Design Exception #3
Reducing the Buffer Area at MP 188 to 190

Design Exception Statement

At MP 188 to 190 widen to the south, pushing the truck parking toward Black Lake No. 1 and the forested buffer. This reduces the buffer between the parking and the lake.

Process

A presentation was made to the Design Exception Issue Task Force on February 22, A presentation was made to the Design Exception Issue Task Force at Meeting #3 on August 2, 2021. Two Design Exceptions were presented at this meeting.

The Design Exception process was reviewed by the Project Leadership Team on August 6, 2021. Meeting notes document their agreement that the CSS process was followed.

This Design Exception is the result of refinements to the EA alignment to minimize or eliminate design exceptions and meet the Aesthetic Guidelines. Further, the alignment refinements worked to minimize the cut walls in favor of fill walls. With all this work there remained median reduction design exceptions along the roadway alignment.

Reasoning for this Design Exception included:

- Improve safety by increasing curve radius and maintaining design speed consistency
- During construction this design keeps I70 open to traffic

The Design Exception Team agreed to forward their recommendation to the Project Leadership Team supporting the alignment refinement.

At the Project Leadership Team #9 held on August 6, 2021, the TT recommendation was presented, the PLT reviewed the process used and agreed that the CSS guidance had been followed.

Documentation for this Design Exception

- Design Exception ITF Meeting #3 presentation
- Design Exception ITF #3 Meeting Notes
- Project Leadership Team Meeting #9 presentation
- Project Leadership Team Meeting #9 Notes

No concerns were expressed after the design exception was discussed.

COLORADO
Department of Transportation

I-70 West Vail Pass Safety and Operations Improvements

Issue Task Force Design Exceptions Meeting # 3

August 2, 2021

Agenda Overview

Agenda
Meeting Goal
Work to minimize Design Exceptions
Design Exception Process
Median Reduction Design Exception

Meeting Goal

Discuss and agree upon a path forward for:

- Median Reduction Design Exceptions

Design Refinements

- Refined the alignment in the EA to minimize or eliminate design exceptions and meet the Aesthetic Guidelines
- Minimize the cut walls in favor of fill walls

With all of this work there remain median reduction design exceptions along the roadway alignment.

Design Exceptions Process

- Review criteria
- Review Design Exceptions in light of the design refinements and existing conditions
- Present and discuss the individual design options for the best balance possible

Design Exception

… Design exceptions may assist a designer in finding a transportation solution that balances impacts to scenic, historic, and culturally or environmentally sensitive area while still providing for safety and mobility…

1. Complementing surrounding physical characteristics
2. Enhancing safety
3. Increasing capacity
4. Reducing costs
5. **Protecting the environment**
6. Preserving historic and scenic elements
7. Interfacing with multiple modes of transportation
8. Utilizing new technology or innovative approaches
9. Doing the right thing

Design Exceptions for Reduction of Medians

MP 184.8 - 185.3 (EB and WB)

MP 186.9 - 187.4 (EB and WB)

MP 188.9 - 190.1 (EB and WB)

Design Exception from MP184.8 - 185.3 EB and WB

- Changes to the EA:

  EA did not have a design exception at this location. Adding the WB bridge to the INFRA scope

- What does the design exception achieve?

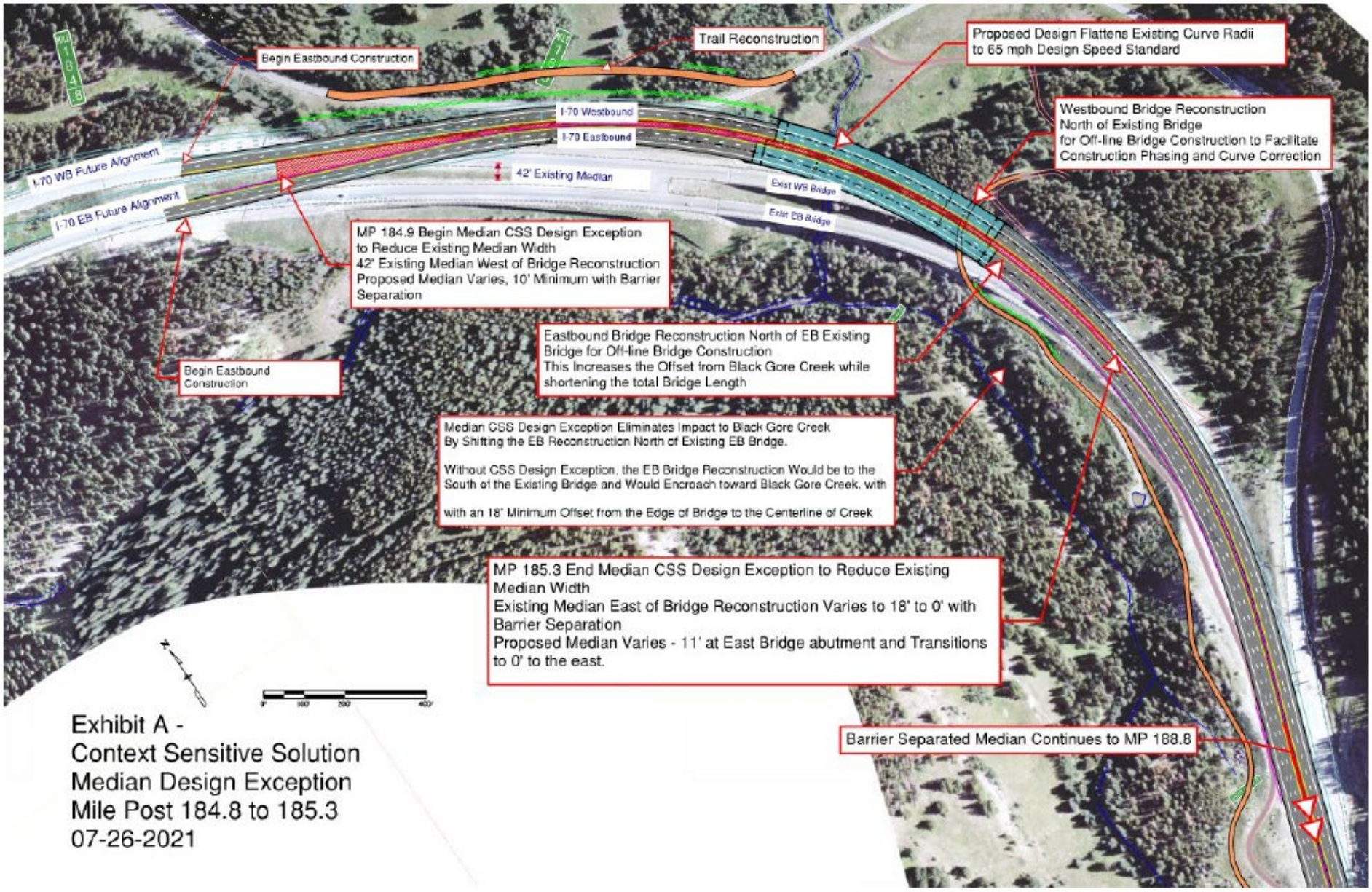
  Improve safety by increasing curve radius and maintaining design speed consistency

