



Community Planning & Permitting

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June 1, 2021

To: Denver Water
From: Summer Frederick, AICP – Planning Division Manager
Re: Docket SI-20-0003: Gross Reservoir & Dam Expansion

Per Article 8-508.C.12 of the Boulder County Land Use Code, the Community Planning & Permitting (formerly Land Use) staff is charged with reviewing application materials required in Article 8-507 for compliance with the Comprehensive Plan, purpose and intent of Article 8, criteria found in Article 8-511, sound planning, and comments from referral agencies and individuals. Community Planning & Permitting (CP&P) staff appreciates Denver Water's submittal of additional information in the form of a cover letter, the draft Quarry Operations and Reclamation Plan, the draft Recreation Management and Monitoring Plans, the Tree Removal Plan, the Traffic Management Plan, the 90% road improvement drawings, as well as the Visualization graphics, and GRE Special Status Species of Special Concern. However, staff finds that the submitted materials again do not adequately address comments or provide adequate information as was requested, nor do they provide adequate information for staff to complete a thorough and complete review.

Attached referral agency response letters cite continued concerns related to submitted materials and highlight continued gaps in required information. Examples of insufficient information include, but ***are not limited to*** the lack of:

- specific haul routes for a significant amount of truck traffic associated with various aspects of the proposed work (e.g., routes associated with tree removal work);
- proposed mitigation measures provided or proposed for anticipated traffic associated with future recreation plans;
- proposed alternate routes for required detours to be put in place during various phases of construction;
- comprehensive viewshed analysis (i.e., comparative visualizations between current and proposed dam construction and water levels); and
- analysis of potential negative impacts of remaining vegetation left after tree removal that will decompose after flooding;

Continuing concerns have been raised related to:

- lack of proposed concrete measures to be implemented that might reduce the number of single-occupancy vehicle trips generated by workforce commuting patterns;
- lack of re-examination of potential impacts to Preble's Meadow Jumping Mouse, despite Boulder County's recent captures of Preble's on the Walker Ranch property;
- potential future siltation and erosion resulting from proposed quarry operations and lack of proposed mitigation measures;
- minimal commitments related to traffic impacts such as excessive dust and noise;
- that a significant amount of provided data is anywhere from 20+ to 10 years old; and
- incomplete and outdated information related to potential and anticipated impacts to area groundwater

Matt Jones County Commissioner **Claire Levy** County Commissioner **Marta Loachamin** County Commissioner

Under Article 8-508.D. 2.d., the Director must decide whether to base the Community Planning & Permitting recommendation on review of the file as it exists, or reject the application as a result of the failure to provide information necessary to its proper review. Please specify whether Denver Water intends to provide additional materials to address the lack of information identified in previous referral agency responses, specified above, and in accompanying referral agency responses. If Denver Water indicates it intends to provide additional information, staff will continue to consider the application incomplete until such time as Denver Water submits additional materials and staff has the opportunity to review the materials. If Denver Water indicates that it will not submit additional material, the Director will make a final determination about how County staff will proceed under Article 8-508.D.2.d.

From: [Solomon - CDOT, Richard](#)
To: [Milner, Anna](#); [Frederick, Summer](#); [Thomas, Mike](#)
Cc: [Bilobran - CDOT, Timothy](#)
Subject: Gross Reservoir referral
Date: Thursday, May 27, 2021 1:06:58 PM
Attachments: [TMP - Redlined 19 pp.pdf](#)
[CDOT remarks 05-27-21.pdf](#)

Please see attached - CDOT Region 1 remarks to the latest review

Region 4 to be sent separately



Rick Solomon

CDOT Region One Permit Unit Supervisor
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Denver Water
Gross Reservoir Hydroelectric Project
FERC Project No. 2035

TRAFFIC MANAGEMENT PLAN

DRAFT May 3, 2021



Prepared by:



current construction schedule, Denver Water estimates up to 7,200 tons (approximately 288 trucks) of cement and fly ash deliveries will be required every week during peak roller compacted concrete (RCC) production. The majority of RCC production will occur over two seasons in 2024 and 2025 with peak production each season lasting a couple of weeks. This volume of truck deliveries is considered a conservatively high estimate for the purposes of the TIS. The proposed single route for deliveries of cement and fly ash material was determined with previous study efforts (Engineering Solutions, 2014) and includes approximately 13 miles of travel on SH 72 between SH 93 and Gross Dam Road and approximately 4 miles of travel on Gross Dam Road. The highest impacts will occur during deliveries of cement and fly ash materials for Dam Raise construction (2023 to 2025). This analysis examines these traffic impacts, including mitigation of the intersection at SH 72 and Gross Dam Road and along Gross Dam Road.

Vegetation and Tree Removal. Limited vegetation and tree removal are expected to occur yearly during Site Development construction activities commencing in 2022. The removal of trees within the footprint of the raised reservoir area will be the last phase, with the largest volume of tree removal expected to take place between 2025 and 2026², as part of the Dam Raise work. The tree removal materials are planned to be transported away from the site using different routes from the east and west sides of the Gross Reservoir. Market conditions related to tree removal activities (which cannot be known until closer to work starting in 2024 through 2026) will be used to determine the final destination of biomass leaving the site. For tree removal from the east side of Gross Reservoir, transport trucks are planned to use the proposed routes for cement and fly ash material deliveries between SH 93 and Gross Dam Road via SH 72. For tree removal from the west side of Gross Reservoir, the proposed route includes approximately 3.2 miles of travel on Lazy Z Road (County Road [CR] 97E) to CR 132 and approximately 24 miles of travel on SH 119 between U.S. Highway (US) 6 and CR 132 to access I-70. Another proposed route is to the north on SH 119 from CR 132. No tree removal material transport trucks will occur on SH 72 between Gross Dam Road and CR 97. Transport of these materials will result in increased traffic on the west side access routes; however, the existing traffic volumes on these roadways is very low and impacts to the traveling public will not be significant. The TIS interim submittal (Appendix B) is based on information developed for the Tree Removal Plan dated March 2021.

Note; in this report- SH 72 (R-1) is referred to as an "east" connection route, SH 119 (R-4) is a "west: route

Evaluated Roadways — Existing Conditions

SH 72 (Coal Creek Canyon Road) west of SH 93 is a rural, mountainous roadway that provides regional connectivity between the Denver metropolitan area on the east and SH 119 near the towns of Nederland and Rollinsville on the west. SH 72 near Gross Dam Road is a two-lane (one lane in each direction) paved 24-foot-wide section. Shoulders in the area of the study intersection include 2-foot paved shoulders, unpaved shoulders, or roadside ditched for

² The 2021 Draft Tree Removal Plan indicated that tree removal activities in the inundation area would take place in 2026 and 2027. This timeline has been updated and will be reflected in the final Tree Removal Plan.

This directional reference tends to be a bit confusing as even numbered highways go E-W, and odd numbered highways go N-S

speed limit on Gross Dam Road is 20 mph. However, based on previous studies and the AutoTurn analysis presented in the TIS, the steep grades, which range from about 2% to about 9%, and the tight switch back curves, will only allow for large trucks to travel at a maximum speed of about 10 mph unless substantial improvements are made to the roadway; even then, one-way flagging in several areas would be required under current conditions. Gross Dam Road provides access to the existing Gross Dam maintenance facilities and recreation areas and is used for local access by residents who live in the area. Gross Dam Road crosses the Union Pacific Railroad (UPRR) tracks approximately 2.2 miles north of SH 72. The railroad crossing is at grade and is equipped with railroad warning signs and flashing lights but no railroad gates. Gross Dam Road also provides access to the Walker Ranch Loop regional trail and the western portion of El Dorado State Park just northeast of the Railroad crossing. Additionally, Denver Water owns a portion of Gross Dam Road.

Crescent Park Drive is a two-lane (one lane in each direction) paved Jefferson County road with continuity from SH 72 on the south to Gross Dam Road on the north. Crescent Park Drive is generally used by traffic en route to Flagstaff Road and Gross Reservoir and by residents for local access. Traffic traveling west (from Denver) can use Crescent Park Drive to access Gross Dam Road. Crescent Park Drive will be utilized as an access route to the project until the new intersection at Gross Dam Road and SH 72 can be improved.

Flagstaff Road is a two-lane (one lane in each direction) paved road north of Gross Reservoir with continuity between Gross Reservoir and Boulder. Flagstaff Road will be restricted from commercial construction access as part of the GRE Project.

CR 132 (Magnolia Road) is a two-lane (one lane in each direction) unpaved gravel road with continuity from SH 119 on the west to cross SH 119 again in Boulder Canyon on the northeast. The posted speed limit on CR 132 is 30 mph. Towards the east, approximately 3 miles from SH 119, CR 132 intersects with Lazy Z Road, which is one of the access roads to the west side of Gross Reservoir. CR 132 is part of the proposed route for hauling tree removal materials from the west side of the reservoir as part of the GRE Project. The grade on CR 132 from SH 119 to Lazy Z Road ranges from about 4% to about 6%.

Lazy Z Road (CR 97E) is a two-lane (one lane in each direction) unpaved gravel road west of Gross Reservoir. Lazy Z Road provides connectivity between CR 132 and Gross Reservoir. Lazy Z Road is a narrow roadway, particularly for the first 1.5 miles west of Gross Reservoir, with a total roadway width of less than 15 feet. Lazy Z Road is part of the proposed route for hauling tree removal materials from the west side of Gross Reservoir as part of the GRE Project. Lazy Z Road has a grade ranging from about 3% to about 9% from CR 132 to Gross Reservoir.

Forest Service Road (FS 359) is an unpaved gravel road west of Gross Reservoir. FS 359 is an access road to the West Side of Gross Reservoir and provides connectivity from CR 68 on the west to Gross Reservoir on the east. FS 359 is a narrow roadway with a total width of less than

predicted at SH 119/SH 72 and CR 132, the LOS is conservatively predicted to drop from LOS B to LOS C for outbound WB traffic with the GRE Project traffic.

The LOS analysis, as described in the TIS, which was completed for the segment of SH 72 on the proposed route, concluded that there will be minimal impact to the traffic on SH 72. SH 72 and SH 119 are designed to accommodate truck traffic, and the additional traffic from daily construction and tree removal activities on SH 72 east of Gross Dam Road and on SH 119 north of CR 132 will not cause significant delay. However, vehicles traveling on Gross Dam Road and CR 132 will experience delays due to the additional construction traffic. It is anticipated that vehicles traveling behind trucks will be delayed approximately 12 minutes as they travel this segment of Gross Dam Road. It is anticipated that vehicles traveling behind trucks will have an average delay of 25.5 minutes as they travel to/from Gross Reservoir on the west via FS 359, Lazy Z Road, and CR 132.

Mitigation. Based on the results of the TIS LOS analysis, mitigation measures are recommended for Gross Dam Road and the SH 72 and Gross Dam Road intersection (access to the east side of Gross Dam) during peak construction periods when workforce traffic is at its peak and RCC is being placed to allow for delivery of cement and fly ash materials.

2.1.2 Traffic Control Plans

Traffic Control Plans (TCPs) detail specific measures such as signage, barricades, and flagging operations required in or near roadway construction projects. Denver Water intends to implement at least four roadway improvement locations to create a safer flow of traffic to and from the project area. The roadway improvement locations planned at this time include:

- A new staging area access off SH 72 near the intersection of SH 93.
- A new intersection and access at the intersection of SH 72 and Gross Dam Road. A preferred traffic control scenario is provided in the TIS (Appendix B, Figure 7-4) for the relocated intersection.
- Roadway widenings along Gross Dam Road.
- Portions of FS 359 and Country Road (CR) 97E.

This TMP is not a traffic control plan. TCPs specific to each roadway improvement project will be developed by the contractor and approved by the regulatory agency responsible for the roadway. In this case, Boulder County oversees work located on Gross Dam Road (portion owned and maintained by Boulder County) and CDOT oversees work located on state highways. A list of anticipated TCPs to be developed by the contractor prior to the initiation of specific construction activities is provided in Appendix C.

Have not made assessment of potential improvements at Crescent Park Rd

The Crescent Park intersection is unsignalized

2.2 Traffic Management Plan Roles and Responsibilities

This section identifies primary personnel involved in the GRE Project, their roles, and their responsibilities with regard to the TMP, and emergency contact information.

Contractor	Owner's Representative
TMP Implementation/Monitoring Managers	
Name/Title: Todd Orbus, Project Sponsor	Name/Title: Doug Raitt, Construction Manager
Contractor: Kiewit Barnard Joint Venture	Agency: Denver Water
Phone: (707) 439-7300 Ext. 7352	Phone:
Email: todd.orbus@kiewit.com	Email: douglas.raitt@denverwater.org
Roles and Responsibilities: Supervisor for Contractor of all onsite operations.	Roles and Responsibilities: Supervisor for Denver Water of all onsite construction project operations.
TMP Implementation Task Leaders	
Name/Title: TBD, Traffic Management Supervisor	Name/Title: TBD, Area Manager — Roadways
Contractor: Kiewit Barnard Joint Venture	Agency: Denver Water
Phone: TBD	Phone: TBD
Email: TBD	Email: TBD
Roles and Responsibilities: Supervisor for Contractor of all site traffic control and all public traffic operations.	Roles and Responsibilities: Supervisor for Denver Water of all traffic and roadway related operations.
Public Information — Liaison	
Name/Title: TBD, Public Information Representative	Name/Title: TBD, Public Information Representative
Contractor: Kiewit Barnard Joint Venture	Agency: Denver Water
Phone: TBD	Phone: TBD
Email: TBD	Email: TBD
Roles and Responsibilities: Provides contractor public information releases about traffic management, incidents and responds to public questions.	Roles and Responsibilities: Provides public statements about traffic management, incidents and responds to public questions.
Emergency Service Contacts	
Name/Title: TBD, Site Project Manager or Assigned Duty Officer	Name/Title: Denver Water 24-Hour Emergency Services
Contractor: Kiewit Barnard Joint Venture	Agency: Denver Water
Phone: TBD	Phone: 303-628-6801
Email: TBD	Email: TBD
Roles and Responsibilities: Onsite supervisor or designated duty officer for 24-hour response to emergency notification.	Roles and Responsibilities: 24-hour attended emergency notification center. Contacts duty representative with Denver Water for emergency response.

An emergency phone tree that provides current contact information for parties potentially involved in communications related to traffic management or incident response will be established and maintained by Denver Water or its contractor.

This is also required by the Access Permits

3.1.1 Project Activity Schedule and Expected Construction-Related Traffic

GRE Project construction will occur between 2022 and 2027. Major activities supporting the execution of the GRE Project and the anticipated durations of each activity are shown in Table 3. A short description of each activity and the expected traffic type and pattern for each activity is presented below. Peak hour volumes for construction activities are addressed in the TIS (Appendix B) and summarized in Section 2.1.1.

