



Floyd Hill Design - Technical Team

Meeting Summary

September 2, 2022, 9 AM to 12:00 PM

CDOT Golden Office – Lookout Mountain Conference Room and Virtual (Zoom)

1. Introductions, Meeting Purpose and Project Updates

CDR Associates opened the meeting and reviewed the agenda.

The purpose of the meeting was to:

- Review Decisions and Current Endorsed Alignment
- Debrief West Saddle ITF, Greenway ITF Field Visit, SWEEP Field Visit
- Discuss And Evaluate Creek and Greenway Needs to Inform Future Design Decisions
- Discuss Next Steps and Project Schedule

TT members confirmed the meeting agenda with no changes.

CDR Associates reviewed the Major Alignment Innovation decisions to date which include:

- West Section: North Option
- Central Section: Terraced Alignment (prev. “Braided Bridges”)
- Central Section: Bottom of Hill
- Central Section Narrows: North of Creek Option
- Central Section: Advance designs without the US 6 WB On Ramp (pending FHWA review)
- **Recent Decision-** Central Section, West Saddle: maintaining the previously endorsed option

Through reviewing the Major Alignment Innovation decisions to date, the facilitators recognized all the hard work invested to arrive at the current stage of the planning process. The group reflected on the CSS and CM/GC processes:

- **TT Comment:** The CSS process has expanded my perspective to consider the corridor as a whole, not just the road maintenance tasks. The process has encouraged me to recognize the beauty of the surrounding area and I have a new appreciation for all the unique aspects of this corridor.

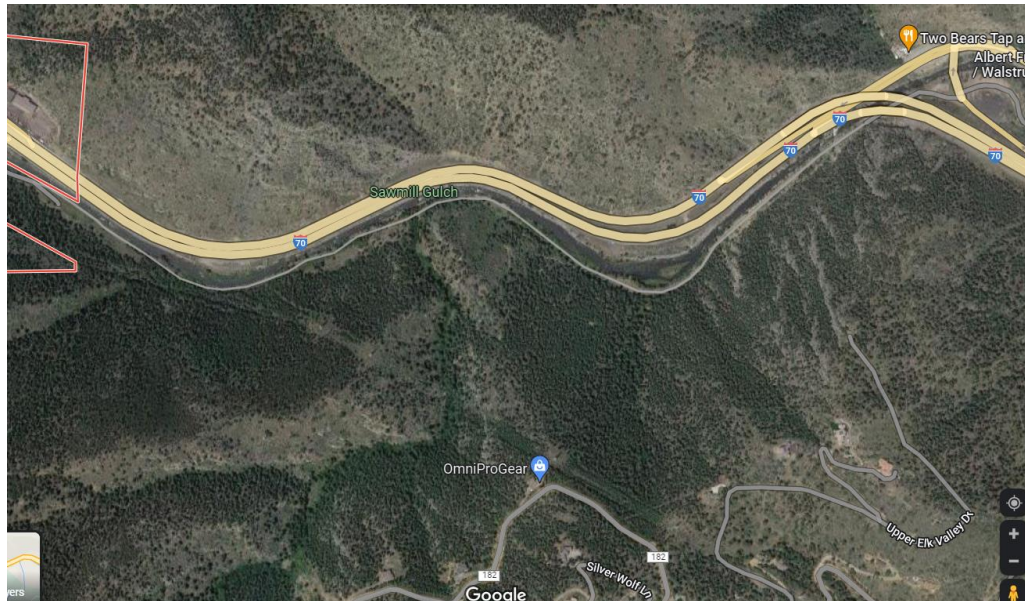


- **TT Comment:** This is step one of the CSS process, there is still much more to come. I want to express a huge thank you to the Design Team for their helpful visualizations which were crucial for discussions around the design options.
- **TT Comment:** I particularly appreciated the recent SWEEP field visit and the effort to understand this project's impact on water and wildlife in order to best protect the watershed. It is impressive how this process encourages this level of planning and mitigation foresight. The creek and trail will be better than when we found them.
- **TT Comment:** The CSS process can be difficult to explain to someone not involved- the amount of time and resources dedicated to planning up front can seem excessive. However, this approach increases inclusivity and provides space for all to be heard.
- **CDOT Comment:** I agree with all that has been said and want to echo my deep appreciation for the CSS process. The discussions initiated by this process have ensured the best decision-making for the project.
- **Facilitator Comment:** It has been so interesting to integrate the CM/GC process with CSS, adding a construction perspective to each of the design decisions.
- **TT Comment:** I agree, and feel that CM/GC is truly an integral part of CSS.

