



MEETING NOTES

PROJECT:	23982-23929 I-70 West Vail Pass Safety and Operations Improvements
PURPOSE:	Technical Team (TT) Meeting #15
DATE HELD:	April 12, 2021
LOCATION:	Online Google Meet Meeting
ATTENDING:	John Kronholm, Project Manager, CDOT Region 3 Karen Berdoulay, Resident Engineer, CDOT Region 3 Matt Figgs, CDOT Region 3 Rob Beck, CDOT Region 3 Captain Jared Rapp, Colorado State Patrol Carole Huey, US Forest Service Michelle Cowardin, DNR Greg Hall, Town of Vail Robert Jacobs, Summit County Kevin Sharkey, ECO Trails Ben Wilson, USACE Larissa Read, Consultant to ERWSD Shannon Anderson, Bicycle Colorado Jeff Bellen, FHWA Tracy Sakaguchi, Colorado Motor Carriers Association Jim Thomsen, Kiewit Matt Uribe, Kiewit Mark Gutknecht, Kiewit Randal Lapsley, R S & H Mary Jo Vobejda, Jacobs Jim Clarke, Jacobs Loretta LaRiviere, Jacobs
COPIES:	Attendees

SUMMARY OF DISCUSSION:

1. Introductions & Meeting Purpose

- a. Karen introduced the attendees at today's meeting. Robert Jacobs, Summit County's Engineer joined us for the first time. He will be the county's representative since Tom Gosiorowski has moved on.
- b. Mary Jo reviewed the purpose and goals for today's meeting:
 - Review project progress to confirm design direction
 - ITF Updates
 - INFRA Grant CAP-1 Update
 - Traffic Control Phasing Options

2. Review of Work Completed Since the Last Technical Team (TT) Meeting

1. CAP-1 90% plans submitted and are under review
 - a. Mary Jo noted the CAP 1 90% plans for the Lower Truck Escape Ramp and Highway Closure System have been submitted and are under review.

Karen reviewed the refinements that have happened in the last month. She said they are concentrating on the Lower Truck Escape Ramp to refine the grading and determine which wall would be best in that location. They are giving serious consideration to a rock replica wall of shotcrete.

b. Removal of the eastbound closure signs

Karen confirmed that the first construction package will only include the westbound Highway Closure System at the top of the Pass. The eastbound Closure System will be done in a later construction package.

2. The design team continues working toward other refinements for the other parts of the project. Karen noted for each of the more significant refinements we plan to start with the Scope Specific Differentiating Criteria matrix to make sure we still have a balance with our Core Values. We're continuing to do that on the Recreation Trail and will be bringing the refinement for your feedback at a future meeting. Work continues on the roadway alignment and we're spending a lot of time on wall locations and design, and the wildlife crossing locations.

a. Recreation Trail design

b. Roadway alignment

c. Wall locations and design

d. Wildlife crossing locations and design

e. Bridge phasing

f. Research on the anti-icing system

Karen explained they are doing further research on the anti-icing system. It is likely we will not use the system that was previously specified. We found that system has significant maintenance challenges so we are looking for other alternatives that would still improve the safety in the corridor.

g. Engineering Study for the Highway Closure System

The westbound closure system will include the gate and four new signs, some overhead and some at eye level. The signs will notify drivers of the closure ahead and direct them to exit at the top of the Pass. One of the signs will have hanging boxes that will include Red Xs signifying a lane closure, similar to what is in a tunnel for lane closures.

One of the reasons we are constructing the westbound first is because the design work had already been done to analyze the westbound system to make sure it fits with the overall ITS infrastructure for the entire corridor. We need to do the same work for the eastbound system.

3. The PLT Meeting #8 was held on March 26th

a. We reviewed all the work the ITF and TT have been doing and the design progress. We presented the Tiered Wall Design Exception and received their endorsement.

b. It was noted how well the TT & ITF meetings are going and the opportunities for interaction.

- c. The PLT reiterated their desire to see strong language in the Aesthetic Guidelines which protects the historic nature of the Corridor with the design.
 - d. We had a robust discussion on the selection of walls and the specifications for walls to ensure they fit in with the historic nature of the corridor.
4. The Emergency Services ITF #3 was held on March 29th
- a. Mary Jo said the meeting was well attended and we received a lot of good feedback. We started the meeting by giving them an overview of what is included in the INFRA Grant, and the schedule for design and construction.
 - b. We spent time discussing what the emergency service providers would like us to consider as we go through the design and what procedural items are needed. This included what the design will ultimately look like, what kind of interaction is needed during design and construction, and what needs to be permanent legacy elements. All agreed the I-70 Emergency Management Plan needs to be reviewed and updated.
 - c. Kiewit outlined their plan for regular meetings with the EMS ITF. This is very important because each project and even each phase of each project may have different interactions that are needed with the emergency providers, detailing how they might get to an incident or what area they should come from. For example, discussions included whether it would be possible during construction to have emergency response come from the east when it normally comes from the west.
 - d. The ITF provided input on expanding the contacts we need to be talking to, what their current routes are, where turnarounds are best placed.
 1. Larissa inquired if there was any discussion at this meeting regarding hazmat conditions that may occur during accidents and emergencies. She said she understands that most of the conversation was about human life and safety and she expressed her concerned about water quality.