  During construction this design keeps I70 open to traffic

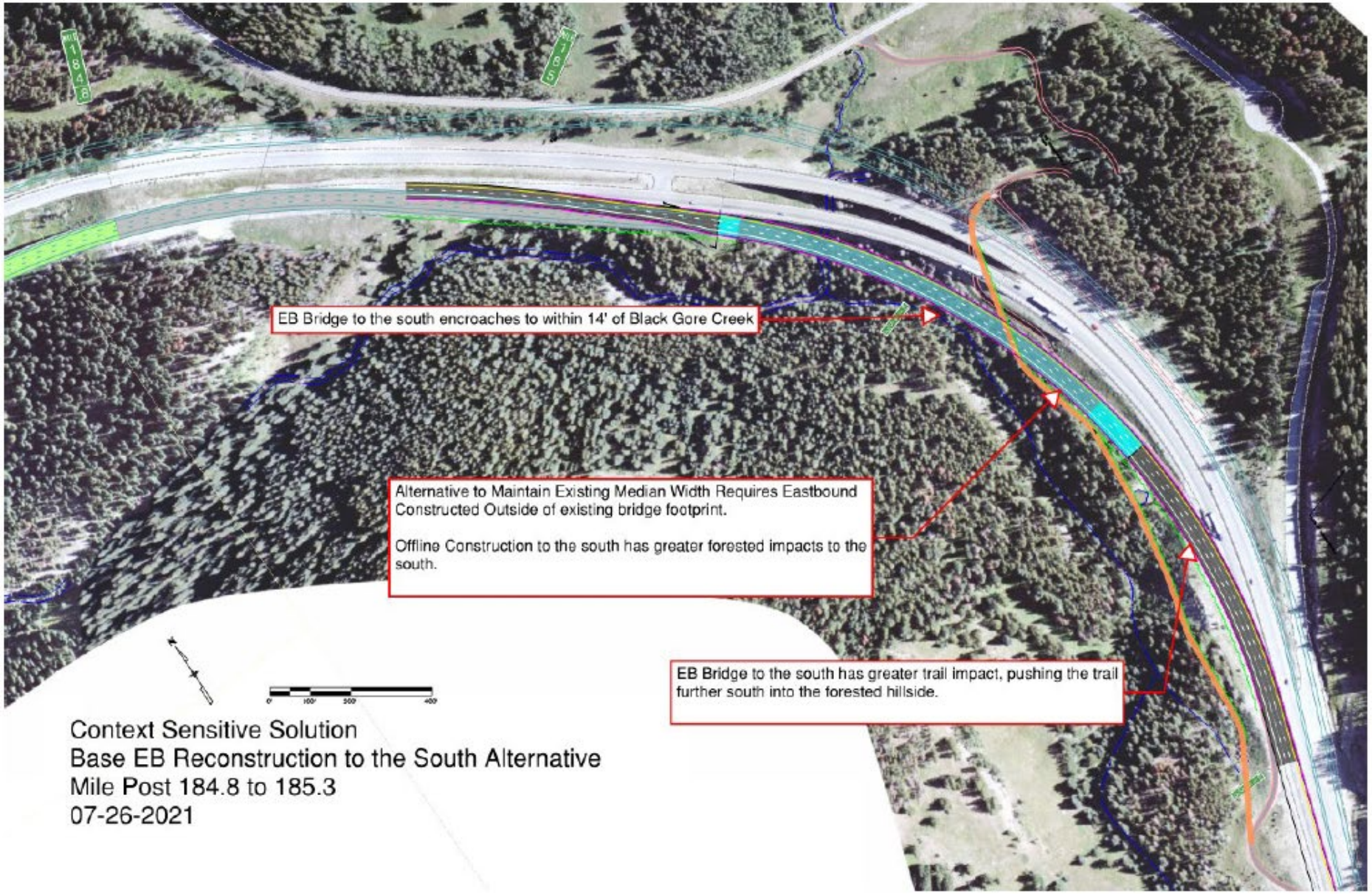
- What option(s) were analyzed?

  A 1,200-foot bridge within 14 feet of Gore Creek requiring a modification to the existing fill wall

Design Exception from MP184.8 - 185.3 EB and WB



Design Option from MP184.8 - 185.3



Design Exception from MP184.8 - 185.3 EB and WB

- Reducing the existing median width reduces the impact to Black Gore Creek and forested areas to the south.
- Shifting the EB bridge to the north reduces costs by $23M by reducing the bridge length and wall height.
- Extending the barrier a quarter of mile is consistent with next 4 miles of barrier separated roadway

This change does not preclude the AGS alignment

Design Exception from MP186.9 to 187.4 EB and WB

- EA showed elimination of the entire medium
- What does the design exception achieve?
  - By matching the existing outside edge of pavement and widening 14’ into the median is consistent with the roadway geometry.
  - Shoulder widening improves the safe operation of the highway when breakdowns occur.
- What options were analyzed?
  - Widening to the north and to the south

Design Exception from MP 186.9 to 187.4 EB and WB

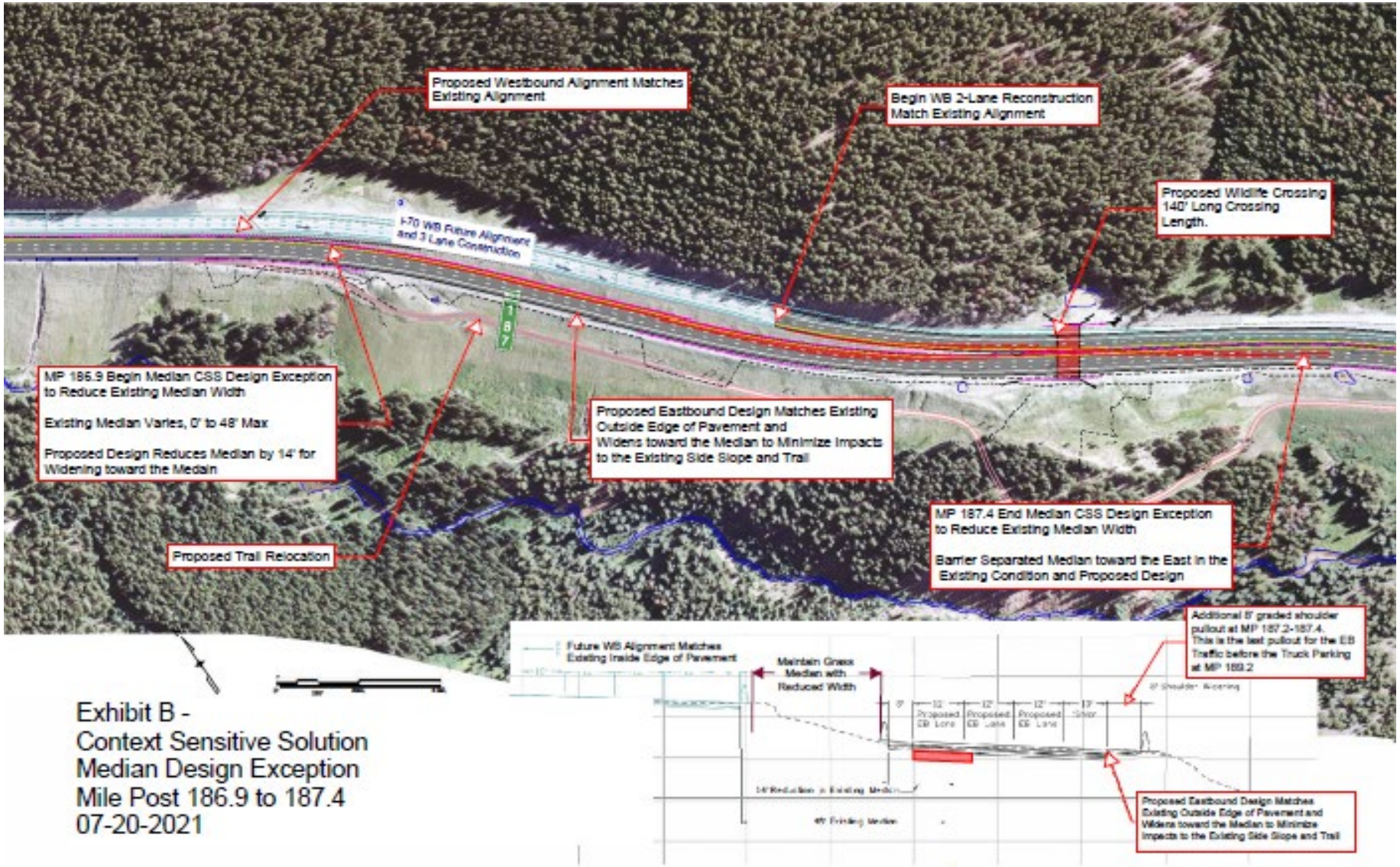


Exhibit B -
Context Sensitive Solution
Median Design Exception
Mile Post 186.9 to 187.4
07-20-2021

Design Exception from MP 186.9 to 187.4 EB and WB

- MP 187.3 is a proposed wildlife underpass and narrowing the median minimizes the length of the wildlife crossing, maximizing its efficiency.
- Widening to the north or south would increase the disturbance area and impact forested areas
- This change does not preclude the AGS alignment

Design Exception from MP 188.0 to 190.1 EB and WB

- Changes to the EA:

  Extending the limits of the design exception to accommodate the aux lane from truck parking to MP190

- What does this design exception achieve?