Discussion:

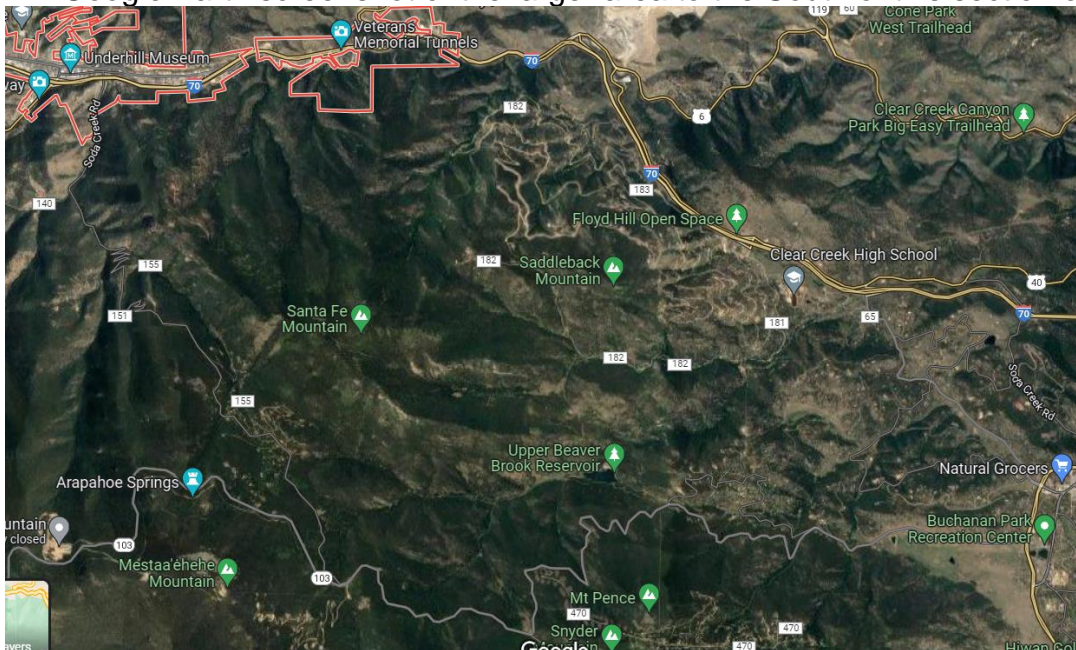
Recognizing and appreciating everyone's comments, CDR Associates acknowledged that, after the recent Greenway site visit, a TT member had expressed some concerns and wanted to give him some space to discuss those with the group.

The TT member thanked the group and referred to the following maps to discuss their concerns:



(Above: A Google Earth screenshot of the section of I-70 that was traveled during the Greenway site visit.

Below: A Google Earth screenshot of the larger area to the South of this section of I-70)



- **TT Comment:** I am concerned about the permanence of concrete/pavement expanding to cover the land on either side of the creek. This could drastically increase the risk of fire, threatening the forest to the S of the highway and increase local fire insurance rates for homes and businesses. Increased fire danger could lead to highway closures which would place more pressure on



nearby, smaller roads. The creek has been a natural fire break for I-70 and by expanding to the S side of the creek will lose that natural safety measure.

The TT recognized these concerns.

- **Facilitator Question:** How would you like us to integrate these concerns into our current conversation/process?
 - **TT Response:** I believe we should reconsider the Tunnel Alternative vs. the Canyon Viaduct Alternative (these were the alternatives evaluated during the 2020-2021 phase of the project, which culminated in the selection of the Canyon Viaduct as the Preferred Alternative). Areas of Europe with limited space for roadways building more tunnels.
 - **Facilitator Response:** The Charter states clearly that once decisions have been made, there will not be backtracking or rehashing those decisions in order to keep the project moving forward.
- **TT Comment:** I want to acknowledge the legitimate concerns about fire danger but also the importance of prioritization on a project of this scale. No design will address every issue perfectly and this is not a pristine natural area. This corridor has been manipulated and impacted by human activities for centuries, from mining to creek channelization. The top priority for this corridor is to improve the roadway safety and traffic flow and the Canyon Viaduct was chosen as the best way to achieve these goals. The timeline of this project is incredibly important and backtracking would risk the safety of the public by pushing roadway and bridge repair further off.
- **TT Comment:** I also want to recognize fire mitigation as a very legitimate concern but that there are opportunities to mitigate fire within the endorsed roadway design. The discussion of the Tunnel Alternative vs. the Canyon Viaduct Alternative was a cost/benefit analysis through which the community and the state landed clearly on the Canyon Viaduct Alternative. It was the better and safer possibility. This design improves roadway geometry, safety, alignment with the Greenway trail and with adjacent roads. This process has considered every way to maintain the current concrete footprint but all designers say it is not possible for creating the best possible roadway. However, after this design phase, we will address the important details such as fire, salinity, and noise mitigation.
 - **TT Response:** I appreciate these perspectives but my environmental concerns remain.