Table 3:
Anticipated GRE Project Schedule Related to Offsite Traffic Generation

Activity/Year	2022 Year 1	2023 Year 2	2024 Year 3	2025 Year 4	2026 Year 5	2027 Year 6	2028 Year 7
Site mobilization							
Dam surface preparation, materials laboratory, and Grading for Temporary Facilities							
Quarrying operations							
Dam foundation excavation, preparation, and plant setup							
Dam raise activities — materials trucking							
Forestry activities/tree clearing in inundation area							
First fill							

Site Mobilization

Mobilization to the GRE Project site will occur in the first year of construction (2022). Major plant equipment for the concrete batch plant and aggregate processing plant, cranes, heavy earthwork equipment, and field offices will be transported to the GRE Project site as part of this activity. As Denver Water anticipates SH 72 and Gross Dam Road intersection improvements will be under construction during the site mobilization effort, mobilization equipment will be transported to the GRE Project site by SH 72, Crescent Park Drive, and Gross Dam Road. This mobilization activity will occur over several months and some equipment may require an oversized permit from CDOT and/or Jefferson County.

Permits for overweight and oversized vehicles will be acquired from both Boulder County and CDOT for movements made on state highways or county roads. Denver Water will provide information on truck and trailer weights to the appropriate jurisdiction when oversize or overweight permits are required. Although a conventional WB-50 style truck could be used for improvements on the east area roads, Denver Water will consider transport vehicle configurations as development of the west side access roads are evaluated. Trucks will be under weight limits and within height restrictions for designated haul routes. Denver Water will

assume a maximum weight of 20 tons per truck with the appropriate number of axles and a maximum height of 14 feet 9 inches. The UPRR bridge on SH 72, which will be considered for the transport of large equipment, has a vertical clearance of 14 feet 9 inches and narrowed shoulders. Denver Water will identify routes to transport the necessary equipment to the GRE Project site given the restrictions in place along the route. Dust control measures including watering and tracking pads will be used during road construction to minimize fugitive dust.

Previously, Denver Water did not anticipate needing to use Crescent Park Drive for construction access. However, due to permitting delays for the improvements to the intersection of Gross Dam Road and SH 72 resulting from Boulder County's refusal to review design drawings and authorize a CDOT Access Permit application, Crescent Park Drive must now be considered as an initial access route. Crescent Park Drive will be used for some vehicle access prior to and during construction of improvements at the intersection of Gross Dam Road and SH 72. Traffic levels along Crescent Park Drive will be evaluated and the geometry of the Crescent Park Drive and SH 72 intersection will be evaluated for potential truck turning movements in coordination with Jefferson County and CDOT. The weight limitations and vertical clearance restrictions for overhead power and communication lines will also be considered. As soon as the improvements are complete at Gross Dam Road and SH 72 construction truck traffic will be rerouted to avoid Crescent Park Drive.

Dam Surface Preparation, Materials Laboratory, Quarry Development, Early Dam Foundation Excavation and Grading for Temporary Facilities

The dam surface preparation, materials laboratory construction, and grading facilities will be among the first construction activities at the GRE Project site. Installation of erosion control features will be an early activity in preparation activities. Clearing of trees in the quarry, staging areas, and haul roads will occur over a period as well. Earthwork and rock blasting will follow the clearing. Processing and transport offsite of timber and wood chips will occur at this time. Early crushing operations of excavated rock materials will begin. Dam surface preparation equipment will be mobilized, as well as the associated water treatment plant equipment. Supply and fuel deliveries will be initiated to support construction activities and construction worker traffic will begin during this phase. Dust control measures including watering and tracking pads will be used during road construction to minimize fugitive dust.

This new-alternate route has not been vetted with CDOT yet - and highly probable will require another access permit

Dam Foundation Excavation Operations and Quarry Operations

Dam foundation excavation will continue throughout most of 2023. Daytime and nighttime drilling will be required and periodic traffic for the commuting workforce and supply deliveries for this operation will continue through the period. Daytime quarry operations and aggregate processing will also continue. The commuting workforce as well as delivery of fuel, supplies, and explosives will continue through the year. Excavation of the dam foundation will require the transport of spoils from below the dam along Gross Dam Road onsite to disposal areas within the dam work zone. Traffic controls will be put in place to accommodate local access on Denver Water-controlled portions of Gross Dam Road during this operation. Deliveries of materials to

Table 4:
Construction-Related Traffic Routes

Segment	Roadway Element	Activity	Roadways			
			Timing	Traffic Disruption Mitigation Measures	ROW Control	Coordination With
Dam Raise Related Traffic Routes						
1	SH 72 (Coal Creek Canyon Road), SH 93 to Crescent Park Drive	Primary transportation route for equipment, materials, and supply delivery to the GRE Project site. Primary route for commuting workforce.	Begin at start of site mobilization and continue through project completion.	Public Information Program: COTRIP Website Information, Gross Reservoir Project Website Updates, Local Agency Outreach. Traffic Control Devices: Variable Message Sign with Advisory, Contact Information Signage, Project Information Signage, Traffic Control Signage per the Methods of Handling Traffic (MHT). Traffic Control Oversight: Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations.	CDOT	CDOT, Arvada, Jefferson County, Contractor, Denver Water
2	SH 72 (Coal Creek Canyon Road), Crescent Park Drive to Gross Dam Road	Primary haul route for equipment, materials, and supply delivery to the GRE Project site. Primary route for commuting workforce.	Use this route after completion of new intersection at Gross Dam Road and SH 72.	Traffic Control Devices: Signage per MHT. Traffic Control Oversight: Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations.	CDOT	CDOT, Jefferson County, Boulder County, Contractor, Denver Water
3	SH 72, Gross Dam Road to Pinecliffe	Not allowed as a haul route for equipment, materials, or supply deliveries to the GRE Project site due to vehicle length restrictions.	Not used.	Instruct all contractor personnel and vendors to not use this route for deliveries. Monitor compliance.	CDOT	CDOT, Contractor, Denver Water
4	Crescent Park Drive from SH 72 to Gross Dam Road	Early primary haul route for equipment, materials, and supply delivery to the GRE Project site. Primary route for commuting workforce.	Use this route prior to completion of new intersection at Gross Dam Road and SH 72.	Traffic Control Devices: Signage per MHT. Traffic Control Oversight: Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations.	Jefferson County CDOT at SH 72 access	Jefferson County, Contractor, Denver Water
5	Gross Dam Road, SH 72 to Union Pacific Railroad Crossing	Primary haul route for equipment, materials, and supply delivery to the GRE Project site. Primary route for commuting workforce.	Use this entire route after completion of new intersection at Gross Dam Road and SH 72. The segment west of Crescent Park Drive will be used after completion of the Gross Dam Road and SH 72 Intersection.	Traffic Control Devices: Signage per MHT, erosion controls and dust suppression per Boulder County permit. Traffic Control Oversight: Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations, Maintenance of surfacing, dust control.	Boulder County	Boulder County, Contractor, Denver Water
6	Gross Dam Road, Union Pacific Railroad Crossing to Gross Reservoir Headquarters and Site Entrance	Primary haul route for equipment, materials, and supply delivery to the GRE Project site. Primary route for commuting workforce.	Begin at start of site mobilization and continue through project completion.	Traffic Control Devices: Signage per MHT. Traffic Control Oversight: Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations, Maintenance of surfacing, dust control.	Denver Water	Contractor, Denver Water, Boulder County
7	Gross Dam Road, Gross Reservoir Headquarters to Flagstaff Road	Secondary haul route for equipment, materials, and supply delivery to the north side of dam. Excavated material from dam foundation work to onsite spoil areas.	Begin at start of site mobilization and continue through project completion.	Traffic Control Devices: Signage per MHT, erosion controls and dust suppression per Boulder County permit. Traffic Control Oversight: Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations, Maintenance of surfacing, dust control.	Denver Water	Contractor, Denver Water, Boulder County
8	Flagstaff Road, Gross Dam Road to City of Boulder	Not allowed as a haul route for equipment, materials, or supply deliveries to or from the GRE Project site due to vehicle length restrictions.	Not used.	Instruct all contractor personnel and vendors to not use this route for deliveries. Monitor compliance.	Boulder County	Boulder County, Denver Water

Permit may be warranted based on > 20% increase of traffic

Roadways						
Segment	Roadway Element	Activity	Timing	Traffic Disruption Mitigation Measures	ROW Control	Coordination With
Tree Removal Related Traffic Routes						
Initial Phase Tree Removal						
1	SH 72 (Coal Creek Canyon Road), SH 93 to Crescent Park Drive	Primary transportation route for equipment, materials, and supply delivery to the GRE Project site. Primary route for commuting workforce. Apply for access permit. Provide anticipated traffic counts, etc. Need to see/examine access for potential improvements.	Begin at start of site mobilization and continue through project completion.	Public Information Program: COTRIP Website Information, Gross Reservoir Project Website Updates, Local Agency Outreach. Traffic Control Devices: Variable Message Sign with Advisory, Contact Information Signage, Project Information Signage, Traffic Control Signage per the MHT. Traffic Control Oversight: Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations.	CDOT	CDOT, Arvada, Jefferson County, Contractor, Denver Water
4	Crescent Park Drive from SH 72 to Gross Dam Road	Early primary haul route for equipment access and initial phase of tree removal biomass truck haul.	Use this route prior to completion of new intersection at Gross Dam Road and SH 72	Traffic Control Devices: Signage per MHT. Traffic Control Oversight: Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations.	Jefferson County	Jefferson County, Contractor, Denver Water
5	Gross Dam Road, SH 72 to Union Pacific Railroad Crossing	Primary haul route for equipment, materials, and supply delivery to the GRE Project site. Primary route for commuting workforce.	Use this entire route after completion of new intersection at Gross Dam Road and SH 72. The segment west of Crescent Park Drive will be used after completion of the Gross Dam Road and SH 72 Intersection.	Traffic Control Devices: Signage per MHT, erosion controls and dust suppression per Boulder County permit. Traffic Control Oversight: Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations, Maintenance of surfacing, dust control.	Boulder County	Boulder County, Contractor, Denver Water
6	Gross Dam Road, Union Pacific Railroad Crossing to Gross Reservoir Headquarters and Site Entrance	Primary haul route for equipment, materials, and supply delivery to the GRE Project site. Primary route for commuting workforce.	Begin at start of site mobilization and continue through project completion.	Traffic Control Devices: Signage per MHT. Traffic Control Oversight: Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations, Maintenance of surfacing, dust control.	Boulder County	Boulder County, Contractor, Denver Water
Inundation Phase Tree Removal (West Side)						
9	FS 359 on National Forest Lands, Winiger Ridge access to DW property	On site traffic route for workers only. Public access to National Forest closed during tree removal west of reservoir. The route would be used for access of tree removal equipment, hauling activities, and removal of biomass.	Begin at start of mobilization of west reservoir tree removal and continue through west reservoir tree removal project completion.	Traffic Control Devices: Signage per MHT, erosion controls and dust suppression per USFS permit. Traffic Control Oversight: Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations, Maintenance of surfacing, dust control.	USFS	Contractor, Denver Water, USFS
10	CR 68 or CR 68J	Not allowed as a haul route for equipment, materials, or supply deliveries to or from the GRE Project site.	Not used.	Instruct all contractor personnel and vendors to not use this route for deliveries. Monitor compliance.	Boulder County	Boulder County, Denver Water
11	FS 359 to new connection to FS 97	Temporary improvement of haul route developed for equipment access and tree removal biomass truck haul.	Begin at start of mobilization of west reservoir tree removal and continue through west reservoir tree removal project completion.	Traffic Control Devices: Signage per MHT, erosion controls and dust suppression per USFS permit. Traffic Control Oversight: Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations, Maintenance of surfacing, dust control.	USFS	Contractor, Denver Water, USFS
12	Lazy Z Road (CR 97E), from FS 97 to CR 132, Magnolia Drive	Haul route for equipment access and tree removal biomass truck haul.	Begin at start of mobilization of west reservoir tree removal and continue through west reservoir tree removal project completion.	Traffic Control Devices: Signage per MHT, erosion controls and dust suppression per Boulder County permit. Traffic Control Oversight: Tree Removal Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations, Maintenance of surfacing, dust control.	Boulder County	Boulder County, Tree Removal Contractor, Denver Water

Roadways						
Segment	Roadway Element	Activity	Timing	Traffic Disruption Mitigation Measures	ROW Control	Coordination With
13	CR 132, Magnolia Drive, from CR 97E southwest to SH 119	Haul route for equipment access and tree removal biomass truck haul.	Begin at start of mobilization of west reservoir tree removal and continue through west reservoir tree removal project completion.	Traffic Control Devices: Signage per MHT, erosion controls and dust suppression per Boulder County permit. Traffic Control Oversight: Tree Removal Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations, Maintenance of surfacing, dust control.	Boulder County	Boulder County, Tree Removal Contractor, Denver Water
14	CR 132, Magnolia Drive, from CR 97E northeast to SH 119	Not allowed as a haul route for equipment, materials, or supply deliveries to or from the GRE Project site due to vehicle length restrictions.	Not used.	Instruct all Tree Removal Contractor personnel and vendors to not use this route for deliveries. Monitor compliance.	Boulder County	Boulder County, Denver Water
15	CR 97 from CR 132, Magnolia Drive, to SH 72	Secondary Haul route for equipment access and tree removal biomass truck haul.	Begin at start of mobilization of west reservoir tree removal and continue through west reservoir tree removal project completion. Use this route if intersection at SH 119 and CR 132 turning movement is not allowed.	Traffic Control Devices: Signage per MHT, dust suppression per Gilpin County permit. Traffic Control Oversight: Tree Removal Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations, Maintenance of surfacing, dust control.	Boulder County	Boulder County, Tree Removal Contractor, Denver Water
16	SH 72 from CR 97 to SH 119	Secondary Haul route for equipment access and tree removal biomass truck haul.	Begin at start of mobilization of west reservoir tree removal and continue through west reservoir tree removal project completion. Use this route if intersection at SH 119 and CR 132 turning movement is not allowed.	Traffic Control Devices: Signage per MHT. Traffic Control Oversight: Tree Removal Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations.	CDOT	CDOT, Boulder County, Gilpin County, Tree Removal Contractor, Denver Water
17	SH 119 to I-70, south from CR 132 US 6 ??	Haul route for equipment access and tree removal biomass truck haul.	Begin at start of mobilization of west reservoir tree removal and continue through west reservoir tree removal project completion.	Traffic Control Devices: Signage per MHT. Traffic Control Oversight: Tree Removal Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations.	CDOT	CDOT, Boulder County, Gilpin County, Tree Removal Contractor, Denver Water
18	SH 119, north from CR 132	Haul route for equipment access and tree removal biomass truck haul.	Begin at start of mobilization of west reservoir tree removal and continue through west reservoir tree removal project completion.	Traffic Control Devices: Signage per MHT. Traffic Control Oversight: Tree Removal Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations.	CDOT	CDOT, Boulder County, Tree Removal Contractor, Denver Water
Inundation Phase Tree Removal (East Side)						
6	Gross Dam Road, Union Pacific Railroad Crossing to Gross Reservoir Headquarters and Site Entrance	Primary haul route for equipment, materials, and supply delivery to the GRE Project site. Primary route for commuting workforce.	Begin at start of site mobilization and continue through project completion.	Traffic Control Devices: Signage per MHT. Traffic Control Oversight: Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations, Maintenance of surfacing, dust control.	Denver Water	Contractor, Denver Water, Boulder County
5	Gross Dam Road, SH 72 to Union Pacific Railroad Crossing	Primary haul route for equipment, materials, and supply delivery to the GRE Project site. Primary route for commuting workforce.	Use this entire route after completion of new intersection at Gross Dam Road and SH 72. The segment west of Crescent Park Drive will be used after completion of the Gross Dam Road and SH 72 Intersection.	Traffic Control Devices: Signage per MHT, erosion controls and dust suppression per Boulder County permit. Traffic Control Oversight: Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations, Maintenance of surfacing, dust control.	Boulder County	Boulder County, Contractor, Denver Water
2	SH 72 (Coal Creek Canyon Road), Crescent Park Drive to Gross Dam Road	Haul route for equipment access and tree removal biomass truck haul.	Begin at start of mobilization of second phase of east reservoir tree removal and continue through east tree removal project completion.	Traffic Control Devices: Variable Message Sign with Advisory, Contact Information Signage, Project Information Signage, Traffic Control Signage per MHT. Traffic Control Oversight: Contractor-assigned Traffic Control Supervisor patrols, Denver Water oversight of traffic control operations.	CDOT	CDOT, Arvada, Jefferson County, Boulder County, Contractor, Denver Water

5 Work Zone Impact Assessment

The TIS (Appendix B) and Section 2.1.1 provide a discussion of peak hourly traffic and impacts to roadways during construction. Potential disruptions to the identified routes that are indicated for use during construction of both the roadways and the dam include:

- Traffic congestion due to material and supply deliveries as well as commuting workforce using dam access routes.
- Shoulder and lane closures due to temporary roadway construction on construction access routes.
- Local traffic detours during phases of roadway construction at the intersection of SH 72 and Gross Dam Road.
- Traffic congestion due to oversized loads that occasionally require slower speeds.
- Surface condition impacts to Gross Dam Road from additional truck traffic beyond current design standards.