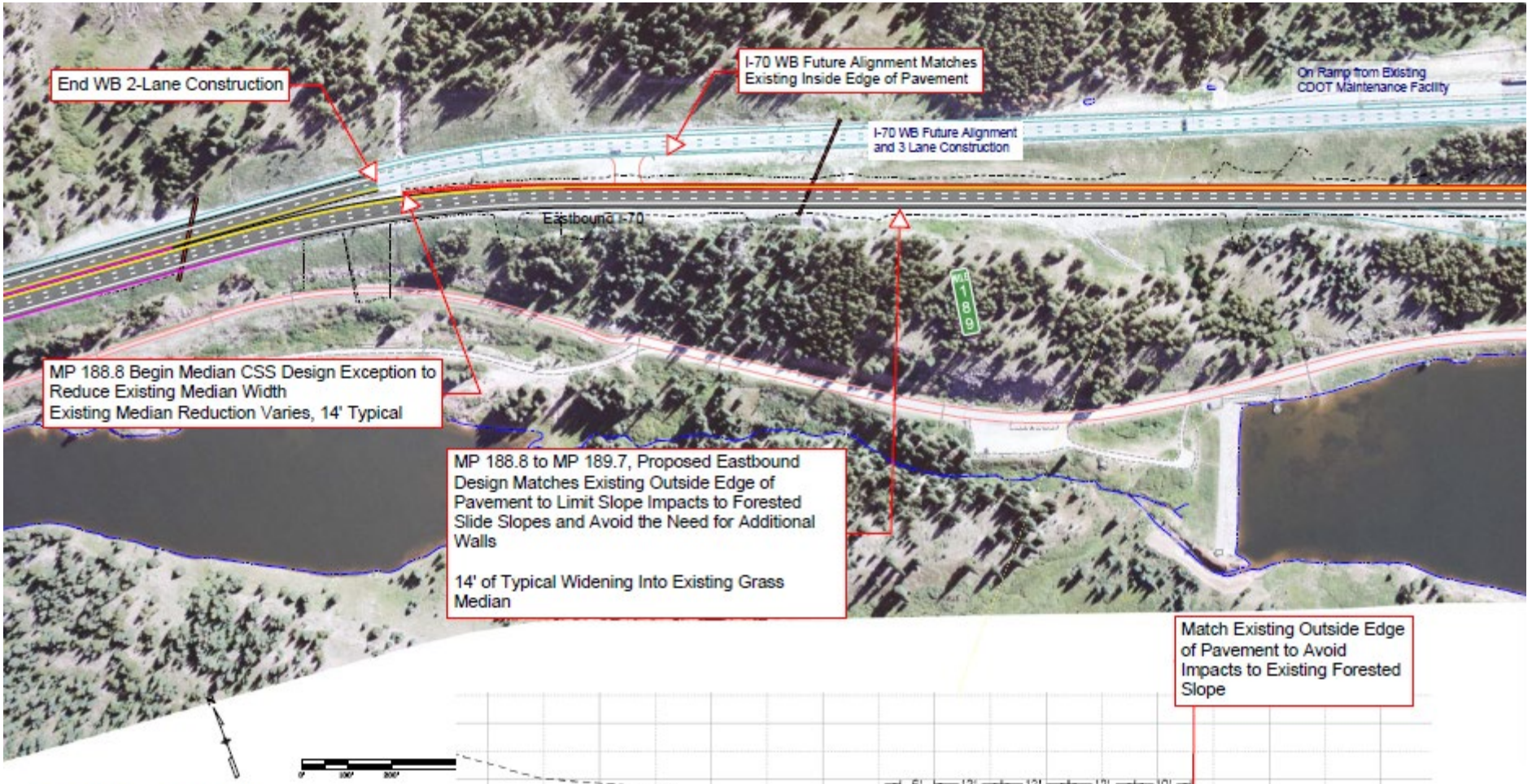
  Matching the existing outside edge of pavement and widening 14’ into the median is consistent with the roadway geometry.

  This alignment allows the existing truck parking to remain in place.

- What options were analyzed?

  Widening to the south

Design Exception from MP 188.0 to 190.1



Cross Section Mile Post 189 - Typical of MP 188.8 to 189.7

Exhibit C (1 of 3)-
Context Sensitive Solution
Median Design Exception
Mile Post 188.8 to 190
07-20-2021