Karen said the group discussed hazmat spills in the Truck Ramp but didn't talk about incidents on the highway. She said any hazmat incidents are the responsibility of the entity that caused them. CDOT works with the responsible party's insurance company through a permitting process to ensure the spill is cleaned up properly and they don't close the permit until that occurs.

Matt noted that during construction we are required to have a CDPHE Stormwater Permit that includes a Spill Prevention Plan and spill kits on site. It outlines that steps we will be taking to ensure we aren't doing anything that would pollute waters. This will be incorporated through our Stormwater Management Plan.

He acknowledged they haven't had specific conversations about when a spill is outside of the construction area, and it's probably a good point to understand the nature of a typical hazmat response. We will discuss this in a future meeting with the EMS ITF.



2. Greg asked if the design of the recreation path will impact how EMS responders access it. If they commit to going down the bike path for a medical emergency, you need to make sure they have full access until they get back to the road by the upper truck turnaround.

Matt said we spent a lot of time talking about incidents on the Recreation Trail and what type of vehicles they respond with. Eagle County Paramedic Service offered the weight and width of their ambulances which is very helpful because they are bit wider and heavier than other equipment used. It is important we can provide them adequate room for both the temporary and permanent condition. We are still looking into our design to incorporate their comments.

3. Greg said he didn't think we were going to do anything about the bridge across Polk Creek but if EMS commit to using that with the bigger vehicles it needs to be reinforced.

Karen said the scope does not include work to that bridge so it would really have to be the other areas they use for access. The emergency service provider meeting was only last week, so we're still evaluating how to incorporate the feedback into our design.

Greg said that is the issue, if they commit from Black Lake, you're going to have to have a turnaround prior to Polk Creek or you might have to reinforce the bridge.

5. Ongoing Meetings with FHWA and Forest Service

- a. The Forest Service gave the design team information about trail events which is helping us when phasing the work on the trail.
- b. Jim C said for each of these construction packages we are required to submit a reevaluation of the EA/FONSI. Because the FONSI was just signed in February, not much has changed but there have been some minor impact changes to the design refinements so we submitted the reevaluation form with some backup documentation to CDOT for review and then it will go to the FHWA for their approval.

6. Updates on Continuing Items

- a. The design exception for the tiered walls has been endorsed and will be included as an appendix in the Aesthetic Guidelines. We have made the decision that is one place where we can capture the design exceptions.
- b. The Curved Panel Wall memo has been completed and was submitted by CDOT to SHPO and the consulting parties. The submittal package included the memo, Aesthetic Guidelines sections that are related to CAP-1 projects, comments from the ITF and TT, and the project team's responses.
- c. Jim C said they have been working with Ben at USACE to submit a construction notification for wetland impacts from the CAP-1 improvements. There is about .10 of an acre of permanent impacts total. That doesn't include the temporary construction impacts.

Karen said we have some minor wetland impacts that are part of the CAP-1 project. We are not required to mitigate the impacted area per the Corps but since we made the commitment the EA to mitigation all wetlands we will mitigate these impacts. In the EA we also committed to prioritizing onsite mitigation. Since we have not yet established the onsite wetland mitigation options yet, we will mitigate these wetlands in a later construction package. We could have mitigated via a wetland back but chose not to so that we can continue to prioritize onsite mitigation. She said she wanted to highlight this because she knows it was a top priority for our stakeholders.

3. CAP-1 INFRA Grant Project Update

- a. Mary Jo said the final plans will be done in late May and construction is expected to begin in July.
- b. Karen explained there will be some minor landscaping such as seeding that is required to grow vegetation at the Lower Truck Ramp this year when it is completed. The more complex landscaping which will include the trees and shrubs will be part of a larger landscape package for the entire project. It makes sense to do it all at once so you will not see the final landscaping at the truck ramp at the end of the year.