Other considerations for work zone impacts include the following and are discussed below:

- School bus and bicycle traffic, which is being considered during TMP strategy development.
- Access for emergency first response vehicles and traffic incident responders will be a priority and maintained at all times.
- Debris on the roadway tracked from vehicles entering paved roadways will be addressed.
- Consideration of construction traffic movements during inclement weather will be addressed.

The roadways that will see active construction work zones, as well as construction traffic associated with the dam construction, are shown above in Figures 2 and 3.

6 Traffic Impact Minimization Strategies

Do expect a term & condition in the Access Permit

Denver Water has identified minimization strategies related to traffic for the GRE Project. A brief description of these strategies is below. Additional strategies may be identified once the final design has been completed and traffic details are finalized.

- Onsite sand production: The planned onsite quarry at Osprey Point is designed to allow for the production of all aggregate materials onsite. This design capability will reduce truck traffic associated with the GRE Project by approximately 23,000 trucks.
- Worker busing and carpooling: During peak dam concrete placement, the contractor may require workers to commute to the work site by shuttle bus. During non-peak production times, workers will be encouraged to carpool to the GRE Project site to reduce the volume of vehicles traveling to the GRE Project site.
- SH 72/SH 93 staging area: Denver Water will develop a staging area on Denver Water property on the southwest side of the SH 93 and SH 72 intersection. This staging area will be used for the worker busing and carpooling described above. It will also be used as a check-in point for large truck deliveries heading to the GRE Project site.
- Managed fly ash and cement deliveries: The staging area described above will be used to receive trucks delivering materials and equipment to the GRE Project site, thereby allowing

the contractor to control the frequency of trucks traveling through the canyon to reduce congestion.

- Avoiding school bus and commuting times: For safety reasons, Denver Water has committed to not having truck traffic on the haul routes at the same time as school buses are traveling through the canyon during mornings and afternoons. This will ensure school buses are able to pick up and drop off children safely and ensure students are not delayed.
- No haul days: The contractor will have designated no haul days that will restrict deliveries of some construction materials like cement and fly ash. The intent is to reduce the disruption to local residents. The schedule for this will be developed once the permitting release dates and sources for materials have been confirmed and quantity requirements are finalized.
- Use of multiple routes for tree removal material: As detailed in the Tree Removal Plan, Denver Water has identified the volume and removal locations for trees around the reservoir. Denver Water has identified two main routes for the transport of trees offsite and to potential disposal locations. Multiple locations for processing and transport of tree material will reduce impacts to local residents.

7 Traffic Safety Improvements

A Roadway Key Improvements map is provided in the TIS (Appendix B, Figure 7-5) that shows the locations of some of the improvements listed below. The following improvements will be implemented for traffic safety during GRE Project construction activities:

- **SH 72/SH 93 Staging Area** (Figure 4). On offsite staging area will be constructed near the intersection of SH 72 and SH 93. The staging area is owned by Denver Water and an Access Permit from CDOT and a grading permit from the City of Arvada are necessary prior to developing the site. The staging area will allow the contractor to reduce traffic to the site by moving some site support functions offsite, coordinate shared worker transportation, and manage project deliveries. Turn lanes both into and out of the site will be considered by CDOT as part of the Access Permit process.
- SH 72 and Gross Dam Road Intersection (Figure 4; Appendix B, Figures 7-1, 7-2, and 7-3). The intersection at SH 72 and Gross Dam Road will be improved to accommodate the expected traffic vehicles and type (Figure 4). **Denver Water worked with CDOT through the Access Permit process to evaluate several alternatives to move traffic through this intersection safely.** Denver Water is proceeding with the design of the CDOT's preferred alternative, which includes moving the intersection to the east for better sight distances and vehicle turning clearances and adds a deceleration lane.
- Gross Dam Road Curve Widening. Several curves along Gross Dam Road will be widened to accommodate two-way traffic for tractor trailer vehicles.
- Interconnect between FS 359 and FS 97EA section of an existing unimproved roadway will be constructed to connect FS 359 to FS 97E on National Forest System land. The roadway will be used to connect tree removal traffic to onsite roadways and to avoid less traveled and narrow public roadways.

Permit has not officially been submitted, nor has the construction documents been formally approved.- cleared for NTP

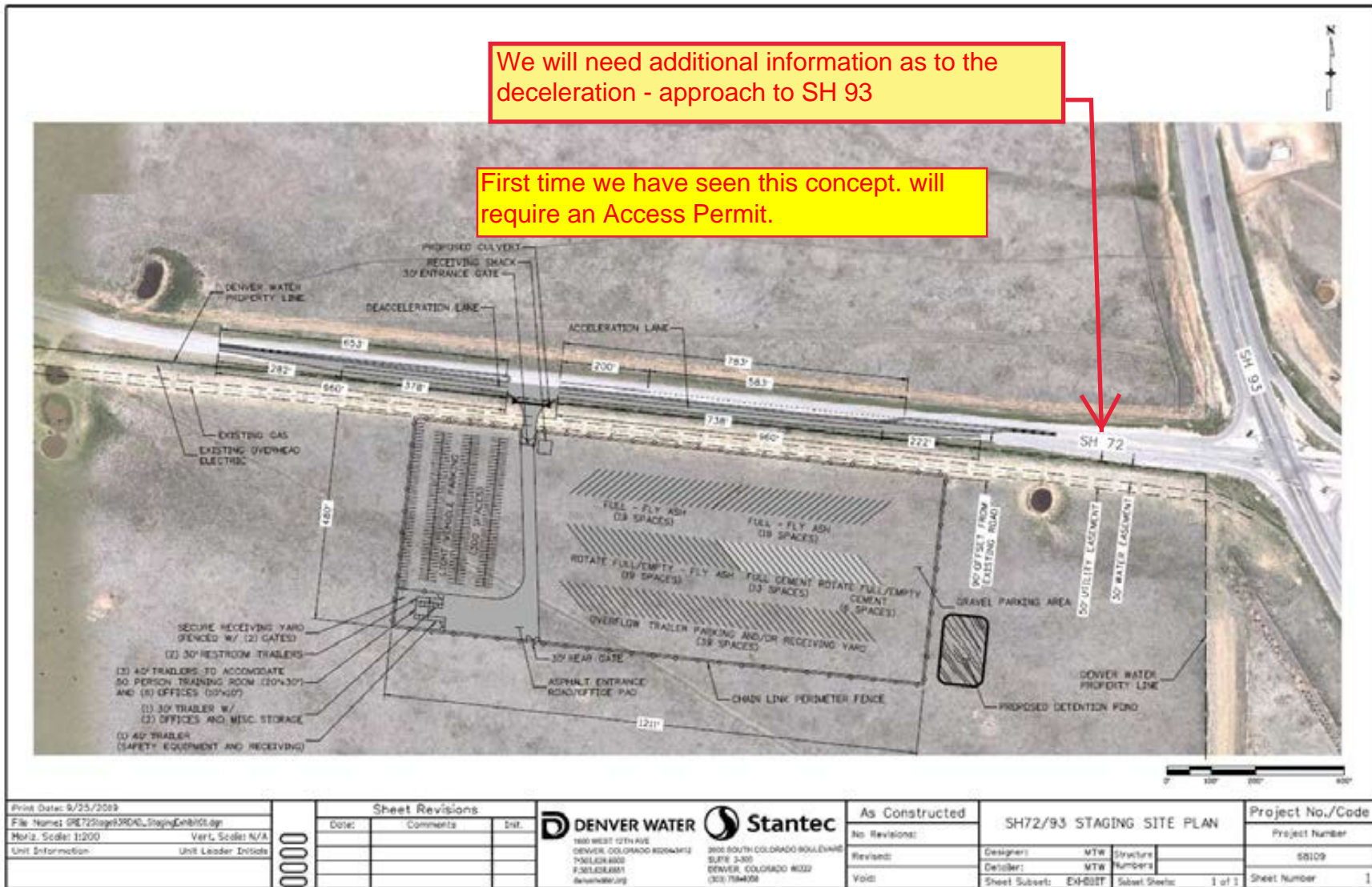


Figure 4: SH 72 and SH 93 Staging Area **Concept**

8 Work Zone Impact Management Strategies

Several approaches will be employed to minimize traffic delays; maintain or improve motorist, cyclist, pedestrian, and worker safety; and maintain access for businesses and residents. These are described in more detail, but they fall within the general categories of temporary traffic control, traffic operations, and public information and outreach. Generally, Denver Water's approach is to maintain continuous access through work zones with a minimum of delay and disruption while maximizing the safety of the public and construction workers.

8.1 Temporary Traffic Control

Temporary traffic control measures will be employed where construction work affects traffic on the adjacent roadway. Appendix C provides a list of specific TCPs that will be submitted to the respective jurisdictions whenever temporary traffic controls are proposed for implementation in the public right-of-way.

TCPs will be prepared by a qualified Traffic Control Supervisor. The contractor's superintendent and all others serving in a similar supervisory capacity shall have completed a CDOT-approved two-day Traffic Control Supervisor training as offered by the Colorado Contractor Association. The one-day Colorado Contractor Association Traffic Control Technician training, along with the two-day American Traffic Safety Services Association Traffic Control Supervisor training, will serve as an alternate. If the alternate is chosen, the contractor shall provide written evidence that at least an 80% score was achieved in both of the training classes. The certifications of completion or certifications of achievement for all appropriate staff shall be submitted to the appropriate jurisdiction engineer according to instructions agreed to with the agency.

Some specific strategies that will be employed for roadway construction include:

- **Construction phasing/staging:** This will be used on Gross Dam Road and at the SH 72 and Gross Dam Road intersection to maintain traffic through the work zone while completing the improvements. See Figures 5a through 5d for a representation of how staging (shown as phases in the figure) will be used at the Gross Dam Road and SH 72 intersection. A detailed TCP will be prepared for regulatory approval (based on the appropriate jurisdiction) for each phase of work. Figure 6 provides the routes identified for inundation area tree removal operations. Detailed plans will be developed once the biomass disposition is determined.
- **Lane closures to provide worker safety:** This strategy will be used on Gross Dam Road requiring the daytime closure of one existing traffic lane to accommodate work activities. Both lanes will be open at the end of the day's activities.
- **Temporary roadway widenings of Gross Dam Road within the right-of-way may be used to allow local traffic through work zones during roadway work.** The final alignment of the road will match the approved plans and erosion control will be put in place per the plans.
- **Flagging will be used to control traffic through work zones** that are adjacent to traffic.

Figures 5a-5d are concepts only - will need more information. CDOT may need to invoke a-lines to inhibit poorly located access