Design Exception from MP 188.0 to 190.1

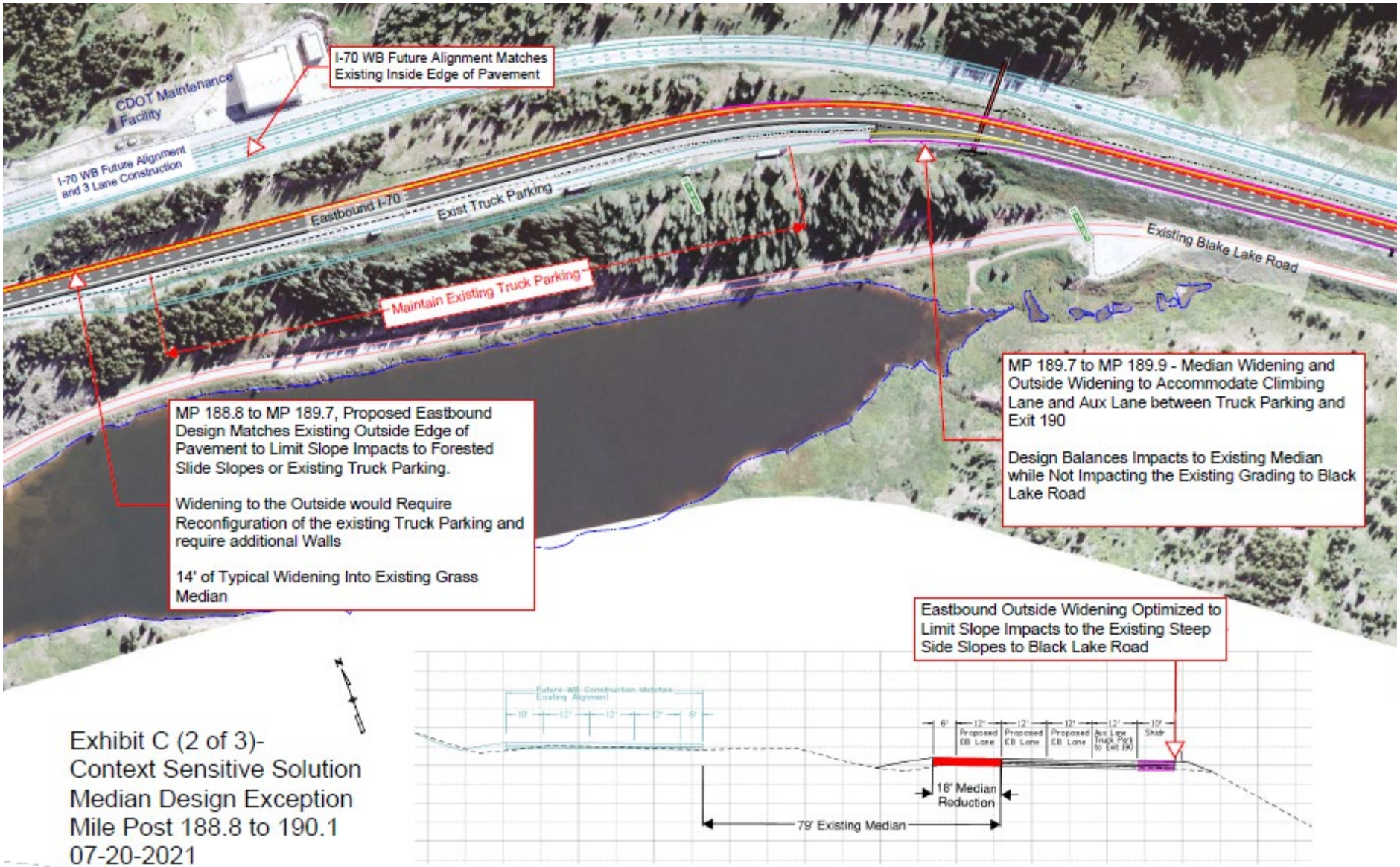
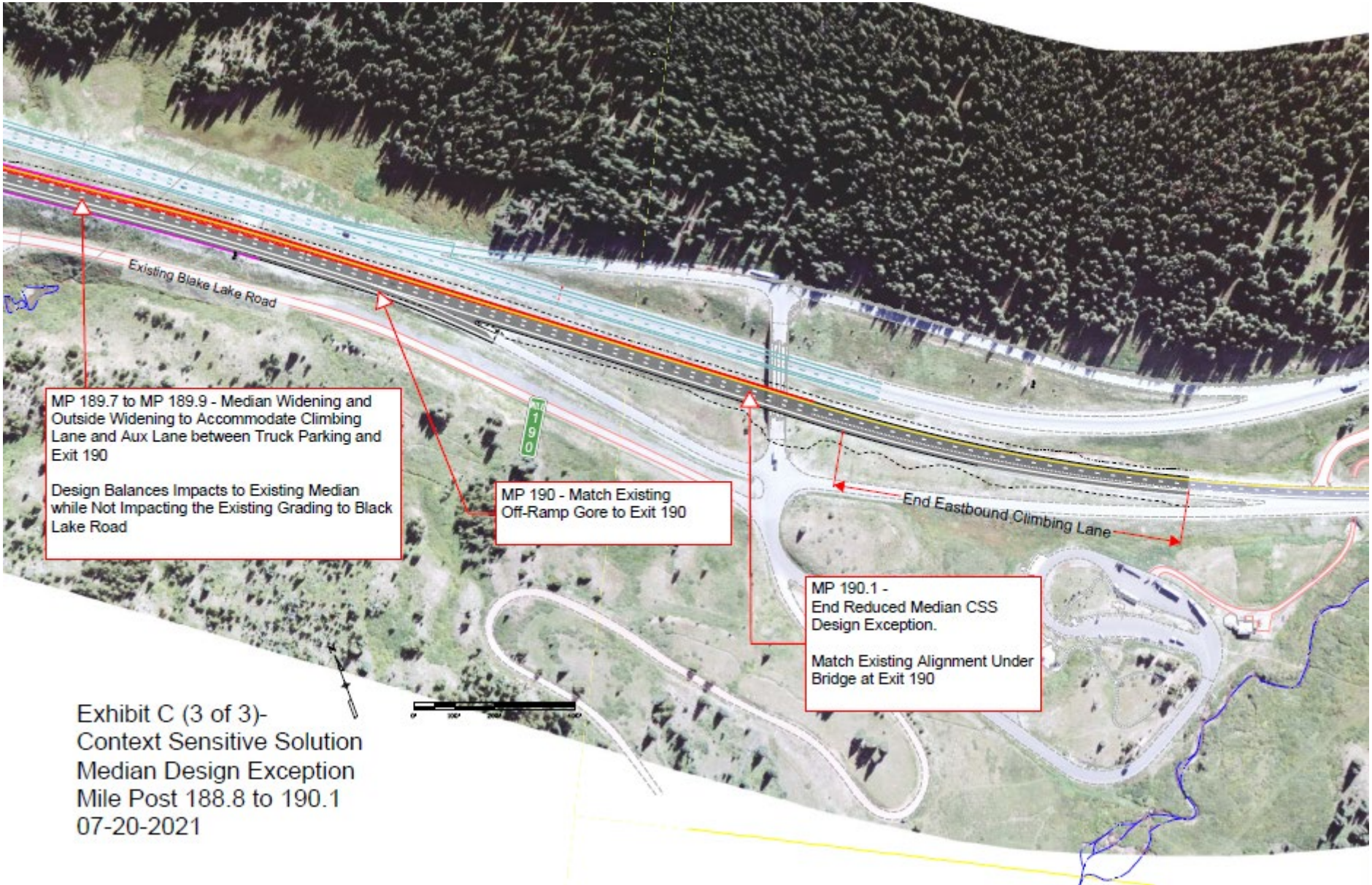


Exhibit C (2 of 3)-
Context Sensitive Solution
Median Design Exception
Mile Post 188.8 to 190.1
07-20-2021

Design Exception from MP 188.0 to 190.1



Design Exception from MP 188.0 to 190.1 EB and WB

- Widening to the south would push the truck parking toward Black Lake No. 1 and the forested buffer between the parking and lake would be reduced.
- This change does not preclude the AGS alignment.

Design Exception for Reduction of Medians

Reduce the median width from MP 184.8 to 185.3, MP 186.9 to 187.4, and MP 188.9 to 190.1 to improve safety, to reduce wall area, to lessen impacts to the trail, forested areas, Black Gore Creek, Black Lake No. 1 and to minimize disturbance areas.

COLORADO
Department of Transportation

23982-23929 I-70 West Vail Pass Safety and Operations Improvements Meeting Notes

Date: August 2, 2021

Purpose:

Issue Task Force (ITF) Design Exception Meeting #3

Location:

Online Google Meet Meeting

Attending:

Attendance list:

- John Kronholm, Project Manager, CDOT Region 3
- Rob Beck, Program Engineer, CDOT Region 3
- Karen Berdoulay, Resident Engineer, CDOT Region 3
- Matt Figgs, Project Manager, CDOT Region 3
- Lisa Schoch, CDOT Historian
- Michelle Cowardin, DNR
- Greg Hall, Town of Vail
- Pete Wadden, Town of Vail
- Dick Cleveland, Town of Vail
- Kevin Sharkey, ECO Trails
- Len Wright, PhD, ERWSD
- Larissa Read, ERWSD
- Tracy Sakaguchi, Colorado Motor Carriers
- Shannon Anderson, Bicycle Colorado
- Jon Stavney, NW COG
- Mark Gutknecht, Kiewit
- Randal Lapsley, R S & H
- Brian Hearn, R S & H
- Jeb Sloan, R S & H
- Mary Jo Vobejda, Jacobs
- Loretta LaRiviere, Jacobs

Summary of Discussion:

The following is a summary of the subjects discussed during the meeting.

1) **Introductions & Meeting Purpose.**

   Mary Jo explained the purpose of today's meeting is for you to understand the median reduction design exceptions and ask for you to give us a recommendation around these exceptions. We have three exceptions we want to review with you and then we'd like to hear back from you about the recommendation as to whether we move forward with these exceptions.

2) **Work to Minimize Design Exceptions**

   a) Karen said during the design process we refined the alignment in the EA to minimize or eliminate design exceptions and meet the Aesthetic Guidelines. There were locations in the EA where the walls were too tall. Through our design efforts the walls still exist but now meet the design criteria. We have minimized cut walls in favor of fill walls which is one of the directions of the design criteria.

   b) Brian said we were able to adjust the alignment to minimize the cut walls from MP 188-189 so that the first cut wall will be through the big reversing curves. The other alignment refinement worth noting is we were able to do that without any walls on the eastbound side, but it did require a lot of the offset barrier to make the slopes work and not chase the eastbound fill slope.