- **TT Comment:** I understand these concerns but support the points made previously. The next step of this process is to get very specific about the program for fire mitigation and maintenance, as this is an incredibly important issue. In no way does that mean we should return to the Tunnel Alternative vs. the Canyon Viaduct Alternative discussion. As a community observer to the contracting process, I witnessed all the design firms consider both the Tunnel and the Viaduct Alternatives and *every* firm felt the Viaduct Alternative was the better option. None of the design firms supported the Tunnel.
- **TT Comment:** I agree that the importance of fire mitigation is a rising concern, especially as environmental conditions have been changing over the past few years.
 - **TT Response:** in addition to fire danger, the viaducts are so permanent and may threaten the width of the Greenway Trail.
- **TT Comment:** I just want to remind the group that one of the main issues with the Tunnel Alternative when considered was the location of Frontage Rd. Relocation of that road to accommodate the tunnel was difficult- the only viable option was to reroute the road to the S side of Clear Creek. So, even with the tunnel option, there would be construction expansion onto the S side of the creek. With a potentially larger concrete footprint than the current Viaduct Alternative roadway design.

The facilitators grounded the group by synthesizing the discussion as: at this point, we are no longer discussing the “what” of this project but really transitioning to the “how.” Fire mitigation will be a crucial part of the “how” but that does not include revisiting decisions made years ago. The Tunnel Alternative has been off the table and the current designs of the Viaduct Alternative represent 6 years of valuable work that we do not want to undo.

- **Facilitator Question:** Although you may have a different personal preference, can you continue to support the process of continuing to refine the Viaduct Alternative?
 - **TT Response:** Yes.

TT Agreement: The TT reaffirms its commitment to the Canyon Viaduct Alternative and will continue working to refine and improve the design and implementation of the project.



ACTION: Plan a Fire Mitigation ITF including Emergency Response, Fire Prevention, and highway Maintenance personnel. The date should be determined during the forthcoming Project Leadership Team meeting.

2. Debrief West Saddle ITF, Greenway ITF Field Visit, SWEEP Field Visit

The TT transitioned the discussion to reflections from the Greenway site visit.

- **TT Comment:** The site visit was valuable to realize that the discussion of exact pier locations is still quite open and flexible. This provides more opportunities to preserve valuable habitat and riparian areas and accommodate recreational access.
- **TT Comment:** I was pleased to see that the highway designs ensure that the Greenway trail will always cross under the viaducts rather than traveling along them, avoiding the tunnel-feel.

The TT discussed the section of the Greenway trail at Sawmill Gulch that will remain the same. This section of trail is steep and will only have 12 ft clearance, however, this will be offset by the new ADA trail that crosses to the S side of the creek.

- **TT Comment:** The sound walls in Idaho Springs have been very successful and could be used in this area to reduce noise on the Greenway trail.
- **TT Comment:** The Greenway site visit was very valuable and that it was interesting to experience sound impacts first hand.
 - **TT Response:** Yes, noise models don't do a great job in complex situations/or for moving through an area. So, understanding the noise along this corridor will depend on qualitative experience.
 - **TT Response:** Generally, there is less noise below a highway because the sound travels upward. So, with the highway on viaduct structures, there will likely be reduced noise impacts to the Greenway.