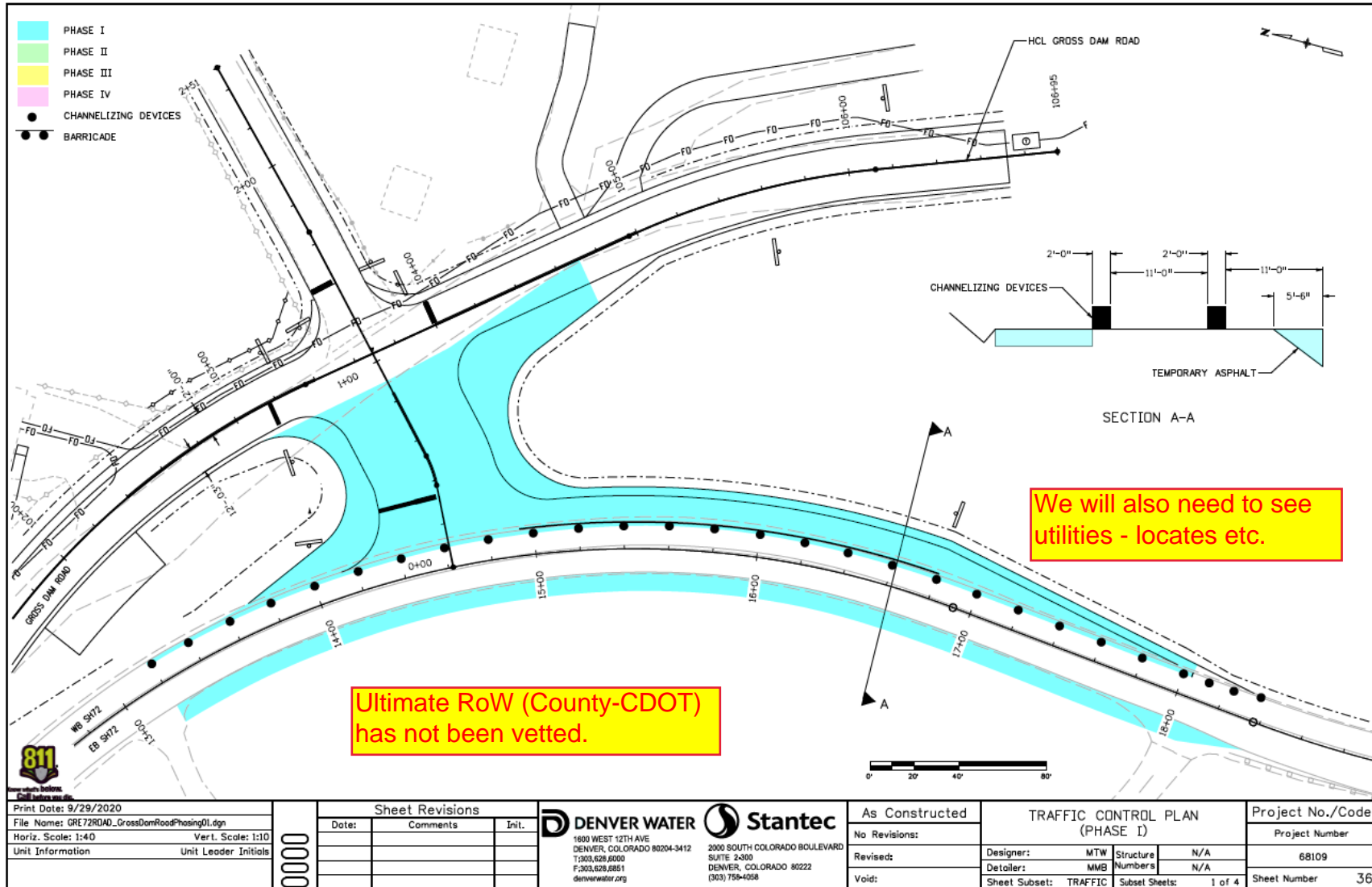


Figure 5a: Gross Dam Road and SH 72 Intersection — Phase I

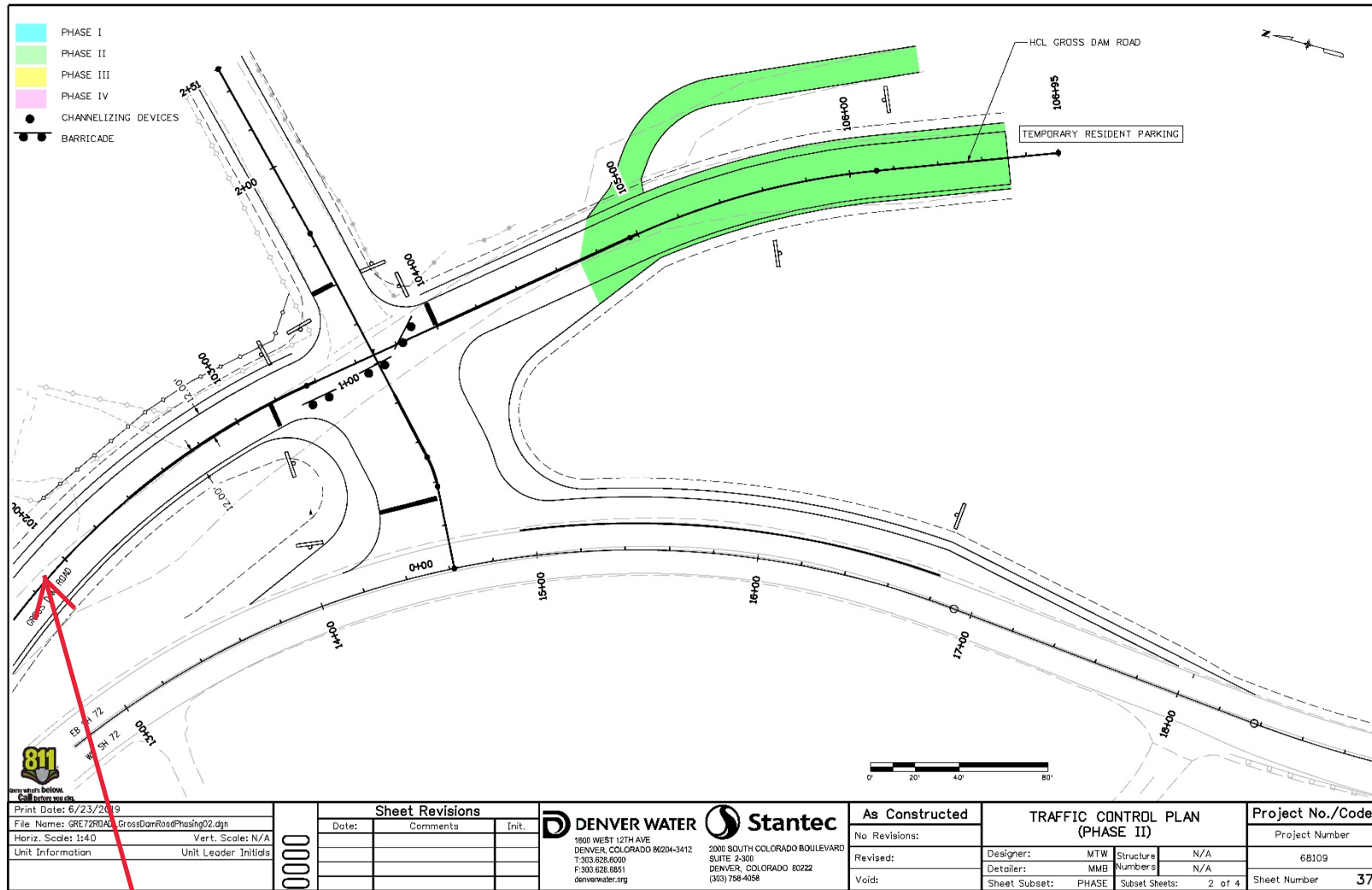


Figure 5b: Gross Dam Road and SH 72 Intersection — Phase II

We will need to see who owns this segment of RoW, and how access to the residential lane-lots is sustained

The drawing needs to address existing access to residential lots & the United Power property

Spell this out as “Traffic Management Plan”. The same acronym is used for Transportation Master Plan, Transit Mobility Plan, among others. Contextually, this section of the report is really an MHT or “Method of Handling Traffic” as defined in the State Access Code

and public information dissemination related to GRE Project timelines. Any signs located on National Forest System lands will be coordinated with the USFS.

8.4 **TMP** Monitoring

This section outlines the requirements for monitoring the work zones and the TMP, including who is responsible for monitoring tasks.

Monitoring the performance of the work zones and the TMP during construction is important to see if the predicted impacts closely resemble the actual conditions in the field and if the strategies in the TMP are managing impacts effectively.

CSHP & CDOT will also be monitoring

Monitoring will consider both the performance of individual TMP strategies and overall performance of the work zone and work zone impact area during construction. The contractor’s project management staff and TCP designer will monitor the work zones and TMP performance and, if necessary, make changes to the TMP. In addition, Denver Water will monitor the overall performance of the TMP and coordinate any necessary adjustments with the contractor and TCP designer. Any changes to work zones or the TMP will be consistent with the decisions made in the original TMP, will involve the TCP designer, and will be documented in the TMP. Changes will be submitted for approval to the regulating agency, as needed.

Appendix D provides the proposed organization chart for the TMP implementation and operation, including the role of the TCP. Project contract documents will specify the contractor TMP implementation responsibilities, and compliance documents will be kept in the project files.

Monitoring for oversight will include:

Are you aware of CDOT's lane closure - Occupancy report - requirement submitted weekly for the following week?

- Determining and documenting how strategies are being implemented and verifying that specified TMP elements are happening on schedule and in the manner planned.
- Identifying TMP performance monitoring processes and ensuring monitoring is carried out.
- Verifying work zone setup (via MHTs and daily traffic control supervisor diaries).
- Ensuring variable message signs, Highway Advisory Radio, and other media tools provide accurate and timely information to motorists, bicyclists, and pedestrians regarding lane closure times and other GRE Project information.
- Identifying approaches for performance of corrective actions when TMP strategies are not carried out or performance measures are not met.

8.5 **TMP** Performance Measures of Effectiveness

The effectiveness of the TMP will be monitored throughout the GRE Project. Specific observations about traffic related metrics will include:

Mobility

- Throughput volumes.
- Delay and travel time reliability.

For USFS roads, as required by USFS 4(e) Condition 10, Denver Water will develop a Road Maintenance Plan according to the schedule provided in FERC Order Article 422(a) and will ensure consistency between that plan and this document.

8.6.1.1 Roadway Maintenance Operations

Road maintenance and road improvements will be undertaken and made whenever necessary to maintain the road in good operating condition at all times and to insure the provision of safe access by local residents, the traveling public, and emergency vehicles. Where not otherwise maintained by local agencies, roadways road shall be snowplowed so as to permit year round access. If Denver Water is made aware of emergency safety conditions on a public road, the necessary repairs be completed immediately.

Specific attention will be paid to maintaining proper cross slopes, drainage, and minimizing corrugation that develops on gravel roads during heavier haul periods. Supplemental gravel and spot repairs of potholes may be required when the subgrade becomes distressed. Materials will be stockpiled for both gravel and paved road repairs. A dedicated crew will be responsible for monitoring the condition of access roads and maintaining them in a safe operating condition.

8.6.2 Procedures for Complying with County Road Regulations

- Roadway Construction Permit: required for the permanent road improvements proposed in Boulder County rights-of-way. Denver Water will review the Boulder County Multimodal Transportation Standards and submit designs to apply for Roadway Construction Permits necessary to facilitate construction access to the site. The proposed improvements will be described in Design Documents prepared for the appropriate jurisdictions. Design Documents typically include Design Memoranda, Design Drawings, and Specifications. Elements of the design review process that ensure compliance with regulations include submission of 30%, 60%, 90% and For Construction Documents for jurisdiction review, comment submission, and subsequent approval. Specific elements of the designs will address compliance with roadway design standards, satisfactory sight distance, satisfactory drainage, and appropriate striping and signage. Any deviations from the standards that may be required due to the mountainous terrain or property interests that would be excessively harmed will be highlighted for jurisdiction concurrence and approval. When construction activity is parallel to Boulder County rights-of-way, Denver Water shall not use the rights-of-way for any construction-related activity including, but not limited to, stockpiling of material, staging construction materials, parking for workers or construction vehicles. Note that, among other things, hours of work are regulated by the Roadway Construction Permit.
- **Oversize/Overweight Permit:** weight restrictions may apply to heavy equipment traffic along adjacent roadways. If necessary, Denver Water will apply for Oversize/Overweight Permits from the appropriate jurisdictions. Denver Water will be responsible for repairing roads should there be any damage as identified by the Boulder County Engineer.
- **CDOT Access Permits:** The intersection of SH 72 and Gross Dam Road requires a CDOT Access Permit due to the volume of trucks entering/exiting the state highway at that location.

Denver Water met with CDOT representations in 2018 to review design alternatives. A preferred alternative was identified that includes a relocated and improved intersection. Denver Water has progressed design of the improved intersection and has shared preliminary design drawings with both CDOT and Boulder County for review and feedback. Boulder County has not provided feedback or comments on the designs provided to date. CDOT has informed Denver Water that, because Boulder County owns Gross Dam Road at its point of access to SH 72, Boulder County must provide its permission to submit the Access Permit for intersection improvements. Boulder County has informed Denver Water that it will not provide its permission to submit the Access Permit until Boulder County's Areas and Activities of State Interest (1041) Permitting process is complete. Denver Water has informed Boulder County that, unless this issue is resolved by August, Boulder County's refusal to authorize the Access Permit application will obstruct Denver Water's ability to begin the necessary property acquisitions in advance of construction, which would jeopardize the construction deadlines stated in FERC's order amending the hydropower license for the GRE Project. Additionally, this delay in the permitting process for improvements to the intersection of Gross Dam Road and SH 72 has resulted in the need for Denver Water to evaluate using Crescent Park Drive as an early construction access route. Discuss with JeffCO, the required access permit at Crescent Park.

A CDOT Access Permit is also required at the staging area of SH 72 close to SH 93. Denver Water has had preliminary discussions with CDOT on the staging area location and required access elements to include deceleration and turn lanes on SH 72. Because the staging area is located on Denver Water property in Jefferson County, Denver Water will be the applicant for the CDOT Access Permit at the staging area. Denver Water will work with CDOT beginning in 2021 to ensure the final design meets the requirements of the Access Permit and construction can begin on time.

8.6.3 Other Required Permits

Other permits that are necessary for construction include, but are not limited to, the following:

- Stormwater Quality Permit: Boulder County's water quality protection and municipal separate storm sewer system construction program requires a stormwater quality permit through the Colorado Department of Public Health and Environment (CDPHE) because the area of disturbance for the GRE Project exceeds 1 acre in size. Denver Water plans to submit the stormwater quality permit application with any building or grading permit applications in order to obtain the permit before commencing work on the GRE Project. This permit is also likely to be required for the staging area at SH 72 and SH 93.
- USFS Permits: Denver Water will apply for a permit to improve the interconnection between FS 359 and FS 97. Denver Water will coordinate with USFS to identify the appropriate permits to perform the roadway improvement. Coordination will begin in 2023 to allow for improvements to be completed prior to west side reservoir tree removal activities scheduled to begin in 2025. On April 8, 2021, Denver Water held its annual consultation meeting with

STATE OF COLORADO

Traffic & Safety

Region 1

2829 W. Howard Place
Denver, Colorado 80204



COLORADO
Department of Transportation

Project Name: **Gross Reservoir Expansion 1041**

Print Date:

Highway:

Mile Marker:

Environmental Comments:

Biologist:

The main concern would be any impacts associated with any necessary transportation improvements on SH 72 or the intersection of SH 72 and SH 93. In the draft 1041, under transportation improvements they note:

"Denver Water will make any necessary road improvements. The roadways of particular interest are SH 72 from SH 93 to the turnoff for Gross Dam Road and Gross Dam Road from SH 72 to the railroad tracks."

CDOT just finished constructing a permanent flood repair project along SH 72 (SA 20334) from MP 24.5 to MP 12.22 in Gilpin, Jefferson, and Boulder Counties. We have a variety of SB 40 mitigation planting locations along the Coal Creek adjacent to SH 72. In addition, there is occupied Preble's meadow jumping mouse habitat near the lower section of SH 72 near the intersection with SH 93 (in the Coal Creek floodplain).

If transportation improvements are proposed along SH 93 or SH 72 we would want to see field work and the standard bio submittals completed to ensure compliance with Section 7 and Section 404. We would also require SB40 be completed and also need to check if SB 40 mitigation constructed by 20334 is within any potential disturbance areas being proposed by Denver Water's transportation improvements.

Historian:

Based on this review, the proposed improvements to the intersection of SH 72 and Gross Dam Road will require review by CDOT historians and will likely require SHPO consultation. Based on the description of work at SH 72 and Gross Dam Road, which would move the intersection, add new signage, and add a new turn lane, a qualified historian (meeting the standards set forth by the Secretary of the Interior) will be required to prepare the SHPO submittal. This submittal will require a draft SHPO letter, APE map, a site form to document a logical segment of SH 72, and up to 3 other site forms if necessary.

Once a qualified historian has been selected, CDOT historians would like to meet with the historian to discuss the project scope.

As discussed in DWB Traffic Impact Analysis, 6-4, based on traffic models, additional turn lanes or other improvements to SH 119 are not required. If they do become part of this project, we will need to review any improvements along SH 119 for history, and such work will need to be added to the historian's scope if needed.