Karen said the CAP-1 work this summer will mainly be shoulder and off highway work, but there is a separate paving and guardrail project on Vail Pass this year that will have more travel impacts. As many of you who drive the Pass know, the pavement is not in great shape and even in the areas that will be under construction in the next few years we didn't feel the pavement could withstand two more years of driving on it before we're ready to pave it so that's why it's happening this summer.

Karen said they are also doing a concrete test section on part of the Pass this summer. We are always looking for new materials that might better withstand the wear and tear of chains. We are trying out three different types of concrete with different materials mixed in to see which one withstands the chains the best. This will be good information for future projects on West Vail Pass.

4. Traffic Control Phasing

- a. Mary Jo noted the Scope Specific Differentiating Criteria was reviewed at an earlier meeting where we got your input and modified the document for use in developing our phasing options.
- b. Matt said they developed three specific phasing options for the roadway construction and there were elements that were in common for all the options that were being considered.
 - i. All phasing options follow the CDOT Region 3 Lane Closure Strategy. This document uses traffic counts and lane capacities in a single lane closure to determine when you can close a lane. There is a very specific section that outlines the allowable closure time on the Pass from MM 180 to MM 190 interchanges. Because of tourist traffic it goes month by month as to when closures are allowed.
 - ii. All phasing options will allow I-70 to be put back into full existing configuration over winter months (2 x 12' lanes + full shoulders). We



considered it to be a fatal flaw if we had a constricted travel zone over the winter, whether it was lanes or miles of barrier with no shoulders.

- iii. All options do not affect the existing recreation trail and allow for the new trail alignment to be constructed ahead of eastbound roadway widening. We made sure the interaction of building the new trail can take place before we move bike and pedestrian traffic over to the new recreational trail and then we do the eastbound highway widening which impacts the two miles of trail we are redoing.
- c. Matt reviewed the three options that were considered:
 - i. Option #1 is a three-phased approach. In 2022 we would constrict the westbound lanes down towards the median and build any westbound widening work that is associated with the curve realignments and retaining walls.

In 2023 we would push traffic in both directions to the outside lanes and build everything in the median such as curve realignments, wildlife crossings, and drainage.

In 2024 westbound would be completed and eastbound traffic would be squeezed toward the median to build the final outside area.
 - ii. Option #2 is simplified two-phase approach which will require some temporary detour pavement. In 2022 we would be putting in detour pavement on the shoulder, outside edge of pavement for westbound. This option limits traffic control impacts to two primary seasons. The first year is just to get ready for the 2023-24 season.

In 2023 we would take east and westbound traffic and move it up onto the temporary widened westbound profile. This would allow us to entirely build the eastbound lanes at the same time, so you get the third lane completed in 2023.

In 2024 we would do the same thing for the westbound section.
 - iii. Option #3 the Contraflo Approach is a bit more complex. It is similar to the two- phase option but minimizes the amount of detour pavement. Instead of moving two lanes up to the westbound profile, we would only move one lane. In 2022 we do temporary widening and detour paving that would be much less than the two phased approach.

In 2023, we would take one of the eastbound lanes and move them onto the westbound profile. There is a split lane using the existing eastbound profile. The plan is during the day we would run traffic in all lanes and instruct trucks and commercial vehicles to use the lane that stays in the eastbound profile. At night we could close that eastbound lane, which is allowable in the Lane Closure Strategy, to be able to construct the eastbound platform. The contraflo lane that is up on the westbound profile would always stay open for the eastbound traffic.

In 2024 we would do the same thing for the westbound direction. Traffic would again be split with one lane down on the eastbound profile and one



lane on westbound. There would be nightly closures to finish the westbound work.

- d. Our conclusion was to select Option #2, the Two-Phased Approach. Some of the specific reasons we selected this are:
- i. Reduces the major roadway construction impacts to 2 seasons of reduced shoulders and 11' lanes.
 - ii. Traffic will be completely separated from construction which is safer for both the traveling public and the construction workers.
 - iii. Least amount of schedule risk. We put the bulk of the work which is the eastbound widening into the 2023 construction season. This gives us the most schedule float if we have challenges during construction, then we would have another season to complete the eastbound work as well as finish the westbound work. It moves the critical path to 2023 rather than pushing it to 2024.
 - iv. There are fewer major switches for traffic which is less confusing for drivers.
 - v. The final profile and cross slope are independent of existing grades of I-70. Some of the other options would have to perfectly tie into the existing grades. When you are opening and closing a lane each night and grades don't tie in you're going to have different elevations in the travel way as you construct over that year which could lead to a really rough ride and potentially safety issues for the traveling public.
 - vi. Best option for quality as entire eastbound platform and then the entire westbound platform would be constructed at one time. Think about using a skid steer versus a motor grader. If you're just doing small increments at a time you're out there with a skid steer trying to put space and good grading and working in narrow areas versus being able to work in a wide area. This option leads to a better quality product at the end of the day.
 - vii. It is not mandated, but materials will probably be hauled at night to reduce impacts to traffic. There will be less trucks on the road during the day.
 - viii. There are \$875K in savings compared with Option #1. Because we can open up a large area to work, there are a lot of efficiencies we will get in not having to move traffic multiple times and being able to use more equipment.
 1. Greg asked if this would give you the opportunity to move the roadway back and forth from a cut to a fill section as you do your final designs?