The TT transitioned to discussion of the SWEEP site visit:

- **TT Comment:** My main takeaways were:
 - Access conflict between rafting and anglers
 - There are many opportunities to improve creek for wildlife & recreation



- CPW is conducting a spawning study and we must make sure construction does not impede this work.
- **TT Comment:** the CSS process integrates regulators into process and unites planning with key environmental requirements. This is an efficient process and provides the best possible environmental mitigation planning.
- **TT Comment:** concerns about deicing material or sand applied to the highway changing the environmental inputs to the creek.
- **TT Comment:** expanded on the issue of water quality stating that there is a lack of data on water quality in this area (CC40). It is essential to have a thorough baseline in order to monitor changes over time and understand the true impacts of construction.
 - **TT Response:** data collection, monitoring, and analysis may be more of a programmatic undertaking than a project specific one. There is data, but there is a need to better understand cause-effect relationships i.e. why is the trout population and vegetation increases along with salinity?

The TT wrapped up these reflections, grounded in the idea to focus on these questions of “how”- how to monitor salinity, how to understand impacts of construction, and the need for follow up during future ITF’s.

ACTION: Revisit the idea of an ITF focused on water quality, salinity mitigation, and watershed impacts. The date should be determined during the forthcoming Project Leadership Team meeting.

3. Discuss And Evaluate Creek and Greenway Needs to Inform Future Design Decisions

In order to synthesize the main takeaways from the Greenway and SWEEP site visits, THK Associates led discussions to document site specific comments on maps of the Greenway corridor.

The primary takeaways from these discussions were:

- Important areas for recreation, specifically rafting and fishing access.
- Documentation of key habitat areas and riparian zones.
- The need to ensure emergency access, pullouts, and parking along this corridor of I-70 as well as along the Greenway trail.
 - Participants noted that adequate parking reduces social trails.



- Emergency call stations placed along the trail would be valuable for trail users and Emergency Response personnel.
- Truckers coming to and from Denver are not encouraged to stop along the corridor but are required to take a 30 min break after 8 hours of driving. So some designated truck parking would be helpful.
- A consideration for truck parking: trucks w/trailers require 80ft turning diameter.
- Community members' vision of the Greenway corridor as one that remains primarily for folks moving through: running, cycling, and traveling on other non-motorized forms of travel.
 - Participants did not envision this becoming a corridor with more picnic areas and benches. If so, the planning would need to be very careful about encouraging Leave No Trace principles and incorporate wildlife safe amenities like bear safe trash cans.
 - Another idea surfaced regarding Greenway winter maintenance: participants recommended that the greenway trail not be plowed so it could be used for xc skiing and snowshoeing.
 - Snow removal and drainage on the I-70 viaducts will need to coordinate/be aware of Greenway trail usage below, may require signage on the Greenway to prevent injuries.

ACTION: THK Associates will formalize the input received to develop a Master Plan of the Greenway Corridor that aligns with the RPA '22.

During the discussion with virtual meeting participants, a few of whom live in or near the Floyd Hill area, concern was expressed about the roundabout East of Floyd Hill. The community members want to know more about this early project such as the contractor and the schedule.

ACTION: Follow up with Floyd Hill community members regarding concerns about the Roundabout early action project.

4. Wrap Up, Schedule Review, Confirm Next Steps

- **PLT Scheduling**
 - The TT discussed scheduling a PLT meeting to guide the direction of the project and the role of the TT moving forward, to discuss public engagement and communications, and to determine ITF groups that will



tackle the questions “how” such as fire mitigation.

TT Agreement: Schedule PLT for Sept 16 in place of TT meeting.

- **TT Meeting Frequency:**

- TT discussion to propose reducing meetings to once a month. Will need the direction of the PLT to formalize this adjustment.

TT Agreement: TT will likely meet less frequently moving forward considering there will be less design work and more detail oriented discussions to refine the design.

- **CCC/Idaho Springs needs for providing updates to leadership:**

- TT members would like to report to Idaho Springs City Council soon with updates, ideally at the next meeting. They asked the group if they feel the design is at a good place for communication and stated that he would appreciate someone from the Design Team to join him and ensure all key points are covered.
- The TT agreed this would be a good time for communication with the Idaho Springs City Council and that members of the design team would be a part of this presentation.

- **Environmental Assessment Status:**

- There was no news yet but news in the next month is expected. The FONSI assessment should begin by the end of this year.
- The main aspects of this assessment will be a comparison of ‘21 PA and ‘22 RPA. Although it was not entirely intentional, there is a very similar impact intensity between the two designs, just in slightly different locations, which bodes well for the approval of the adaptive mitigation strategies.

- **TT Question:** What is the latest update on the US-6 On Ramp? The nearby Quarries are moving forward with permitting which will impact traffic. Has anyone seen those permits and has that information been incorporated into traffic data?