The proposed improvements at SH 72 and Gross Dam Road are in Boulder County. Do you anticipate Region 4 or Region 1 reviewing the future work?

Planner:

This expansion of Gross Reservoir does not contain elements that would interfere with and planned CDOT work on SH-72, pending details on the intersection of Gross Dam Road and SH-72. CDOT does not have any projects planned along this segment of SH-72, so R1 Planning concurs with this proposal.

Traffic Comments:

05/26/2021 C Lacombe

The plan mentions that employee shuttle buses “may” be used to get employees from a proposed staging lot near SH 93 to the project site. However, there is no mention as to who will make the decision to use a shuttle or what parameters will be used to determine the use of a shuttle. The traffic study in the appendix makes it seem the traffic analysis assumed that a shuttle would be used in order to achieve the documented trip generation. The traffic management plan assumes the shuttle is optional.

No analysis of the SH 93/SH 72 intersection is presented even though all construction site trips will be traveling through the intersection on a daily basis. With many of the vehicles being fully loaded heavy vehicles, analysis of the intersection should be addressed. In addition, they propose a staging lot directly west of the SH 93 intersection. No analysis is presented to show how the access point will operate sufficiently to not impact the SH 93 intersection.

The study calculates travel time delays for vehicles on Gross Dam Road if they get stuck following a heavy vehicle. The same calculations were not conducted for SH 72. Fully loaded heavy vehicles likely won’t be able to travel uphill at 40 mph. As such, the plan also needs to address travel time delays on SH 72 between SH 93 and Gross Dam Rd.

The study uses a PCE of 3.0 for the heavy vehicles on SH 72. It seems given the grade and fully loaded nature of the trucks that the PCE factor should be higher. I seem to recall that PCEs can be as great as 6.0 for mountainous conditions.

Only AM peak hour conditions are calculated and analyzed in the plan and traffic study. At a minimum assumptions for the PM peak hour should be documented if they are assuming that the project won’t be adding traffic to the PM peak hour.

The plan also does not address repair to the state highways that will be used. The statement is made that SH 72 and SH 119 are designed for heavy vehicles. However, they may not be designed for the long term frequent use of fully loaded heavy vehicles which the project will be adding to the roadway. Again, the study presents the idea that the only impacts of the project are after the trucks leave the state highway. The plan should address potential damage and maintenance to the state highways as well.

Any speed limit reductions to accommodate the TMP must be applied for and approved by CDOT.

Resident Engineer Comments:

NTO - 12/10/20 - Below are my previous comments on the draft access permit submittal. Only additional comments are to ensure that public messaging is adequate for the traveling public and that appropriate contact information for the project is provided the Denver Water can respond as needed. I have no further comments regarding the 1041 in Boulder.

The TIS does not consider impacts past the SH 72/Gross Dam Intersection. Verify that there are not impacts to the SH 93/SH 72 intersection or any other CDOT facilities with additional projected truck traffic.

- Verify that there is adequate sight distance for EB and WB SH 72 traveling vehicles to new access and that no additional intersection improvements are required for this to operate safely.
- Verify the ditch/roadside adjacent to SH 72 meets clear zone criteria.
- Drainage culvert at STA 19+57 needs CDOT ROW for construction and maintenance. Suggest inlet skew should be more parallel to ditch and confirm that CSP is appropriate material for this cross culvert.
- Recommend that CDOT Materials team is engaged or permittee provides information that additional truck traffic does not significantly impact design life of SH 72 or other CDOT facilities.
- Typical sections show ABC shoulder. Shoulder should be HMA along SH 72.

(repeated remark)

Permits Comments:

The report sent for our review is entitled TMP. This is what Denver Water is calling a “Transportation Management

Plan" and we advise this tends to be confusing for CDOT, as a TMP also refers to a Transportation Master Plan, or a Transit Mobility Plan. We suggest a different acronym be used. The documents states who is responsible for inspecting-monitoring-enforcing the TMP, which under CDOT Code, is more commonly referred to as an MHT, or Method of Handling Traffic. In fact, with Access permitting, a weekly Lane Occupancy Report is required that would address lanes closures, dates & times, use of flaggers, etc. This is typically outlined in the Access Permit, and is enforced in part by both the CSHP (Highway patrol) and our inspectors. Out permit will also outline terms-condition for routine highway clean up, and tracking control of mud-debris brought onto CDOT RoW.

A major change in this report is the consideration of using Crescent Park Drive as a temporary access to the south side (SH 72) which connects to SH 72 near Canyon Liquors & the Coal Creek Canyon Fire Station. This intersection was patched after the 2013 flood, and is missing striping / stenciling that would be needed to demarcate lanes of traffic. There is a signal present that is exclusively used by the Fire Department. A new Access permit will be required here due to an anticipated traffic increase of > 20% and to assess what additional public improvements may be warranted. Access control at this 3-way intersection is lacking, poor at best. Whereby the Crescent Park RoW is under Jefferson County jurisdiction, JeffCO will be required to sponsor-sign the Access Permit. We recognize that there are also sheet-flow storm issues that routinely recur at this intersection that CDOT will seek input from the County with the Access Permit.

This TMP also shows for the first time, the location & scale of the lay-down/staging yard on SH 72. This will also require an access permit – from the property owner. The eastbound left turn auxiliary lane approaching SH 93 will need to be examined to ensure it meets the minimum length code requirements (taper & stack), possibly necessitating shifting the proposed access into the staging yard a bit further to the west. This typically gets addressed at the time of the permit application.

Please see the mark-up of the TMP (19 total pages) where our Region 1 concerns are noted.

RS 05-11-21

Other Comments:

(Oversize-Overweight Permit Office)

RM 05/07/21: Table 4 - Segment 1 - Route taken is wrong

*Potential movement route utilizing 119 SB to 70. 119 Does not run directly to 70 as it starts off of segment 06G. This segment has 2 tunnels they will need to proceed through with lower vertical clearance and was not mentioned in the review.

KB 12/4/20: Regarding SH 72 intersection. Note that the existing culvert at the intersection is being replaced by CDOT. It looks like you may need to cut a few of the trees east of the new proposed 72 Gross Dam Rd intersection to get sight distance. The grade change between Gross Dam Road and the highway looks excessive. Should the accel side longer for trucks starting on a hill for the construction condition? What is the proposed barrier for closing the existing access? New guidance signs needed for the new intersection location.
(Repeated remark)



Public Works

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Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.BoulderCounty.org

June 1, 2021

To: Summer Frederick, AICP, Planning Manager

From: Mike Thomas, P.E., County Engineer

Subject: Docket SI-20-0003, Gross Reservoir & Dam Expansion;
Denver Water Board May 11, 2021 Resubmittal

I have reviewed the most recent Denver Water Board (DWB) Re-referral packet and have the following comments on the submitted and associated referral documents:

Recreation Monitoring and Management Plans

1. Due to higher visitation expected both short-term and long-term, the applicant must develop a plan to mitigate parking overflow onto county roads as part of the Dam construction and future recreation site improvements.
2. Increased dust from increased use of the gravel roads will create air quality concerns on Gross Dam Road and adjacent properties once the project is completed and recreational activities resume. The recreational management plan must address dust control on adjacent roadways.
3. It is noted on p. 34 of the plans that it addresses traffic from Lakeshore Park to Magnolia on CR 68. The applicant must recognize that this is a “Jeep” road that does not have a maintenance level to support regular traffic. Additionally, the plan calls out the city of Boulder, but should state Boulder County.

Quarry Construction and Post-Project Reclamation

1. The applicant is required to obtain a Boulder County Stormwater quality permit prior to start of work. This is in addition to the Stormwater Discharge Permit required by the State of Colorado Department of Public Health and Environment.
2. Construction of the quarry will create loosened soils and potential for degradation of the water quality of the reservoir. The applicant must identify permanent erosive soil containment beyond the completion and reclamation of the quarry site prior to filling of the reservoir.

Tree Removal Plan

1. The tree removal plan still does not address final hauling traffic patterns. Waiting until contracting with a vendor to remove the trees does not account and plan for potential impacts up front, but rather pushes off the analysis and decision for an

extended period of time. The applicant must analyze the worst-case scenario in order to account for potential traffic impacts.

2. Soil loosening and degradation due to tree removal operations has not been addressed in the plan. The time differential between tree removal and final filling of the reservoir may be significant and cause severe erosion into the reservoir. This, in turn, would cause significant concern about the water quality not only in the reservoir, but also at the outlet of the dam into S. Boulder Creek. The applicant must address this issue and develop a soil stabilization plan prior to the BOCC Hearing on this 1041 application for all areas of disturbance prior to filling of the reservoir.

90% Roadway Improvements Plans

1. A letter of credit for all road improvements in the amount of 125% of the estimate project costs on the Boulder County segment of Gross Dam Road / CR 77S (south of the Union Pacific Railroad tracks), along with an approved Roadway Construction Permit, will be required prior to project construction. No construction will take place until both are received and signed off by Boulder County.
2. The applicant must apply for a separate Design Exception (DE) for each design element that does not meet Boulder County MultiModal Transportation Standards (MMTS). Use the latest DE application form, explaining in detail all seven points as identified in the application. Application for a DE does not automatically approve the DE.
3. Show proposed road widths on all plan views.
4. Show roadway details in standard symbology – existing information in *italics*, proposed information in vertical font.
5. Identify on the plan and profile sheets which typical section is used in each roadway segment on plan views.
6. All retaining walls greater than four vertical feet from bottom of footer to top of wall must have details with a stamp and signature by a Colorado Registered Professional Engineer; all walls designed at greater than six feet must include calculations supporting the design.
7. All culvert additions need to show extensions of horizontal and vertical straight lines, or else all bends must have a manhole, or else the entire pipe must be replaced.
8. All flow velocities in culverts must be less than 3 fps per the Boulder County Storm Drainage Criteria Manual (SDCM), or outlet mitigation must be included in the design.
9. Show outlet treatment on the culvert shown at Sta 258+78.00.
10. Show calculations that size all riprap used on the project.
11. All regraded drainage ditches must be sized to handle 2-yr storm flows (50% storm flow potential) or, at a minimum, pre-construction flows.
12. All slopes must be 2H:1V or flatter unless it is shown that a slope can be maintained on competent bedrock; all cut and fill slopes will be stabilized with suitable vegetation.
13. All fill slopes must use material of R-40 strength or better, compacted to 95% density or better.
14. New road surfacing must be a minimum depth of 4" Aggregate Base Course, Class 6.

15. The applicant must execute a maintenance agreement with Boulder County on all county maintained roads used by the applicant prior to starting haul operations on those roads.
16. Cut and fill vegetation seeding must meet Boulder County Parks and Open Space specifications.
17. Sheet C.301 – the leader to “PROPOSED EASEMENT” does not specifically identify any area or line. Provide proposed or potential easement information on the plans.
18. Sheet C.302, ff. – the leader for “EXIST. PROP ESMT.” is confusing. Is it an existing property easement? If so, provide documentation proving such.
19. Provide cross sections at 20-foot intervals along the cut and fill slopes for all grading on Grading sheets.

This concludes my comments at this time. All previous comments made on this docket remain in full force unless addressed by this review or in the re-referral packet and associated documents.



Community Planning & Permitting

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May 28, 2021

TO: Summer Frederick, Planning Division Manager; Community Planning & Permitting, Development Review Team - Zoning

FROM: Amelia Willits, Engineering Development Review Planner II; Community Planning & Permitting, Development Review Team – Access & Engineering

SUBJECT: Docket # SI-20-0003: Gross Reservoir & Dam Expansion - Denver Water Material Submittal to Boulder County May 13, 2021 Referral Comments

3817 Gross Dam Road, at parcel number 1579258000006

The Development Review – Access & Engineering Team has reviewed the materials submitted May 13, 2021 by Denver Water Board (DWB) and have the following comments. Please note, these referral comments are in addition to those provided by Mike Thomas, P.E., County Engineer, under separate cover.

Traffic Management Plan

1. Throughout the Traffic Management Plan (TMP) it is stated that the final truck routes will not be provided due to market conditions for tree removal or other construction commodities. As haul traffic significantly impacts the Boulder County road system and surrounding communities, these haul routes must be drafted and submitted to staff prior to public hearing by the Boulder County Commissioners (BOCC).
2. The TMP indicates traffic delays traveling behind heavy trucks of 12 minutes on Magnolia Road and 25.5 minutes while traveling on Forest Road 359 and Lazy Z Road. Staff prefers shorter traffic delays but prioritizes safe truck travel. Signage informing the traveling public of time delays must be posted by the applicant on roads that will experience delays due to heavy truck traffic.
3. Nightwork is planned for the dam foundation and quarry excavations. Trucks must refrain from the use of engine brakes during night hours unless engine brake mufflers are used.
4. Figure 2: Local GRE Project Construction Routes indicates that Flagstaff Road is to be used only as a workforce route. Staff's preference is that all project activities use State Highway 72 and Gross Dam Road. If the use of Flagstaff Road is still planned to be used for workforce access, the applicant must provide a rationale as to why this route must be used. This rationale must be provided to staff prior to the BOCC hearing.
5. Colorado Department of Transportation's (CDOT) Floyd Hill Project on I-70 is indicated as a potential overlapping project which may interfere with tree removal traffic. The

applicant must provide an alternate route plan which takes this potential conflict in consideration. This route plan must be submitted to staff prior to BOCC hearing.

6. All detour route maps and the Incident/Emergency Response Plan must be submitted to staff prior to BOCC Hearing for staff to consider the impacts.
7. The Public Awareness Strategies applied by the applicant must include coordination with Boulder County Public Information officers. The TMP must be updated to include this information.
8. No mention of coordination with Boulder County is included in the discussion of the Road Management Plan that the applicant plans to develop with the US Forest Service.

90% Traffic Impact Study

1. The need for possible additional analyses for Magnolia Road, Lazy Z Road, and USFS roads are postulated, but not included in the report. The worst-case scenarios must be modeled and prepared for prior to BOCC Hearing.
2. Staff required that the 3.0 passenger car equivalency figure be supported by a rationale. The report simply states that it is a CDOT requirement. Evidence must be provided for this CDOT requirement.
3. Boulder County is extremely concerned about the safety of bicycle traffic on SH 72 due to the significant increase of heavy truck traffic. Applicant is advised to look at options to improve safety on SH 72 for the duration of this project.

Recreation Management and Monitoring Plans

1. Anticipated recreational traffic and parking for individual sites is outlined in detail in the Recreation Management Plan. However, impacts and challenges for each recreational area are identified, but no mitigation strategies are presented. Denver Water states that the organization will continually monitor the impact, but without mitigation strategies, staff has concern that recreation parking issues will continue without resolution.
2. Inconsistency in the collected recreation data is acknowledged by the applicant. Denver Water states that all visitor counting technology and methodology will be updated by the end of 2021. Accurate data is vital for staff to evaluate the impact of the proposal. Corrected data must be provided to staff prior to BOCC hearing.
3. The Recreation Monitoring Plan states that the plan is designed for an initial evaluation period, which is listed as the initial three (3) years of the project. In order to evaluate the impact to the community and the roadways, plans for the entire duration of the project must be provided, as well as the succeeding three (3) years. An updated Recreation Monitoring Plan must be provided to staff prior to BOCC hearing.