Matt said Option #2 gives us more flexibility because we will have the entire eastbound lane open in the 2023 season and the westbound open in 2024. We're working towards trying to match it as close as possible to reduce the amount of fill, earthwork, and asphalt and we have flexibility with this option to reduce walls.
 2. Greg inquired if the construction speed limit is the same in every option in the 11' lanes?



Jim said the assumption was the speed limits would essentially be the same. We have not determined what the speed limit will be during construction, but we will evaluate that with CDOT.

3. Greg said he's a little concerned having both lanes be 11' with the amount of trucks coming down the hill and the spacing of pullouts.

Matt said we talked at the EMS Meeting about having pullouts at certain frequencies and intervals. The designers will be making sure we incorporate pullouts where they fit into the profile at regular intervals.

4. Tracy said 11' lanes are really tight, and she worries because sometimes the traveling public is not comfortable driving right next to the trucks. She requested a reduced the speed and watch the speed dynamics during construction, then if need be you can reduce the speed limit it further. The truck pullouts will be very important as well.

Matt said there is always flexibility to reduce the speed if we are noticing issues. This will be an actively monitored situation and we can change speed limits as we see how traffic is performing. We will definitely be looking at opportunities to make this as safe as possible.

5. Greg asked if you have lane closures when you are constructing the different phases and you see backups, is there flexibility to modify the lane closures as you modify speeds? Or do you just say that is our strategy and we're within our guidelines and we're not modifying the lane closure strategy.

Matt said with Option #2 the intent is that we will not have to close lanes. The strategy looks at lane closures and not necessarily lane reductions, like narrower lanes.

Matt further explained that the lane closure guidance document is meant to be a strategy. There is a variance process we would use if we feel there is a need to justify any closures outside of what the strategy allows. The variance goes to CDOT Region 3 Traffic for approval, it's not a project team decision. There have been instances in the past when we felt we could justify those closures because of reduction in the time for significant construction impacts.

6. Mary Jo said one of the things discussed in the EMS Meeting was long stretches of road with continuous barriers and if you look at 2023 in Option #2, it may be difficult for first responders to get to incidents because of the barriers. I was wondering if the construction area offers any opportunity for use by EMS vehicles during a response.

Matt said there are always safety challenges in having emergency services where active construction is happening. One of the really good ideas that came from the EMS Meeting was the opportunity for breaks in the barriers. That way we can get them in and out or divert traffic. This is one of the most important reasons Kiewit has made a commitment to having open and regular meetings because this kind of situation and scenario changes on a week to week basis. We will ensure we are doing what we can to keep access and response time low.

5. INFRA Grant Design and Construction Schedule

- a. Mary Jo noted the schedule hasn't changed but it gives us a good reminder of when the design packages will be completed and construction will be starting on each of the packages, and how we are interacting with the PLT, TT & ITFs.

1. Michelle asked when the wildlife fencing will be installed, at the end of the project in 2024?

Jim T said the preliminary schedule shows the wildlife fencing being installed in 2024 because the wildlife crossings have to be constructed before the wildlife fencing.

2. Greg noted that with the median being reduced, it will require another Design Exception.

Karen said we are aware that reducing the median will cause a Design Exception. When we understand how long it would be and what the options are, we will bring it to the Design Exception ITF.

6. Next Steps

- a. Mary Jo noted the next steps are:

- i. Design of Construction Package #1 with Truck Escape Ramp and Closure System will be finalized for construction start up in July.
- ii. Preliminary design on Packages #2, 3, and 4 are on track for a 30% design review (FIR) meeting in September 2021.
- iii. ALIVE Meeting scheduled for May 3rd
- iv. SWEEP Meeting scheduled for May 24th
- v. The West Vail Pass website will be upgraded in the next few months. There will be a new landing page which will give you the option to get information on the environmental documents and new pages for the design and construction. We will be using the website for construction updates.

We expect to have some type of public outreach in June before the construction begins.

Karen said if you have any questions, please feel free to email her karen.berdoulay@state.co.us . If you have questions regarding the phasing, please email Matt matthew.figgs@state.co.us