TT Agreement: Follow up on incorporating quarry traffic data into the US-6 On Ramp model and decision.

- **TT Question:** Does the TT have adequate fire prevention and mitigation experience specific to this area to tackle the fire mitigation planning?



- **Project Team Response:** THK Associates shared a reference booklet titled the Upper Clear Creek Watershed Fire Mitigation Planning which they will be referencing for some of their planning efforts.
- **TT Response:** This is a valuable topic to discuss in upcoming PLT/TT/ITF discussions, in developing the Fire Prevention/Mitigation ITF group.
- **TT Response:** The Forest Service was likely to have the most site specific research as this is a high priority for their work as well.
- **CDOT Response:** Resiliency is a new and emerging topic in response to new and rapidly changing environmental conditions. Fire mitigation and prevention is something that this area, as well as areas all over the West and the world are working on figuring out. This is certainly an important topic for an ITF.

CDR Associates closed the meeting by acknowledging that these are important issues, and getting into the “how” (i.e. implementation and mitigation strategies) will be the next stage of the design refinements. He thanked everyone for their active participation and wished everyone a Happy Labor Day weekend!

Action Items and Agreements:

ACTION: Plan a Fire Mitigation ITF including Emergency Response, Fire Prevention, and highway Maintenance personnel. The date should be determined during the forthcoming Project Leadership Team meeting.

ACTION: Revisit the idea of an ITF focused on water quality, salinity mitigation, and watershed impacts. The date should be determined during the forthcoming Project Leadership Team meeting.

ACTION: THK Associates will formalize the input received to develop a Master Plan of the Greenway Corridor that aligns with the RPA ‘22.

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5. Attendees

Cindy Neely, Amy Saxton (Clear Creek County); Bill Coffin (Saddleback POA), Lisa Wolff, (Floyd Hill POA); Jessica North (Clear Creek School District); Mike Raber (Clear Creek Bicycle User Group); Lynnette Hailey (City of Black Hawk); Elizabeth Cramer (FHWA); Sam Hoover (Central City); JoAnn Sorenson (Upper Clear Creek Watershed Association); Steve Durian (Jefferson County); Tracy Sakaguchi (CMCA); Gary Frey (Trout Unlimited); Kurt Kionka, Jeff Hampton, Tyler Brady, John Gregory, Margo Mcinnis, Badr Husini (CDOT, CTIO); Anthony Pisano, Matt Aguirre, Alan Carter (Atkins); Matt Hogan, Koichiro Shimomura, Brandon Simao, Austin Knapp, Tim Maloney (Kraemer); Tammy Hefron (HDR); Mandy Whorton (Peak Consulting Group); Kevin Shanks, Julie Gamec, Will Prescott (THK Associates); Jonathan Bartsch, Cara Potter (CDR Associates).



Floyd Hill Design // CMGC

Technical Team

September 2, 2022

- 1. Meeting Purpose, Project Updates**
- 2. Review Design Decisions and Current Endorsed Alignment**
- 3. Debrief West Saddle ITF, Greenway ITF Field Visit, SWEEP Field Visit**
- 4. Discuss/Evaluate Creek & Greenway Needs to Inform Future Design Decisions**
- 5. Wrap Up, Schedule Review, Confirm Next Steps**



Meeting Agenda

September 2, 2022



Current Approved Alignment and Innovation Decisions

- West Section: North Option
- Central Section: Terraced Alignment (prev. “Braided Bridges”)
- Central Section: Bottom of Hill
- Central Section Narrows: North of Creek Option
- Central Section: Advance designs without the US 6 WB On Ramp (pending FHWA review)
- **Recent Decision:** Central Section West Saddle Refinement - Maintaining previously endorsed option