3) **Design Exception Process**

   a) Mary Jo said the process we go through is to review the criteria; review the Design Exceptions in light of the design and existing conditions and determine if we did we end up with a design exception and try to answer the question why can't we just meet the criteria.

   b) As you can see when Karen talked about the walls you just can't have everything in the design criteria. We have to make decisions about where and how much impact versus how high the walls are. That is what the terrain is dictating.

   c) We can do design exceptions to assist the designer in finding balance. In this corridor we have them all: scenic, historic, cultural, and environmentally sensitive areas.

   d) The design exceptions presented here today are protecting the environment by protecting the tree line and the wetland area. In all cases that's what it came down to when we reduce the width of the median. We have wide medians that were part of the original design where it isn't a wide expanse in many places,

you've got an eastbound and westbound alignment. The platform that the road sits on is different between one direction and the other. On I-25 or I-70 on the eastern plains, those two roads are exactly the same elevation in each direction. Through this stretch of I-70 that is not the case. There are two different horizontal alignments and the median is separating those whether they are close or far away.

e) The design criteria is very clear that it is a design exception to narrow that median anywhere along the entire I-70 Mountain Corridor and that's what we're asking to do in these three locations:

- MP 184.8 - 185.3 (EB and WB)
- MP 186.9 - 187.4 (EB and WB)
- MP 188.9 - 190.1 (EB and WB)

4) Median Reduction Design Exception – MP 184.8 – 1185.3 (EB and WB)

a) Brian said the Design Exception from MP 184.8 - 185.3 EB and WB is the biggest change from the EA. The EA design just had the eastbound bridge reconstruction and we have revised the design to incorporate both and eastbound and westbound bridge. The EA design had impacts with a big existing fill wall outside of eastbound and it really chased the rec trail down the hill. It required a 1,200-foot bridge eastbound and was close to Black Gore Creek which was an environmental concern with how much snow is being thrown from the bridge. We spent some time looking at that design and came up with an option that provides the same amount of total bridge length but gets us both east and westbound bridges constructed by pushing them to the north and replacing 2 bridges instead of 1. By constructing the westbound bridge to the north, it is set so that it is offline from the existing. The constraint is the east side of the existing westbound bridge and trying to maintain the existing truck ramp. We corrected the curve significantly to provide curve radius that meets 65 mph design speed. It does push us out into hill into the US 6 side on the north side. There really wasn't much room to move the westbound bridge. Once that westbound structure is out of the way, the eastbound can be reconstructed towards the median offline. And that really helps to pull the eastbound away from the hillside, Black Gore Creek and helps out from a grading standpoint significantly from the EA option.

To make eastbound fit we need to have two continuous lanes of traffic through construction, therefore we have to reduce the median width between the two bridges. The existing median is 42 feet and we are reducing that down to be a barrier separated median. This is very close to the original intent of as the rest of the section is closed median barrier and this just extends it for ¼ mile to allow us to balance the impacts and pull eastbound well off of the existing

alignment to stay farther away from Black Gore Creek and the trail and will eliminate the big impacts to the fill wall and the outside condition.

b) Karen reiterated the reasons for this design exception:

- Reducing the existing median width reduces the impact to Black Gore Creek and forested areas to the south.
- Shifting the EB bridge to the north reduces costs by $23M by reducing the bridge length from 1,200 feet to 750 feet and wall height.
- Extending the barrier a quarter of mile is consistent with next 4 miles of barrier separated roadway
- This change does not preclude the AGS alignment

c) Karen said there are quite a few sections on Vail Pass that do have grade separated roadway and we are keeping that as a priority but there are also quite a few sections where the original designers chose to constrain the roadway to minimize impacts outside of the roadway. Brian spent a significant amount of time fine tuning this but ultimately we need this design exception.

i) Tracy asked where is the chain up station from this location, further to the west?

Karen said the chain station is to the west, around MP 183.5 and this is at MP 185.5 so it's 2 miles up the hill. The upper truck ramp is at 185.5 and that was something else that Brian balanced with making sure that the ultimate alignment for the truck ramp could still be accommodated and the existing truck ramp still works until we rebuild it.

ii) Greg said the westbound bridge was going to be wide enough, but it would be tight to run two-way, two lane traffic on it while you are building the eastbound bridge. It looks like now you are trying to keep your existing eastbound continuing the traffic after the westbound is built which is a little bit of a difference in constructability.

Brian said the new bridges are not wide enough to have the two lanes of traffic with two-foot shoulders to maintain a proper MOT section. If we were to widen out the bridge enough to have that head to head traffic we felt there were safety concerns with a long construction cycle of having 11-foot lanes and 2-foot shoulders at a curve that is maxed out for 65 mph design speed. This option has traffic on the existing bridge until the new bridge is completed and we're maintaining the full lane and shoulder widths other than the pinch points at the very east end for the full cycle of the bridge construction.

iii) Greg asked if there is a gap between the two bridges or is it going to be one really wide structure?

Brian said there is a gap. There is a profile difference where they need to gap, about 8 feet between bridges at the minimum and somewhere between 8 feet and 12 feet for the entire way. They pull away from alignment as they go to the west and as they go east they get a little closer.

iv) Greg asked if you could pull the eastbound bridge a little further to the south on the westbound end of it. The reason why the original designers had the gap was for aesthetics to save the trees between the bridges. They're all dead now but it was a very distinct quality to have vegetation from down below coming between them. It would be good to make them not be so close together.

Brian said our constraints were really tight there so for us to be able to keep the phasing option offline it required the gap to be that small and there was no room to expand it any further.

d) Brian said with this design the rec trail alignment generally matches the existing trail. There is an existing tall wall with a pretty sharp curve that has a blind spot as you come down the hill, so we refined the trail alignment to flatten out that curve as it comes under the bridge. Because the eastbound bridge is pushed further away from the existing alignment there will be another wall between the trail and the eastbound bridge but it will be smaller than the existing wall because we were able to take advantage of some grading in this area.

i) Dick said we haven't had a meeting on the final rec trail alignment yet and he thinks we need to have a meeting to discuss the changes to the rec trail, so we understand what the design looks like.

Karen said one of the reasons we haven't had a rec trail meeting is we haven't really changed the trail alignment that much from what was in the EA. We plan to have the rec trail as an agenda item at the August TT meeting.

ii) Greg said he assumes the old US 6 trail reconstruction is at the full width so that if you do need to bring a truck up over the ramp you can bring it down through there so it's not 12 feet?

Brian said the old Highway 6 trail reconstruction is matching the existing width which is 20 feet. The rest of the rec trail in this area will be 12 feet with the shoulders that we are putting in elsewhere. Underneath the bridge it does have a significant excess clearance there that any trucks can get underneath.

iii) Greg asked if the cross over the plows and emergency service use at the end of the bridge will be moving further to the east.

John said that is one of the crossovers that the EMS were okay with us eliminating because some of the crossovers create more of a hazard than a benefit because the general public use them.

iv) Greg asked if there is an opportunity to start with 10 feet as you go across there to diverge that eastbound just a bit instead of having continuous 10 feet all the way through. Could you start the curve uphill a little sooner and then flatten the curve?

Karen said the thing Brian is trying to balance there is the existing bridges have a substandard radius which leads to a high crash rate in this area. He's trying to hold that geometry to reduce crashes and bring it up to standard. That is what is triggering the alignment in this area. We don't want to tighten that curve to what is like out there now that is causing crashes.

5) Design Exception from MP 186.9 to 187.4 EB and WB

a) Brian said this is just north of the cut walls we talked about earlier. There is an existing open median for a short duration in between the curves. The EA showed this as a completely closed median. The design exception we are asking for here is within the reversing curves where there is a short section of open median. We are trying to balance impacts to the forested slope to the north you can see how dense that is with the steep hillside going down to the south or west here on the eastbound and down to the trail it is a relatively steep slope.

b) In the EA there is a section to the west where we have the existing median with the scallop walls. We are pulling that in to eliminate the space for the 15 feet of scallop wall. With our design we kept the alignment the same and matched the existing inside edge to the west through that existing median wall.

Our design for westbound will be the ultimate westbound configuration. We will not be doing most of the westbound reconstruction during this phase, but it will match the existing inside edge and widen to the outside eastbound. Because of the steep hill slope, it makes more sense to widen to the inside and generally match that outside edge of pavement. If we start to widen to the outside we end up chasing those slopes down and either impacting the trail or creating additional fill walls on the outside of the trail. For the duration of this median it makes senses to just widen to the median and eastbound will have a barrier and on the east side of the graphic they do need to come together minimize the length of the wildlife crossing.

This barrier separation allows us to not add any additional walls because we are still maintaining the same profile. It will not trigger any new median walls but also not creating any new walls on the outside. At MP 187.3 there is a proposed wildlife underpass and narrowing the median minimizes the length of the wildlife crossing which maximizes its efficiency.