This concludes my comments at this time. All previous comments made on this docket remain in full force unless addressed by this review or in the re-referral packet and associated documents.



Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930

Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

May 27, 2021

To: Summer Frederick, AICP, Planning Division Manager
From: Virginia Gazzetti, Floodplain Program Planner

Subject: Docket SI-20-0003: Gross Reservoir Dam and Expansion
Request: Areas and Activities of State Interest (1041) review for the expansion of Gross Dam and Reservoir to store an additional 77,000 acre-feet total of water, which includes increasing the dam height by approximately 131 feet, the dam length by approximately 790 feet, and the spillway elevation by approximately 126 feet; quarry operations to obtain aggregate required for construction; construction of a temporary concrete batch/production plant and an aggregate processing plant; permanent road improvements to Gross Dam Road from State Highway 72 to the Gross Reservoir; temporary road improvements to FS35 (Winiger Ridge Road) and FS 97 (Lazy Z Road); and the relocation of the Miramonte Multi-Use Trail.

Location: 3817 Gross Dam Road, at parcel 157928000006, north end of Gross Dam Road approximately 5 miles north of its intersection with State Highway 72, in Section 28, Township 1S, Range 71W.

The Community Planning & Permitting Department – Floodplain Management Program has reviewed the additional information dated April 28, 2021 for the above-referenced docket and has no additional comments.

Please contact Virginia Gazzetti, Floodplain Program Planner, at 720-564-2865 or vgazzetti@bouldercounty.org to discuss this referral.



Gilpin County Colorado

Commissioners

Web Sill, District 1
Linda Isenhardt, District 2
Sandy Hollingsworth,
District 3

County Manager

Abel Montoya

County Attorney

Bradford Benning

Located in the Historic
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Central City, Colorado 80427

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April 12, 2021

TO: Denver Water, Boulder County Board of County Commissioners,

CC: Summer Laws and Dale Case, City of Boulder Community Planning and Permitting; Town of Nederland, Jefferson County Board of County Commissioners; Clear Creek Board of County Commissioners, City of Black Hawk, City of Central, Golden; and CDOT.

RE: Gross Reservoir Expansion Tree Removal Route Project ("Project")

The Gilpin County Board of County Commissioners ("Board") expresses their appreciation for meeting with us on April 6 to discuss the revised Gross Reservoir Expansion Project proposed Tree Removal Routes. Based on the current plan and the discussion, the Board strongly opposes the plan as proposed through Gilpin County. Impacts on Gilpin County including the cities of Black Hawk and Central City have not been adequately addressed. The new plan actually presents more impact and safety concerns than the previous version. The Board respectfully requests that the Boulder County Board of County Commissioners and Denver Water abandon plans for Tree Removal Routes using Highway 119 through Gilpin County to connect to Interstate I-70.

On February 17, Gilpin County Commissioners Isenhardt and Hollingsworth and County Manager Montoya met with representatives from Denver Water to discuss the previous proposed routes, tree removal methods, and timelines of the Project. This discussion focused on the negative impacts to Gilpin County and there being no benefits to Gilpin County and its residents. We requested a fair and objective review and resolution of the concerns Gilpin County and other impacted communities have expressed related to this Project. Here are a some of the Project impacts that the route through Gilpin County has not yet addressed:

State Highway 119 is the one and only north-south thoroughfare through Gilpin County. It is one lane of travel in each direction with no pull-out passing lanes. The added traffic of fully loaded logging or chip box trucks will impede the flow of other vehicles on this route for residents commuting to work or to services below. Should there be an accident involving or resulting from a Project truck, it would likely mean lane or highway closures.

Impact on residents living along the proposed route. Many homes are situated less than 70 feet from the highway. The additional noise, pollution, and visual traffic from logging trucks passing by throughout the day from months to years will impact residents' lives and the peaceful enjoyment residents are accustomed to in a rural mountain community.

Impact on business revenue and our county economy. Gilpin County and the cities of Black Hawk and Central are dependent on tourism and casino patrons visiting their businesses contributing to a healthy economy. The cities are in a designated State Historic District. SH 119 serves as a major route for the millions of visitors for the recreation opportunities in Gilpin County, including the casinos, which generate significant revenue for the County and the State. Logging trucks passing through these communities will have a large impact on access for tourists. It is anticipated that significantly fewer tourists will visit these communities once aware of the logging trucks during business hours when one-lane roads are the only paths to, and through, these locations.

State Highway 119 is Colorado's oldest American Scenic Byway attracting recreational tourists to Gilpin County. Recreationalists depend on access to creeks to fish, to state forest roads and trails, to historic sites, and across Gilpin County to reach local businesses situated along and off the highway. Logging trucks moving along the Scenic Byway will detract from visitors' enjoyment of a rural mountain experience. It will also put wildlife randomly crossing Highway 119 at greater risk of lethal accidents. Gilpin County is home to moose, elk, deer, bears, bobcats, mountain lions, coyotes, nesting raptors, and smaller animals who all would be affected by the logging trucks. There are many motorcyclists who enjoy riding along the Peak to Peak Scenic Byway who would be at greater risk trying to pass the trucks as there are only a few passing lanes on Highway 119. During peak aspen viewing months the tourist traffic spikes with drivers parking and pedestrians walking along the highway right of ways.

Incongruence between the size of logging trucks with the single lane roads in the cities. The narrow, winding roads with sharp turns and multiple stops in historic Black Hawk and Central City to access the Central City Parkway are not suited to large logging trucks. Pedestrians will be at risk as businesses with on-street parking narrow the roads even further. Passenger loading zones and parking entrances are located along these small-town roads.

Central City Parkway access from the city and mileage is owned by the City of Central which informed Denver Water and the County in the April 6 meeting that Central City would need to grant the Project special use permission for truckers to use it as a route to Interstate 70. This application would need to be made to Central City and approved by the City Council. The next portion of the Parkway is under ownership of Clear Creek County. The Parkway is not a state or county road thus has its own rules of use.

Potential for accidents and increased demands on our local first responders. As a rural mountain county, the two small cities and the county have basic responder services, no urgent care center, and are an hour's distance from a medical facility. With the increase in potential accidents caused by multiple logging trucks a day, the burden on Gilpin County's ambulance, fire and first responders would be taxed. The risk also exists for injuries to the driver and passengers in the logging truck along lengthy routes which the Project proposes.


We are also concerned about impacts to other roads serving Gilpin County. Coal Creek Canyon (CO 72) is the state highway that serves our residents in northern Gilpin County. Truck traffic will impact traffic flow for commuting residents and tourists, plus pose the aforementioned safety risks to people and wildlife.


Gilpin County submitted a letter of concern in December 2020 regarding environmental, wildlife, and residential impacts. More direct, safer, less polluting, wider, and more eco-friendly routes are available for transporting tree materials from the Project. We suggest using Landing zone 3 more and barge possibility across the reservoir so traffic would not need to enter Gilpin. An alternative identified is use of the Union Pacific's Moffat Tunnel Subdivision rail line which travels west from Denver and comes very near Gross Reservoir where it crosses and is accessible from Gross Dam Road. This rail line travels close to SH 72 and SH 93 and crosses those highways at various locations providing access points for loading biomass or equipment for transport south or north on SH 93, or to I-70. As currently proposed, biomass destined for the Longmont area will travel an additional 90 miles, approximately 30 miles of which is through Gilpin County, to avoid a direct route to the north through Boulder, plus using SH 93 to I-70 is more direct.

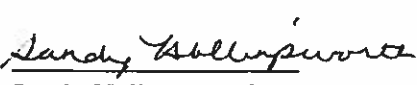
We understand this proposed Project will impact several communities. We respectfully request that our opposition to the proposed Tree Removal Plan be noted and the proposed route through Gilpin County be abandoned for the reasons outlined above. With alternate routes to the north and east of Gilpin County already identified in the Project we ask that those routes be implemented instead.

Sincerely,

Gilpin County Board of County Commissioners


Linda Isenhart, Chair,
Commissioner, District 2


Web Still
Commissioner, District 1


Sandy Hollingsworth
Commissioner, District 3



Community Planning & Permitting

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TO: Summer Frederick, CP&P Development Review
FROM: Hannah Hippely, CP&P Long Range Planning
RE: Re-referral 2 SI-20-0003, Gross Reservoir & Dam Expansion project at 3817 Gross Dam Road, at parcel 157928000006.
DATE: June 3, 2021

In response to previous referral comments Denver Water submitted additional materials and information for review (dated 5/11/2021). These comments address only the new information provided, which was requested previously, and these comments supplement the previous comments which remain valid.

The transportation impacts of this project are anticipated to be significant and enduring for years. These impacts are not only traffic related but also result in the emissions of climate impacting greenhouse gasses and impacting local air quality. The Comprehensive Plan Goal 4 of the Sustainability Element directs the County to reduce such emissions. Transportation Element policies direct the County to Design Complete Corridors (TR1.02), Prioritize Travel Corridors (TR 3.01), Enhance the Bicycle and Pedestrian Network (TR 1.03), Encourage Alternative Transportation (TR2.02), Reduce Single-Occupant-Vehicle Travel (TR 4.01), Minimize reliance on Fossil Fuels (Goal 5), and Promote Public Safety (TR 6.04). Coal Creek Canyon (HWY 72) is a narrow winding corridor that provides one of only a few access points into the region along and beyond the corridor and the tree removal plan impacts rural county roads and potentially HWY 119 into Boulder. The anticipated traffic impacts from this project conflict with these stated goals and policies.

Denver water has been asked what they are doing to address the sustainability and traffic impact concerns related to transportation? In the previous response Denver Water indicated that they would address traffic impacts in a final Traffic Management Plan (TMP). A Draft TMP was provided in this most recent set of documents. However, this plan makes no firm commitments to any measure which would minimize the impacts of construction-related traffic on local traffic, residents, and visitors to the project area. The language of Section 6 Traffic Impact Minimization Strategies includes no firm commitments to strategies which would reduce trips nor data about how the identified measures will reduce impacts. Transportation demand management strategies can be effective, but they must be developed in a way that minimizes SOV trips (bussing over carpooling) and should be required rather than “encouraged”. Flagstaff Road is identified as a workforce route, but no strategies are presented for managing transportation demand along this route only the staging area at SH72/SH 93 is considered as a potential area for implementing TDM for workers using SH 72. Within the same section a staging area is identified for use in supporting bussing and carpooling (amongst other uses) but, it is not clear how the creation of a staging area is a traffic impact minimization strategy on its own. Additional details regarding the program for managing fly ash and cement deliveries and how this would minimize transportation impacts should be provided. If a program to control the time of day, frequency, and number of delivery trucks in each run, etc. were developed this could potentially contribute to traffic impact mitigation but no details on this delivery management concept was provided. The no haul day concept should also be further developed and presented as part of this application so

the traffic impacts of the project and the ways these impacts will be mitigated are understood by the public and decision makers. How is the no haul days concept different from the proposal to manage deliveries, wouldn't the no haul days concept be part of the delivery management strategy? The Draft TMP indicates that having multiple routes for tree removal is a traffic minimization strategy staff finds this difficult to understand because the tree removal plan itself generates significant traffic impacts. For example, if traffic were not directed to the west no transportation impacts would be incurred in that area. However, the tree removal plan is the driving force behind the transportation impacts to the west including a route north and then east on HWY 119 into Boulder (Figure 6). To say that the plan creating the impacts which need to be mitigated is the mitigation measure does nothing to address the actual anticipated impacts. A tree removal plan that does not create such extensive transportation impacts should be developed and/or measures to mitigate the traffic impacts resulting from the plan should be developed.

The Draft TMP does not address sustainability concerns in any way.



Public Health

Environmental Health Division

June 3, 2021

TO: Staff Planner, Land Use Department

FROM: Erin Dodge, Water Quality Coordinator

SUBJECT: SI-20-0003: Gross Reservoir & Dam Expansion project

OWNER: Denver Water Board City & County of Denver

PROPERTY ADDRESS: 3817 Gross Dam Road, at parcel 157928000006

SEC-TOWN-RANGE: 28 -1S -71

The Boulder County Public Health (BCPH) – Environmental Health division has reviewed the submittals for the above referenced docket and has the following comments.

Air Quality:

1. Modelling in the permit application package show that dust and emissions will be within allowable limits during the construction of the project. Boulder County would like to see the plans that detail the actions that will be taken to ensure these results.
2. While there will be tree removal in the areas to be flooded by the expanded reservoir, a significant amount of vegetative and organ material will remain. Has there been any analysis to quantify the expected releases of methane and hydrogen sulfide that result from the decomposition of this material?
3. Has there been a long-term analysis of the impacts to flora and fauna in the watershed surrounding the reservoir because of increased surface areas of water? Specifically, will there be increased humidity or other conditions that significantly impact the micro-climate in the region?

Drinking Water/Health Equity/Groundwater

In consideration of Article 8 Section 202 B. 3, 6,7, and 8:

1. In Exhibit 2, Denver Water's (DW) Integrated Resource Plan, and much of the supporting data are more than 20 years old, dating back to the late 90's. Much of the additional information recently provided referenced detailed plans. Are there updated documents or plans that better reflect current conservation, supply and infrastructure management and process for setting and reviewing rates? After reviewing the additional information provided, it was not demonstrated if water conservation plans will prevent rebound effect of more supply - less conservation.

2. Data from studies in 2006 and 2010 appear to be the basis for all assessments and modeling for impacts to groundwater in the FEIS. The FEIS was completed in April 2014, just after significant flooding event in Boulder County. Were potential changes to groundwater considered in the analysis? Private household wells were mentioned in the report however potential impacts to these wells from pollutants or changes in yield were not clearly addressed.

This concludes comments from the Public Health – Environmental Health division at this time. If you have additional questions, please do not hesitate to contact Erin Dodge at (303) 441-1241.

Cc: OWTS file, owner, Community Planning and Permitting Department



Parks & Open Space

5201 St. Vrain Road • Longmont, CO 80503
303-678-6200 • POSinfo@bouldercounty.org
www.BoulderCountyOpenSpace.org

TO:	Summer Frederick, Planning Manager, CP&P
FROM:	Ron West & Jeff Moline, Planning Division
RE:	SU-20-0001, Gross Reservoir Expansion, Third Submittal
DATE:	June 1, 2021

Staff reiterates that the information submitted in Denver Water’s original 1041 application, and subsequently submitted materials, are inadequate for thorough 1041 analysis, as well as to ensure that 1041 standards are met with respect to environmental resources.

The following comments do not summarize all POS referral comments. The earlier memos -- dated December 17, 2020, and March 29, 2021 -- are incorporated here by reference.

The following submittal materials continue to lack information necessary for 1041 review:

1. Field inventories for the 12 plant species referenced on page 3 of the April 1, 2021, memo from Andy Herb, AlpineEco, to Brian Gogas, Denver Water.