Central Section: West Saddle Refinement

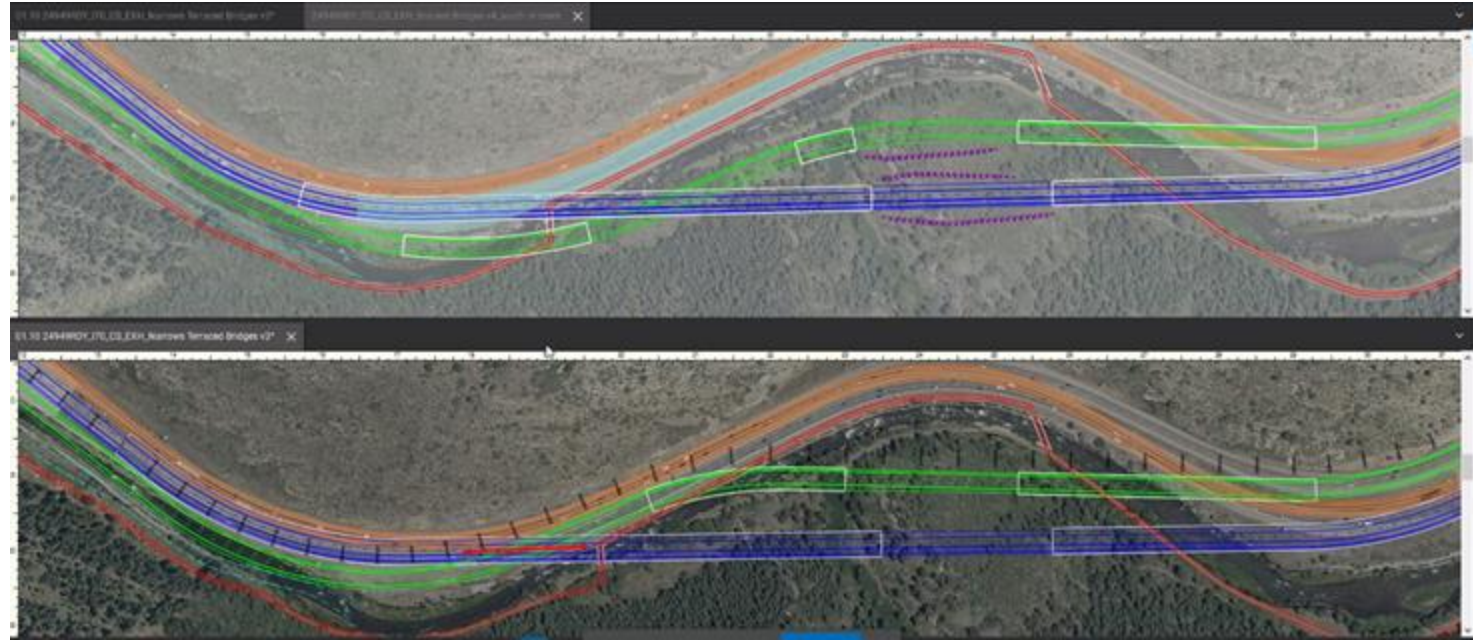
ITF Decision: Maintain previously endorsed option (EB Lane crosses WB N of Creek)

Benefits

- Less permanent impact to hillside S of creek
- Open view from Greenway Trail (structure overhead rather than directly beside)
- Maintains access to hillside from Greenway Trail

Drawbacks

- Building online, impacts to existing traffic, safety concerns



West Saddle Area Refinement (top); Current Endorsed Version (bottom)



Greenway ITF: Overview





Greenway Field Visit: Summary of Key Takeaways

- **Preservation of historic features** i.e. historic railroad, mill, mining
- **Relative height of highway** to Greenway: reducing noise and allowing for comfortable and safe clearance
- **Protect riparian areas** and trees along the Greenway, reduce disturbance as much as possible, revegetation of areas disturbed by construction
- **Connectivity from the Greenway** (backbone of recreation in this area)
 - **Create designated trails from Greenway to Creek** to reduce social trails disturbing crucial habitat in the riparian areas
 - **Additional designated & safe parking areas** to reduce congestion at Two Bears. Maintain boating routes/put ins and take outs away from preferred fishing locations.
- **Maintaining difficulty and depth of rapids** after creek relocation



SWEEP Field Visit: Summary and Key Takeaways

- Participants appreciated field visit, collaboration

- **Main issues:**

Creek permitting, timelines

Concerns: salinity, water quality, waste management

CPW spawning survey forthcoming

Differing rafting and fishing priorities





Clear Creek and Greenway Needs

To Inform Design Decisions at Specific Locations



- Trail alignment
- Location of Creek and for bank lowering
- Rafting and fishing access
- Parking
- Other

****Project Team shares visuals to support location-specific discussions****



Next Steps

- PLT Scheduling (Sept/Oct)
- TT Meeting Frequency
- CCC/Idaho Springs needs for providing updates to leadership
- Environmental Assessment Status



Thank You!

September 2, 2022