the shotcrete is to blend in with the natural surroundings and minimize our touch on the Pass. If we were to get the shotcrete to look like existing bedrock that would accomplish that goal.
 - d. Lisa said the SOI Standards for Cultural Landscape say you can substitute material as long as it recreates the appearance. So, if you had stone wall originally, you could do concrete with a facing. It's not the same but it's the idea of trying to recreate the appearance. She stressed again that we are working outside the parameters of SOI because we are not technically reconstructing but the new walls should mimic the appearance of the original.
 7. Greg inquired, is there any public comment on the Aesthetic Guidelines or is this considered the comment period and then they go to the agencies? Is this our only opportunity to provide comments or can we write comments if we have issues? And what is the timing for stakeholder or ITF comments?
 - a. Karen said we are not planning on having a public review of the guidelines, they will go to SHPO and the consulting parties as a required mitigation measure of the PA.



- b. Lisa said for Section 106 we will be sending out a submittal to SHPO and the consulting parties so you will have an opportunity to comment under 106 on these ideas and designs.
8. Greg said Vail is usually not considered an agency. He thought the agencies were typically federal. When you got agency review on the EA, the Town of Vail was not part of that. Are we considered an agency under 106?
 - a. Lisa said under 106 a consulting party is a group that has demonstrated interest in historic properties, so it is not limited to agencies. In some cases, it can be individuals or property owners.
 - b. Karen said in terms of getting comments on the guidelines, that today we are kicking off the review period for initial feedback from our ITF. You can certainly provide written comments within the next week to ten days.
9. Greg asked if you are planning to put concrete drainage gutters on the back of these walls which would take away from the planting pocket?
 - a. John said not on these walls. There isn't a need to do it where these walls will be located. But if we have a wall on the downhill side of the roadway, we would probably wind up with a gutter and that would be for the longevity of the wall. For some of the walls on the downhill side you could point to the lack of a gutter for the reason for the minor failures. I think we will use drainage gutters where appropriate.
10. Todd said he thinks one of the things that makes that application of the shotcrete wall unsuccessful is that you can sculpt the rock and get the color right but if you don't do something with the horizontal line on the top, it does not look natural Both examples show in the slides tried to do that, but I don't think they did it successfully. The one on the left doesn't have nearly enough variation in the top line of the shotcrete to make it look natural. The one on the right is a little better but every place that it terminates, it terminates in a strong horizontal line. If you can figure out a way to get rid of that horizontal line, you'll have a lot better success in making these look natural.
 - a. Karen agreed it was something she noticed also.
11. Rebecca asked if CDOT will handle tribal consultation or is there an expectation the Forest Service will do that?
 - a. Stephanie said on this project FHWA and CDOT are the lead agencies and we are responsible for doing any required tribal consultation. Karen said we invited three tribes who were consulted



with during the EA process were also invited to be a part of this ITF and they declined.

12. Shannon asked for clarification on the flat panel wall along the bike path. Will that be replaced with the shotcrete wall or will it stay a flat panel?

a. Diane said our intent is to use the flat panel wall especially for downhill slopes.

13. Shannon asked if the flat panel would be replaced or improved? It's pretty unsightly and you can see it crumbling when you ride by. Am I correct in understanding the bike path will not go up that steep hill?

a. Diane said the bike path is getting realigned to cross over the creek where currently it is so close to the highway. If there are new highway walls, the intent would be to replicate the flat panel wall.

b. John said many of these vertical walls in the relationship to the highway are on the downhill side and are used in areas where if you did a tiered or stepped wall the environmental impact would be a lot larger. Vertical walls on the downhill side are no problem to replicate and they are actually very similar to how the state builds all of our walls now.

14. Greg said someone made the comment the Aesthetic Guidelines have to be adopted prior to any construction taking place. You gave us the chapters you did because construction will start before the entire guidelines are completed.

a. Jim will get back to Greg on what the EA Mitigation Commitment is. Jim later confirmed in the meeting that CDOT's EA/FONSI commitment is to develop project-specific aesthetic guidance but that nothing in the commitment states that the guidance must be completed prior to construction.

15. Greg said we do a lot using boulder retaining walls, Vail Pass has very few. Vail uses a lot of blocky shaped rock and not the rounded glacial boulder. I would like to see the blocky rock being used and written into the guidelines.

a. John agreed it would be his preference as well. We wouldn't import rocks but would use what is on site which would be blocky and will be much more structurally sound than river rock.

b. Diane said that if we are going to use rock, it should be indigenous to the valley, so it looks like it has been part of the valley originally and she does intend to put that into the Aesthetic Guidelines.