It is the last shoulder pull off until the truck parking up towards MP 189 and then there is another shoulder pull off down the hill. The alternatives were either the eastbound would be widened to the south and we would have fill walls or chase the slope down into the trail. Widening to the north or south would increase the disturbance area and impact forested areas.

i) Greg said you would have 14 feet but no walls?

   Brian said we would match the existing walls to the west and it will just be grading and barrier in the median.

ii) Greg inquired where the AGS alignment go through in this area? There is one spot where they do cross. Having to cross at a very skewed angle the structure is going to get very big. But if you have at least 14 feet that is probably big enough to put a pier in between. However, if they did need to cross it would be something you need to look at.

   Brian said this will not preclude the AGS alignment. There is more than 14 feet through this are so there should be plenty of room for an piers or details if they need to cross.

6) Design Exception from MP 188.0 to 190.1 EB and WB

a) This design exception is to extend the limits of the EA design to accommodate the aux lane from the truck parking to MP 190. The EA showed just a rough exhibit of where the climbing lane terminated. When we went through a more refined design what started to stand out is that it made sense to have a continuous aux lane between the truck parking on-ramp and the Exit 190 off ramp which extends the median widening all the way up to Exit 190. We are still able to maintain the existing grass slope and not have a lot of additional concrete barrier in this section so it should have the same relative feel but just widens to the median.

b) We are matching the existing outside edge of pavement and widening 14 feet into the median is consistent with the roadway geometry. This alignment allows the existing truck parking to remain in place. The outside of the eastbound slope chases a steep hillside and forested slope so through here the optimal design is to widen to the inside to try to minimize our impacts into the trees. The truck parking on-ramp existing slope from the eastbound to the

existing Black Lake Road has a pretty steep slope down to a sensitive resource so we are trying to minimize the impacts.

c) This is all about minimizing the impacts to Black Gore Road and the forested impacts on the west side of the truck parking. This does not preclude the AGS alignment.

d) The balance here is we have the truck parking on the outside and if we were starting to widen at all to the outside that starts to trigger into some significant walls and we would either need to build the final existing truck parking walls which are up to 30 feet high or we end up having some throw away walls.

e) The median design exception extends closer to Exit 190 as we are trying to add additional lanes that weren't shown during the EA. Between the truck parking and Exit 190 we have the two general purpose lanes, the climbing lane and the aux lane so we were trying to fit four lanes where there is generally two or three existing lanes while balancing that fill slope to the outside which pushes us into the median a little bit. We are matching the Exit 190 off-ramp and terminating the climbing lane between the Exit 190 gorse. Between the 190 off-ramp and 190 on-ramp the climbing lane will end, and we will be back to a two-lane section.

   i) Mary Jo asked back where the truck parking is, since you are widening now maintains that, does it also offer an opportunity in the future to where the new planned truck parking may not have as high of walls?

      Brian said this is very close to the EA alignment and truck parking.

   ii) Greg said in that area going uphill, you're able to do all the widening going into the hillside and there will be no cut walls?

      Brian said they are trying to coordinate that with drainage to make sure we have our cut fit section done correctly and it provides adequate drainage. Since this is at the high point of the pass the ditch doesn't require a ton of capacity. It will really be about maintaining a clear zone ditch as much as it is about capacity of the ditch. Right now, with the survey we have it looks like we will be able to make this work with just grading and a barrier but no actual cut walls.

   iii) Greg said he thought with this project we would be expanding the eastbound truck parking. Is there an opportunity to go after other funding while you are doing this to take care of this? If you're doing all this construction over the next three years, it would be great to knock one of these out because you are mobilized. Maybe you go could after some freight dollars.

Karen said the EA does include truck parking expansion there. The EA also includes chain station expansion at MP 182.5. There are quite a few more freight and truck improvements that we would like to add on the Pass, and we will continue to look for funding for those as they are a top priority for us to build in future phases.

Karen said we do have freight dollars already but not for additional improvements. She said that it would be a challenge to add anything else as our contractor and design team, they are maxed out right now trying to hit our grant timeline as well as designing everything while trying to balance all the impacts

Brian said truck parking exit ramps existing condition doesn't meet criteria for the accel distance. We have extended the truck parking exit ramp as an aux lane to Exit 190 which will at least be providing safety just by providing more distance to get the accel speed up. Also, we are not ending the third lane until between the 190 exits so there is significant more lane for trucks to accelerate from the stop condition before they need to merge over into the general-purpose lanes.

iv) Michelle said she didn't see any of the wildlife crossings identified at 188.7, 189 or 189.6.

Brian said they are there, they just aren't called out because he was trying to highlight the roadway.

Karen said Michelle made a good point and these design exceptions will make the crossings shorter which is better.

v) Greg said when you talk about not precluding the AGS, it's just not laying the out alignment, it's also understanding how you are going to construct it and have enough room to stage without overly burdening it with additional costs. The Collaborative Effort will probably ask for their alignment on some of these drawings.

7) Design Exceptions Statement Discussions

a) Mary Jo reviewed the three design exceptions:

Reduce the median width from MP 184.8 to 185.3 where we have redesigned the eastbound and westbound bridges

MP 186.9 to 187.4 where we have improved the median width than what was in the EA, although we are reducing it and one of the big drivers here is to the not extend the wildlife crossing

MP 188.9 to 190.1 this is widening to the inside into the median which maintains the existing truck parking and helps to extend the acceleration and

climbing lane. In addition, widening to the inside keeps wildlife crossings from being longer.

b) Mary Jo said we are asking for your recommendation that you agree with these Design Exception and they are in the best interest of all the elements we are trying to protect, and we found a reasonable balance.

Reduce the median width from MP 184.8 to 185.3, MP 186.9 to 187.4, and MP 188.9 to 190.1 to improve safety, to reduce wall area, to lessen impacts to the trail, forested areas, Black Gore Creek, Black Lake No. 1 and to minimize disturbance areas.

i) Greg asked how will our comments be addressed?

Mary Jo reviewed the comments heard:

- From 184.8 – 185.3 could it be widened out a little further so there could be natural vegetation that grew between the two bridges similar to how they look now. She said she heard from both Brian and Karen that is not possible with this design.
- Make sure to not preclude the construction of the AGS and making sure there is room for piers.
- Reduce the glare when you're going to the inside. Glare screens will be installed wherever the roadways are at the same level.
- Take a look at the bridges to see if you can go 10 feet on one side and 20 feet on the other.
- We would like to have a meeting to discuss the rec trail changes. That is planned for August.
- Expand the statement to say an added benefit is to reduce wildlife crossing length
- Congratulations to the design team. It's been great to watch as they have worked so hard to find ways to tweak the alignment and check everything they could to minimize impacts and find the right balance to minimize impacts.

c) Karen asked people to "raise their hands" if they agree or if they have an objection to put it in the chat box. Nine raised their hands and no one objected.

d) Mary Jo said we will take your recommendation to the PLT

8) Next Steps

Mary Jo said there are some other design exceptions that may come up as the design goes forward, but they will all be wrapped up by the September FIR Meeting. We are looking at the rec trail at the next TT meeting and there is a possibility there may be a design exception needed along the trail.