Staff notes that the 2010 plant field inventories were largely limited to “presence/absence” surveys. Such surveys are not adequate to analyze impacts to these species. Additionally, four of these species were not even considered in the 2010 targeted surveys, and thus even presence/absence data is lacking.

Attachment A of this memo is a list of “Plant species of special concern potentially occurring in the Gross Reservoir expansion area.” The above 12 species are included, however there are an additional 23 species that are classed as “3,” which means that they are “potentially present,” and that, according to the attachment, there is “No documentation of presence.” Yet of these 23, 18 species were not even included in the targeted presence/absence field work, so “no documentation of presence” cannot be determined.

Two examples are worth noting – both *Carex saximontana* and *Carex torreyi* are known from Boulder County, and the Colorado Natural Heritage Program (CNHP) considers both to be “critically imperiled” in the state. Habitats for these two species, again from Attachment A, is “woodlands and dry canyons,” and “gulches in outer foothills near Boulder,” respectively. These are very much like habitats near Gross Reservoir.

Denver Water’s April 28, 2021, response to agency referral comments states that a “Special Status Plants Relocation Plan” will be completed at some time in the future. This is not adequate to evaluate impacts under the 1041 regulations at this time. The memo also states that, “...plant species of local concern” will be addressed then, yet field surveys for up to 22 species, based on the above discussion (4 + 18 species), have never occurred, and the other species have only had presence/absence information collected, which again is inadequate to analyze impacts.

In Table 2 of this memo, 35 plant community types of local/county concern are identified as known or likely to occur. These community types were not considered, or surveyed, or addressed in any of the EIS documents. Of these 35 communities, 13 are considered by CNHP to be “critically imperiled” (S1) or “imperiled” (S2) in the state. Yet for a project that would eliminate 465 acres of riparian and upland communities, these communities were neither considered nor inventoried.

Article 8-507-D-b-iv requires that the application, “Describes the impacts and net effect that the activity would have on terrestrial...plant life.” The current studies do not meet this standard.

2. Field inventories for select county-concern wildlife species also were not completed. The most important example is Preble’s Meadow Jumping Mouse (PMJM) – a federally-threatened species. Page 2 of the March 29, 2021, POS comments states, “Staff’s assessment is that suitable habitat is present in the project area. In addition, in the 2006 USFWS letter they state, ‘Should additional information regarding listed or proposed species become available, this determination may be reconsidered under the ESA.’ Recent Boulder County captures of Preble’s [on the adjacent Walker Ranch] is additional information and warrants further investigation.” Yet Denver Water’s April memo states that, “Reinitiated consultation with the [USFWS]...is not warranted.”

Staff continues to assert that suitable habitat is present and that the applicant should survey for the mouse. The successful trapping of PMJM on Walker Ranch clearly shows that it could inhabit the riparian areas to be flooded by the reservoir expansion. The Gross Reservoir riparian areas are only two to three miles distant from the known population, and only 200 vertical feet higher in elevation.

However, *regardless* of whether the USFWS endangered species process should be reconsidered, a field inventory for PMJM is still required under the 1041 regulations. For projects located in Natural Resource Areas of statewide importance (the shore lines of Gross Reservoir are such), Article 8-507-D-5 states that the application materials must include a) “A survey of habitat of applicable species,” and b) “...an analysis of the effects of the proposed development upon wildlife species within the designated wildlife habitat.” Analysis of effects is impossible to determine without a trapping survey for PMJM.

Article 8-511-B-5-f also addresses impacts to terrestrial wildlife and specifically to endangered species, including “Changes to habitat...including...any other habitat features necessary for the protection...of any terrestrial animals,” and “Changes in number of threatened or endangered species.”

At Article 8-507-D-7-b-vi-A, it is required to “...detail the potential impact of the proposal upon... Environmental Resources as defined in Article 18.” Article 18 defines Environmental Resources as including the Comprehensive Plan mapped resources as well as “Boulder County Species of Special Concern.” As documented in earlier POS referrals, there is also a large number of county wildlife species of special concern that have not been addressed nor inventoried.

Page 10 of the April 28 document from Denver Water states that, “The resource studies and surveys completed for federal and state agency reviews were comprehensive and provide a sufficient basis for Boulder County to review the Project’s effects to plant and animal resources....” And further that, “We believe...field surveys of federal species is an adequate

assessment of sensitive species within the inundation area.” Based on the above discussion of 1041 requirements, staff still requires further information to thoroughly conduct its review.

3. Article 8 requires that impacts to “Public outdoor recreation and open space areas” be addressed (at 8-507-D-7-b-vi-A). The county’s Walker Ranch open space is adjacent to Denver Water property, and the reservoir dam itself is only about 1500 feet from the closest part of Walker Ranch. With the enlargement of the reservoir, and the expected increase in visitation to Denver Water properties and adjacent US Forest Service lands, there will be unavoidable increased impacts to visitation at Walker Ranch.

However, Denver Water’s April 15, 2021, draft Recreation Management Plan mentions Walker Ranch a single time, in reference to the September 2000 wildfire. The actual 1041 application has a short descriptive paragraph about Walker Ranch, mentions the Walker Ranch homestead structures as cultural resources, and correctly states that Flagstaff Road, a county road that runs through Walker Ranch, is the primary access route to Gross Reservoir for the public.

From an indirect impacts point of view, increased visitation to the reservoir and adjacent federal lands, and increased public traffic on Flagstaff Road, will certainly impact the county park. The federal definition of indirect impacts is that they are “caused by the action and are later in time or farther removed in distance.” Indirect impacts to Walker Ranch would be caused by a dam expansion. Finally, cumulative impacts have not been described and analyzed in the application, nor in subsequent materials.

4. As stated in the March 29 POS referral memo, Denver Water is required to prepare an addendum to the current Visual Resource Protection Plan. Staff believes more information is necessary to address 1041 criteria pertaining to visual impacts. The submitted “Visual Simulations from Key Locations” are rudimentary and insufficient, and the set of “key locations” implies that the new eastern dam face would only be visible from very limited locations.

A standard GIS scenic “viewshed” analysis must be completed, that shows the terrain from which the dam will be visible. This is a basic analysis for any visual impact study. This will likely show that a large dam expansion will be significantly more visible from many areas, including parts of Walker Ranch, Eldorado Canyon State Park, and private lands. One of the most visible public views will be from passenger train service on the nearby railroad line; to staff’s knowledge this has not been addressed.

Staff finds that the visual resources of the area would be impacted by: a) the inundation of 465 acres of the landscape, and its replacement with a significantly-expanded drawdown area, or “bathtub ring” for much of the year; b) the inundation of the Forsythe Canyon waterfall; and c) increasing the dam height by 131 vertical feet, and nearly doubling the width of the crest to 1940 feet. These would significantly degrade viewsheds and scenic vistas.

Toll Property. Given snow conditions, staff has not had an opportunity to visit the property to confirm resource values in the field. Staff remains concerned with how Denver Water would

ensure the protection of these values, by transferring title. It is the responsibility of the applicant to guarantee protection of these resources in perpetuity.

Quarry Operations and Reclamation plans. Except for the plant species noted below, staff has no significant comments on these documents. The former plan is mostly an extensive effort in engineering and construction, while the latter plan is largely adequate.

The following plant species cannot be used for revegetation; they are not native to Boulder County (see p. 25 in the Reclamation Plan).

- *Bromus marginatus*
- *Poa compressa*
- *Pseudoroegneria spicata* (this is a W. Slope species; *Elymus lanceolatus* would be acceptable)
- *Thinopyrum intermedium*
- *Echinacea purpurea* (this is horticultural; *E. angustifolia* would be acceptable)
- *Penstemon strictus* (many other, native penstemons would be acceptable)

May 23rd, 2021

Re: Gross Réservoir Expansion, Docket SI-20-0003

Dear Boulder County Commissioners,

PUMA (Preserve Unique Magnolia Association) would like to declare its strong objection to the Gross Reservoir Expansion Project by the Denver Water Corporation. PUMA, with the input, authorship and support of hundreds of Magnolia Road area residents, created the Magnolia Environmental Preservation Plan (MEPP) with the express intent of preserving our environment as is. Presented to Boulder County, it was accepted as an official document to be referred to when circumstances arise. A web copy can be viewed at plantsofmagnolia.net/pumaweb/Mepp/MeppSummary.htm

Contrary to their latest Cover Letter of 4/28/21 Denver Water Inc. has continuously brushed aside serious, well informed concerns and ignored scientific inadequacies around the project brought forward by Magnolia area residents, and Boulder County itself. These issues are way beyond the degree of “disturbances to the neighbors” as Denver Water Inc. has referred to them.

In Denver Water Inc.’s latest set of responses to comments submitted in February and April 2021 they once again failed to deal with the substance of the concerns and choose instead to provide generic comments that fall in one of the five categories below:

- We will be developing a [fill-in-the-blank] Plan in the future that will deal with this.
- We addressed this question in our SEA submitted to FERC several years ago and they approved the project so it is OK.
- We will follow local and state regulations about this matter.
- We will take that into account. [They haven’t taken it into account in the last 18 years, so why believe them now?]
- No response at all.

May 23rd, 2021

While Federal Agencies may accept generic responses like this to fulfill the requirement of “responding,” this method shows Denver Water Inc.’s unwillingness to actually answer the question, or truly be held accountable for what they intend to do.

In their Cover Letter of 4/28/21 Denver Water Inc., with arrogance, informs Boulder County that the County cannot require Denver Water Inc. to present any new analysis on water demand, purpose and need for the project, or less damaging alternatives, and that they do not have the time to do so given the time limit on their FERC permit. The fact that Denver Water Inc. does not have current data available for water demand, and hence purpose and need for the project is 1) far-fetched, considering their job is to manage water supply and demand, and 2) it is not Boulder County’s problem that Denver Water Inc. knowingly neglected to prepare this analysis and began by obtaining other permits that limited their choices. Having current analysis on Denver’s water demand, and hence the purpose and need of this massive project, as well as less damaging alternatives is a corner stone in Boulder County’s ability to review the merits of this permit. We fully support Boulder County in upholding all of the County’s 1041 rights and requirements as spelled out in the Boulder Count Land Use Code. Denver Water Inc.’s refusal to comply with the County’s request for this analysis should render their 1041 application “incomplete”.

Updated data on current water use, as well as availability of future water is fundamental in ascertaining whether or not this project is even viable given the already severe effects of Climate Change on the Colorado River.

“In January [2021], a study by the Bureau of Reclamation estimated that Lake Powell could dip below a crisis threshold by 2022...the Upper Basin states have long planned increased water use — water that the over-allocated basin can’t afford — thereby increasing the likelihood, according to the study, of a situation where the Lower Basin states would not receive their fair share of water. The result would be a “call” on the river, with the Lower Basin states demanding more water and legally mandated cutbacks for more junior water users higher on the river, including the city of Denver.” - High Country News, Feb 24th, 2021. [A similar article also appeared in March 2021 in the NYTimes.]

May 23rd, 2021

In light of the reality of climate change Denver Water Inc. must prove to Boulder County that in the near future they will actually have access to the water they claim will fill the expanded reservoir. Otherwise all Boulder County has to consider is whether or not to give Denver Water a permit to build a massive monument to climate change denial within Boulder County.

Among the other facts that Denver Water Inc. has ignored in their latest submissions is that of the physical reality of their main logging route on the west side of the Reservoir.

In their Draft EIS a dozen years ago, Denver Water Inc. stated that access to Gross Reservoir from the west could be via CR 97E “which turns into” FS 359. That has always been false. The two roads are horizontally separated by 800 feet. What Denver Water Inc.’s Stantec consultants are particularly unaware of, however, is not just the horizontal separation of the two roads – which they recently became aware of – but that there is a 200 foot **vertical** separation of the roads. So Denver Water Inc. have proposed, in a sentence or two, a 0.15 mile long connector road between the two. But that road would have a greater than 25% grade! There is currently a steep hiking trail down that grade. Two decades ago the USFS closed off that route entirely to motor vehicles due to the steepness and inaccessibility.

Appendix F of the Tree Removal Plan mentions, and shows a “conceptual diagram” of this connector “access road.” It says that the jeep trail is called FR 359.1C and is steep, has grades “up to 21%” (in fact the *average* grade is 25% for an 800 ft. long road, based on Google Earth so parts must be even steeper), says that a new road will not have grades exceeding 15% (roughly as steep as the last 2 miles of Magnolia Road as it descends to Canyon), and shows a diagram of the existing route, not the much longer route that would be required. Meanwhile on page 20 of the Tree Removal Plan, Denver Water Inc. notes concern for the steepness of CR 97 for the same logging traffic.

Not only is this logging route proposal incompetent and absurd, it illustrates the lack of serious professionalism that pervades this entire 1041 Application. Connecting FR 359 and CR 97E would require constructing a connector road close to a mile long that they don’t even realize they need. So there aren’t even simple engineering sketches of this major project in the documents submitted to Boulder County.

May 23rd, 2021

Denver Water Inc.'s attitude of "dealing with it later" also pervades their recreation plan, which generally spells out the existing and anticipated issues on the west side of Gross Reservoir very well including: significant impacts from visitation, exacerbated development of illegal campsites, human and trash waste without appropriate facilities, lack of enforcement personnel due to commute from the east side of the reservoir, and no enforcement after hours when there are regular reports of illegal campfires. Denver Water Inc.'s solution? A Recreation Adaptive Management Plan (RAMP) (to be developed later) to address issues that "may arise." Denver Water Inc. also relies on the USFS for current and/or potential management of trails and campsites, without any recognition that this is entirely unrealistic for the USFS, who is very short on personnel. These "sometime in the future" plans are unacceptable considering Denver Water Inc. is already fully anticipating the issues.

The few issues we have outlined above illustrate Denver Water Inc.'s general lack of care, or downright refusal to use pertinent data and facts. For over a decade Magnolia Residents have participated in the lengthy review process for the Gross Reservoir Expansion. Today we are as strongly opposed to this project, which would overturn decades of environmental values and policy in Boulder County for a project based on outdated data and a refusal to accept climate science, as we were more than a decade ago. We urge you to uphold all of Boulder County's 1041 requirements and reject Denver Water Inc.'s 1041 application as incomplete.

Sincerely,

PUMA

Preserve Unique Magnolia Association

plantsofmagnolia.net/pumaweb

From: [Stop Gross Dam Expansion](#)
To: [Frederick, Summer](#)
Subject: TEG Comments for Re-Referral for SI-20-0003
Date: Sunday, May 23, 2021 7:36:02 PM
Attachments: [image003.png](#)
[TEG Comments 5.23.21 Final.pdf](#)
[Gross Reservoir and Dam Polling Data to share.pdf](#)

Hello Summer,

Per Anna's instructions, please find attached two documents related to the most recent submittals by Denver Water: Re-Referral for SI-20-0003.