5. Formatting the Aesthetic Guidelines for the Future



- a. Mary Jo said the thinking right now is we want to make the Aesthetic Guidelines sustainable and it will be a stand-alone document and that over the years as construction goes on, these guidelines remain relevant. We also knew there is a need to have a formal publication of the publishing of the guidelines. As we talk about things like the precast concrete concave wall and we get agreement then we will incorporate that into this document because the document is still under development.
- b. If something like this would come up later after the guidelines were published our thinking is that we would put it into an appendix.
 1. Greg asked if the intent is to have Sections 1-20 published prior to construction this spring or just those that are relevant to the construction?
 2. Karen said we won't have it all done by the time the first project is advertised so it will only be the sections relevant to the first project. But it could all be completed this summer Greg said adding a Chapter 21 on maintenance is very important because you do all the work on the front end and specifying how to maintain it then you keep the intent after the project is completed.
 - a. Karen asked Diane if the Crest of the Rockies included maintenance. She said the intent was to mimic the Crest of the Rockies and modify it for Vail Pass.
 - b. Diane said the Crest of the Rockies addresses maintenance for standard landscaping to get it established. It did not specify maintenance of walls or other things like that.
- c. Karen said we heard some great comments on the guidelines and look forward to hearing more from you. Here is a summary of today's comments:
 - i. The concave part of the wall is important and a deeper curve closer to existing should be considered.
 - ii. The width of the tier between the walls is important for planting and the current depth of 4' should be replicated.
 - iii. The height is something to consider, maybe reduce the recommended height for the tiered concave walls closer to the existing heights.
 - iv. Screening the walls with vegetation that matches what is out there now is supported. The type of vegetation on the tiers is important.
 - v. How additions to existing walls is proposed was generally supported.
 - vi. How the wall type is chosen for each location needs to be defined.
 - vii. For the shotcrete walls the top of the wall is an important feature than requires definition. A straight horizontal line is often the giveaway that the wall is not real rock. For the shotcrete walls, the colors must match the

colors on Vail Pass and the wall needs to follow similar dips and undulations of the existing rock.

- d. Karen said we are following the philosophy of using modern construction practices but still having a light touch on the landscape and trying to blend with the natural environment. Lisa said earlier that honoring the spatial relationships and the materials, not replicating, has been our approach.
- e. Karen said having a long-term project with reduced maintenance is very important.
- f. Jim noted we have a lot of other commitments in addition to the 106 commitments and one is to minimize the disturbance. CDOT is committed to adhere to those commitments so we are trying strike the best balance among the commitments.
- g. Diane said it is the collection of all the elements of Vail Pass plus the philosophy of why it was designed differently from previous sections of I-70 that provides the eligibility to be listed on the National Register of Historic Places. It's that experience of driving over the Pass and understanding this is different from other parts of I-70 that we want to convey with the new construction. We want to capture the historic 1970s aesthetic character and honor its visual distinction
- h. Greg said Lisa talked about a dry stacked rock wall is very historic versus rebuilding that wall and veneering the wall. I think we understand it will be built different structurally but the façade of how it looks is what I'm trying to push for a little more.
- i. Greg said you also need to consider viewpoints. There are many viewpoints on this highway. The whole bike path going towards Highway 6 is away from the road but most of the time you are looking across the valley. There are also hiking trails where you start to pull up out of the wilderness trails and you look back over Vail Pass and also the views when you're recreating up on Vail Pass. I heard a comment the recreation path isn't used in the winter but quite a few people ski up from the campground and there is obviously a lot of recreation at the top of Vail Pass that looks out over the interstate too. The viewsheds are important not for recreation users not just for drivers, passengers see the road differently.

6. Next Steps

- a. Mary Jo reviewed the schedule and said we have had two 106/Aesthetics Meetings. We will let you know if we plan on having an April meeting.
- b. September is the focus for the FIR Meeting which is 30% design for the remainder of the packages and that will start to wrap all the pieces together. Then continued design will be staggered based on the construction packages.
- c. There was a meeting with the Technical Team in February where we proposed and received approval for the tiered walls design exception along the corridor. The next meeting is March 15th.
- d. We will present the Tiered Walls Design Exception approved by the TT to the PLT March 26th.



- e. Design is underway and we will continue to hold ITF meetings. ALIVE is working on the size and location of the wildlife crossings; SWEEP is working on the SCAP and Maintenance Manual chapters.
- f. The team will move forward with completing the Aesthetic Guidelines. The ITF members will be provided the next set of draft chapters and we will discuss them at the next ITF meeting.
- g. Karen thanked everyone for the feedback and spending the morning with us. Please email us any additional comments you have on the Aesthetic Guidelines and the Tiered Wall Memo.