COLORADO
Department of Transportation

I-70 West Vail Pass Safety and Operations Improvements

Project Leadership Team Design Exceptions Meeting # 9

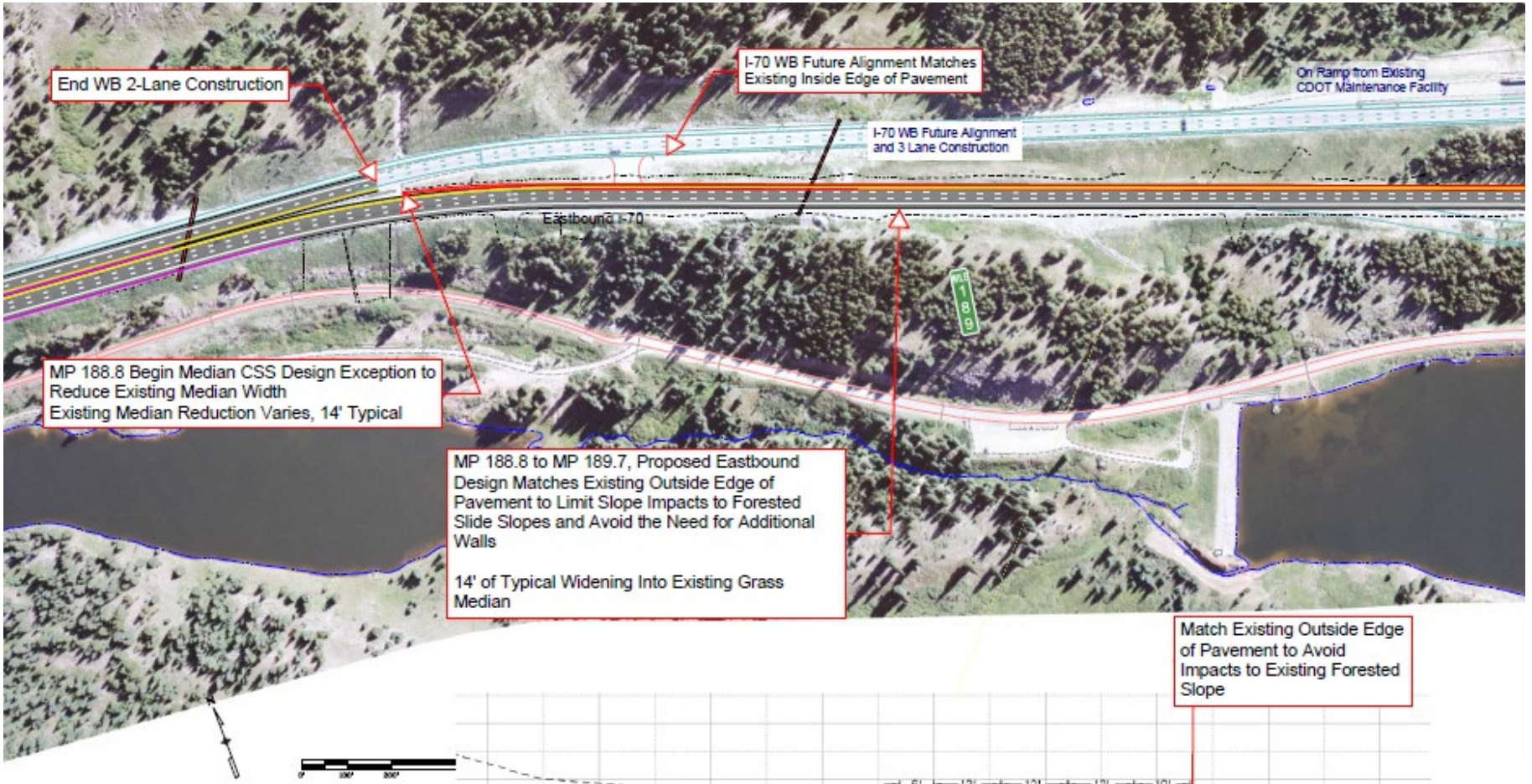
August 6, 2021

Design Exception

… Design exceptions may assist a designer in finding a transportation solution that balances impacts to scenic, historic, and culturally or environmentally sensitive area while still providing for safety and mobility…

1. **Complementing surrounding physical characteristics**
2. Enhancing safety
3. Increasing capacity
4. Reducing costs
5. **Protecting the environment**
6. Preserving historic and scenic elements
7. Interfacing with multiple modes of transportation
8. Utilizing new technology or innovative approaches
9. Doing the right thing

Design Exception from MP 188.0 to 190.1



Cross Section Mile Post 189 - Typical of MP 188.8 to 189.7

Exhibit C (1 of 3)-
Context Sensitive Solution
Median Design Exception
Mile Post 188.8 to 190
07-20-2021

Design Exception from MP 188.0 to 190.1

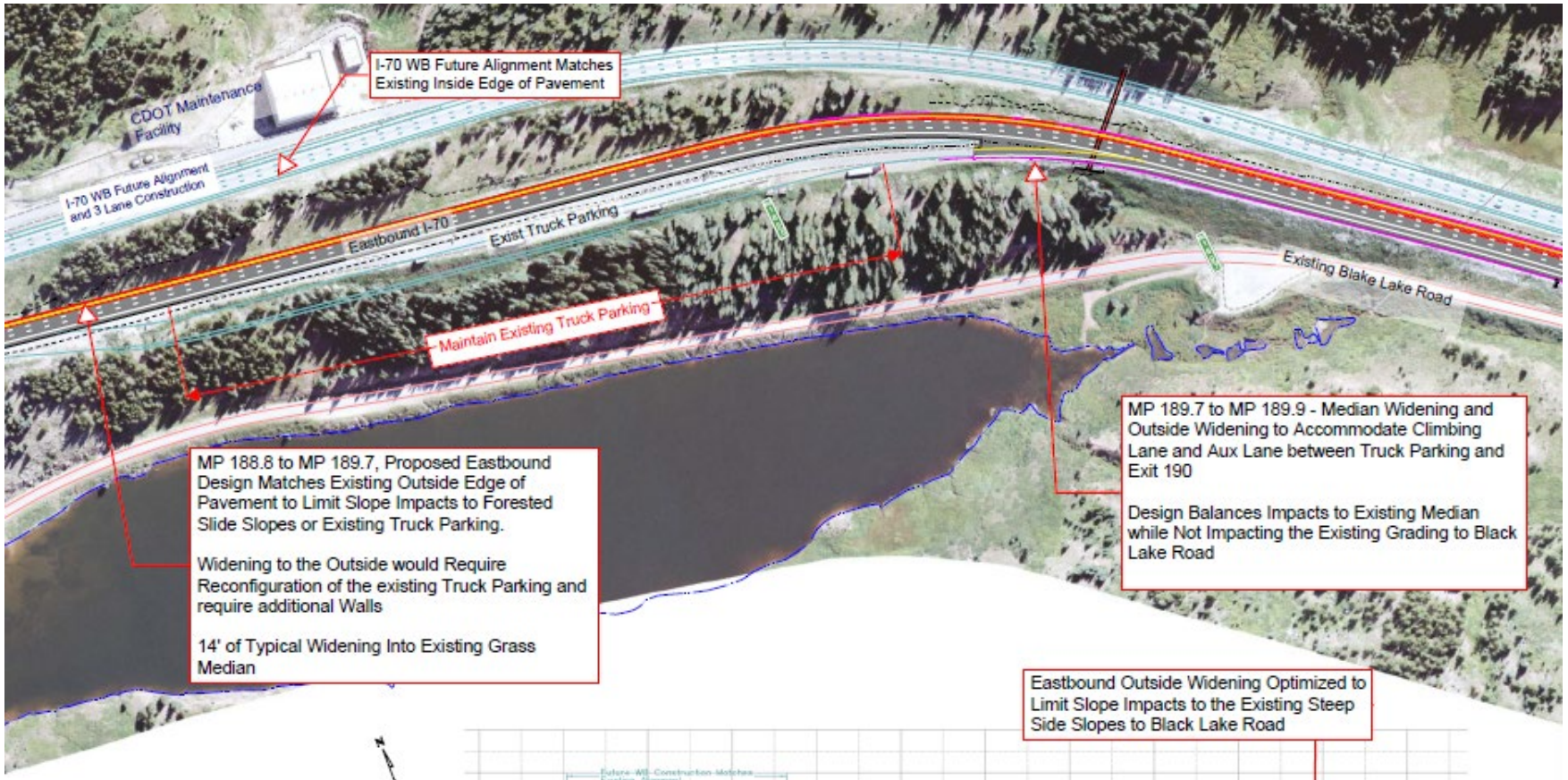
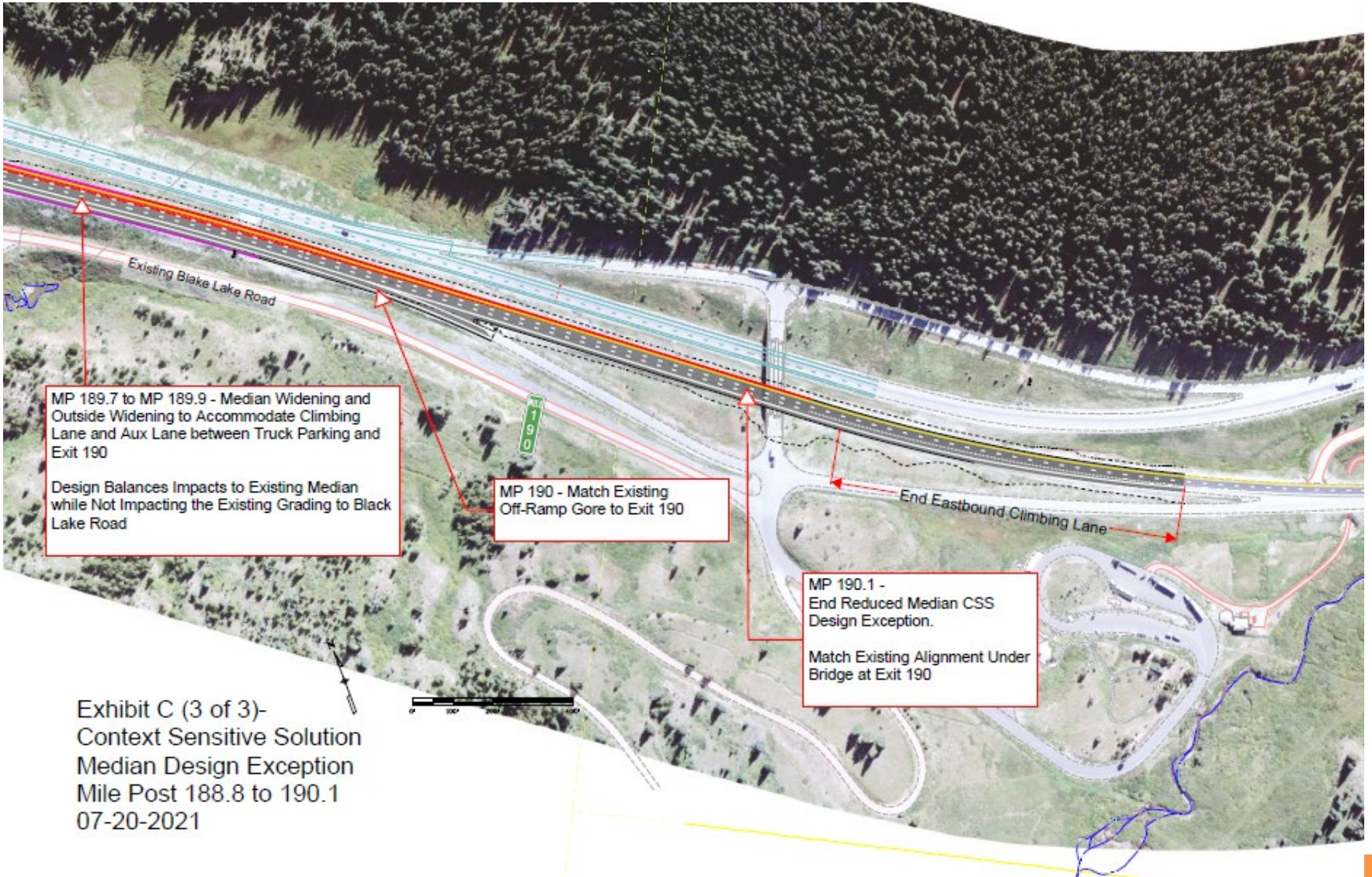


Exhibit C (2 of 3)-
Context Sensitive Solution
Median Design Exception
Mile Post 188.8 to 190.1
07-20-2021

Design Exception from MP 188.0 to 190.1



Design Exception Recommendations

Roadway Median Width Reduction

Reduce the median width from MP 188.9 to 190.1 to improve safety, to reduce wall area, to lessen impacts to the trail, forested areas, Black Gore Creek, Black Lake No. 1, **to maintain effective wildlife crossing lengths**, and to minimize disturbance areas.

COLORADO
Department of Transportation

23982-23929 I-70 West Vail Pass Safety and Operations Improvements Meeting Notes

Date: August 6, 2021

Purpose:

Project Leadership Team (PLT) Meeting #9

Location:

Online Google Meet Meeting

Attending:

Attendance list:

- John Kronholm, Project Manager, CDOT Region 3
- Karen Berdoulay, Resident Engineer, CDOT Region 3
- David Cesark, CDOT Region 3 Environmental Manager
- Zane Znamenacek, CDOT Region 3 Traffic Program Engineer
- Matt Figgs, CDOT Region 3
- Greg Hall, Town of Vail
- Pete Wadden, Town of Vail
- Dick Cleveland, Town of Vail
- Ben Gerdes, Eagle County
- Robert Jacobs, Summit County
- Tracy Sakaguchi, Colorado Motor Carriers
- Randal Lapsley, R S & H
- Jim Clarke, Jacobs
- Mary Jo Vobejda, Jacobs
- Loretta LaRiviere, Jacobs

Summary of Discussion:

The following is a summary of the subjects discussed during the meeting.

1) **Design Exception Review of CAP 1 Design Refinement Process**

   a) The Design Exception meeting was earlier this week and we asked for support for median reductions. The design criteria state you cannot reduce the width of the median. When we looked at trying to balance all of the issues such as

disturbance area, impacts to wetlands and impacts to the trail, we found that narrowing the median in certain locations is really the optimal option for the roadway design.

i) This design exception is from MP 188.0 to MP 190.1. In this area we are holding the southern edge of pavement and widening into the median. It protects the slope, and the forested areas and we didn't want to get any closer to Black Lake. John said it will leave room for water quality features on the south side in those areas where we are still refining and designing right now. There is also another wildlife crossing that is in the area.

   As we move farther long, if we push the roadway further south it generates larger and larger walls for the future truck parking expansion and push it farther into the forested area. Widening into the median helps to reduce that. John said they met with the Forest Service extensively throughout this process and they don't want us to encroach onto Black Lakes Road because that's currently where they have all their winter recreation parking. They park there for the summer as well, but it doesn't fill up as much. They wanted us to stay away from there for snow storage and to make sure they don't lose any parking.

2) Design Exception Recommendations

a) The ITF recommended and agreed to (with the amended orange text) for the Roadway Median Width Reductions.

   Reduce the median width from MP 184.8 to 185.3, MP 186.9 to 187.4, and MP 188.9 to 190.1 to improve safety, to reduce wall area, to lessen impacts to the trail, forested areas, Black Gore Creek, Black Lake No. 1, **to maintain effective wildlife crossing lengths**, and to minimize disturbance areas.

   We looked at the existing conditions and the environment. We balanced all the pieces of it so there were options and we planned for the future by seeing what the future widening would look like and brought that into consideration along with all the pieces of the design and everything that represents a core value and came up with this as the best balance possible.

   i) Greg said we have followed the process and we've balanced all of the issues. I'll probably go offline on the bridge portion to understand why it is not feasible and maybe I was not explaining myself.

   ii) Greg said he thinks the other bigger issue is if you just add up the median reductions using the mileposts, that's 2.3 miles which is 23% of 10 miles. It's a 0.25 mile here and a 0.5 mile there and now we will have 7 miles of continuous median and that starts to take away from the Pass. There is a reason why this design criteria was put in. I think the design team has done

a great job of really balancing but just be cautious this is just the uphill eastbound only design and we have a lot of design to go over the years. I think when there is widened medians, we have the ability to go 10' but when we're going down and reducing any kind of green space and extending the barrier that is already there we have to be cautious.

Mary Jo said she agrees, that is one of the real challenges of this Corridor and many other designs. It is easy to say, oh well, this is just a little bit here and there and then in the end you have a cumulative impact. I have watched this design team and they have balanced all the issues. They have also considered the future so that when the additional widening of east or westbound happens, there won't be additional design exceptions. That's already been considered into these exceptions and I really applaud them for that.