1. Comments from the TEG Board on the documents submitted.
2. A summary of polling data. We refer to this data in our comments. We hired a professional polling agency to conduct a poll of Boulder County registered voters in the summer of 2018. The survey set out to measure existing public opinion of the Gross Reservoir Expansion project. The results of the poll were provided to the Boulder County Commissioners in 2018. But since we have new commissioners now and some staff turnover, we felt it would be appropriate to share this data again.

Thank you as always for your hard work on this issue.

Bev Kurtz
President, TEG



----- Forwarded message -----

From: **Milner, Anna** <amilner@bouldercounty.org>
Date: Tue, May 11, 2021 at 12:15 PM
Subject: RE: Re-Referral for SI-20-0003, Gross Reservoir & Dam Expansion project at 3817 Gross Dam Road, at parcel 157928000006

Please find attached the electronic Re-Referral memo for *SI-20-0003, Gross Reservoir & Dam Expansion* project.

Please visit www.boco.org/GrossReservoir to access the complete application materials.

Please return responses and direct any questions to [Summer Frederick](#) by *May 25, 2021*. (Boulder County internal departments and agencies: Please attach the referral comments in Accela.)

Best Regards,

Anna

Anna Milner | Admin. Lead Tech.

Boulder County Community Planning & Permitting

Pronouns: she/her/hers

Physical address: 2045 13th St., Boulder CO 80302

Mailing address: PO Box 471, Boulder, CO 80306

(720) 564-2638 (Direct)

amilner@bouldercounty.org

www.bouldercounty.org



Due to COVID-19, the Boulder County Community Planning & Permitting Department is conducting business and providing services virtually. Our physical office in Boulder is currently closed to the public. Please visit us online at <https://www.boco.org/cpp> for more information.

METHODOLOGY

A poll was conducted among registered voters in Boulder County. The survey was conducted between July 18th and July 22th, 2018, with a sample size of 402 and a margin of error of +/- 4.9%.

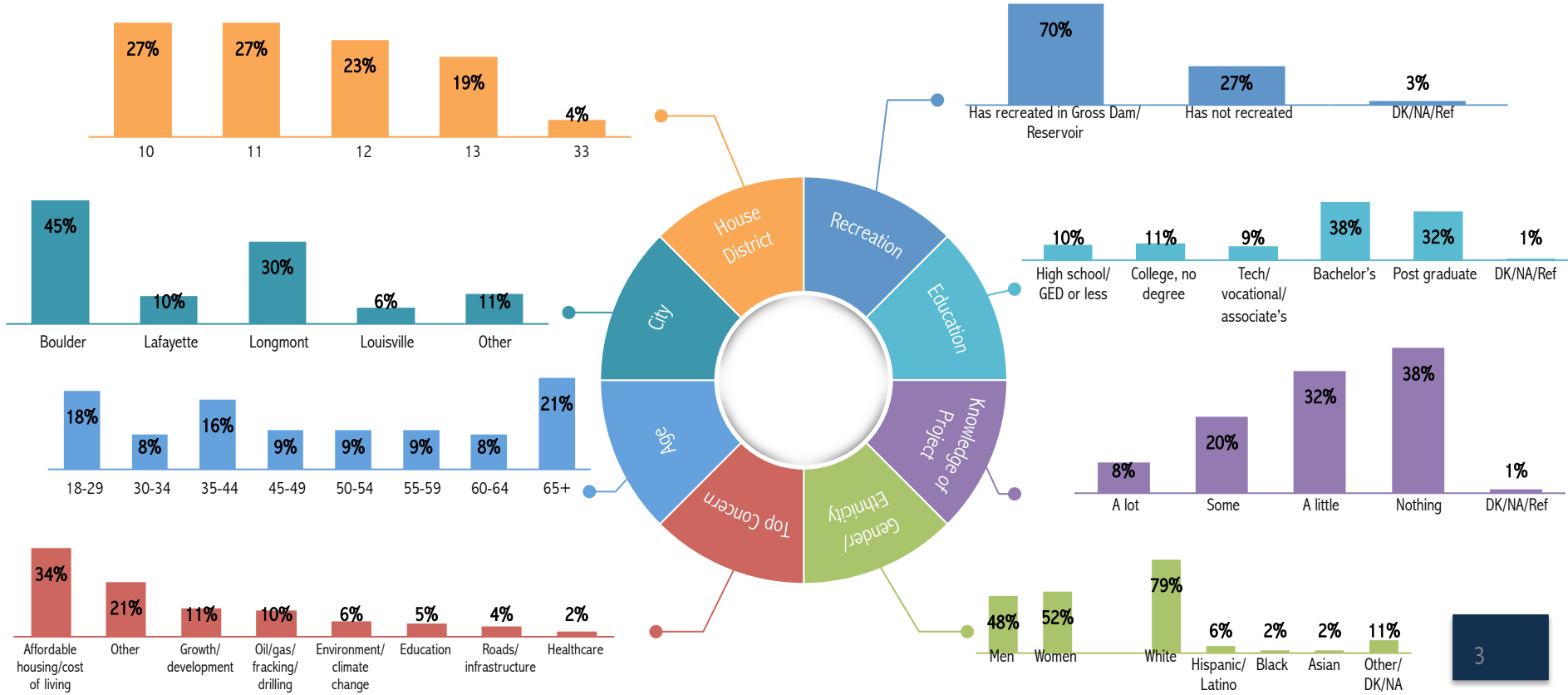
THE SURVEY

A poll was conducted among registered voters in Boulder County. The survey was conducted between July 18th and July 22th, 2018, with a sample size of 402 and a margin of error of +/- 4.9%.

The survey set out to measure existing public opinion of the Gross Reservoir and Dam Expansion Project, and to determine how opinion changes as respondents learn more about the project.

Findings indicate that Boulder residents were inclined to object to the expansion project initially, but were largely unaware of the situation. After learning more, opposition solidified into a strong majority. Opposition is largely motivated by concerns over the environmental impact, including detrimental effects for both wildlife (habitat loss) and humans.

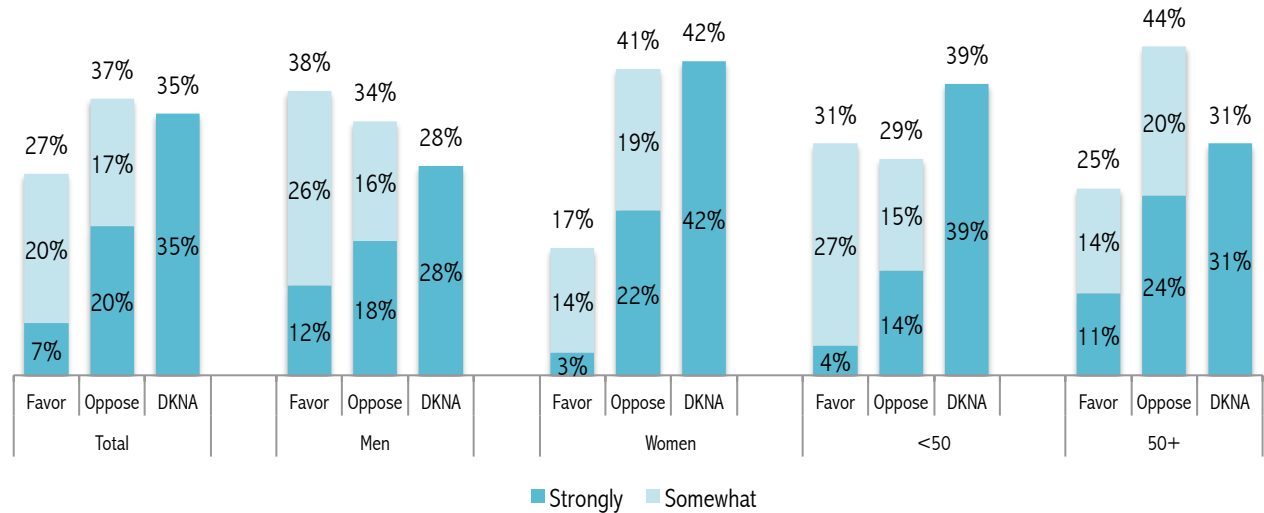
RESPONDENT PROFILES



INITIAL OPINIONS

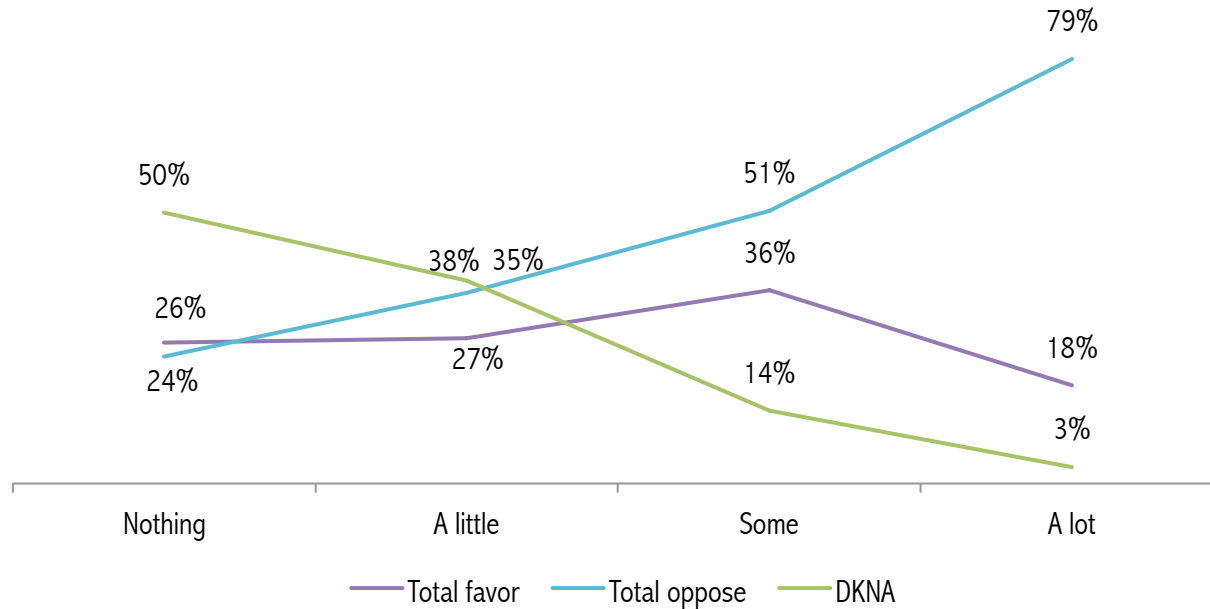
Respondents were initially asked the following: “Based on what you know about the project, do you favor or oppose the expansion of the Gross Reservoir and Gross Dam?”

Those who “opposed” led those who “favored” by 10 points. Women and older people were more likely to oppose the dam than men and younger people. The greater opposition among older people is likely due to their greater initial knowledge of the project.



KNOWLEDGE = OPPOSITION

Based on what you know about the project, do you favor or oppose the expansion of the Gross Reservoir and Gross Dam?

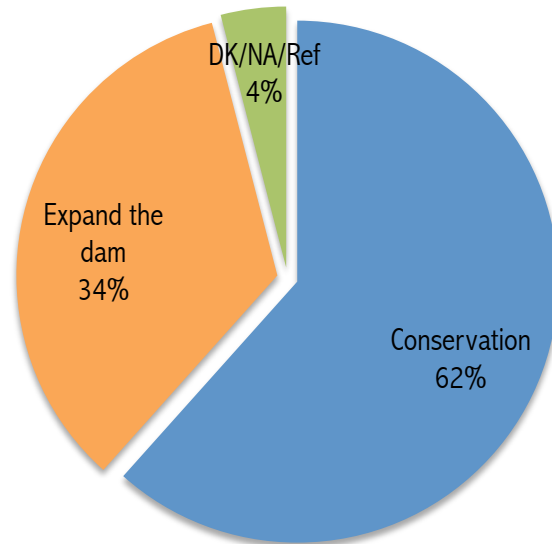


As knowledge increases, support decreases. 79% of those who know a lot about the expansion project oppose it. As expected, DKNA (Don't Know/ NA) also drops with increased awareness of the issue, from 50% to 3%.

WHAT DO YOU THINK?

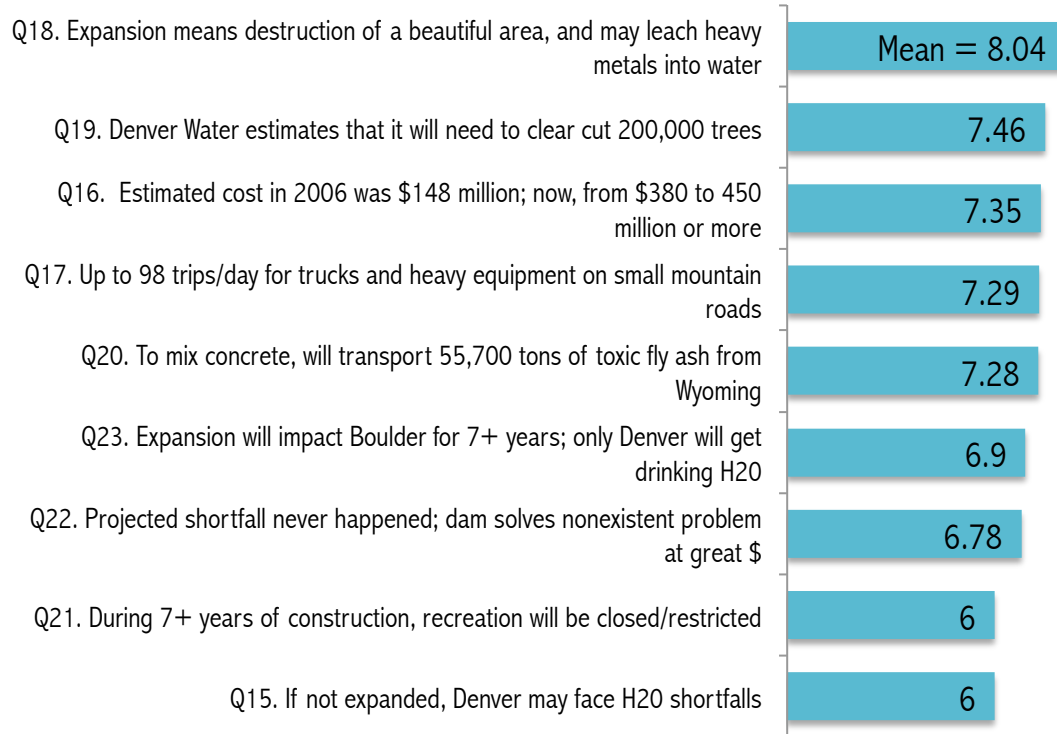
Respondents were asked to say which of two statements more closely met their viewpoint

1. *Rather than spending 380-450 million dollars or more on the dam expansion and threatening our local environment, we should concentrate our efforts on water conservation in the Denver area, which has already helped deter an expected shortfall despite a rising population.*
OR
2. *As the population on the Front Range continues to grow, we must take action now to prevent water shortages in the future. Enacting a carefully-considered project like the Gross Reservoir and Gross Dam expansion is a better bet than hoping that we won't have a critical water shortage in 20-30 years.*



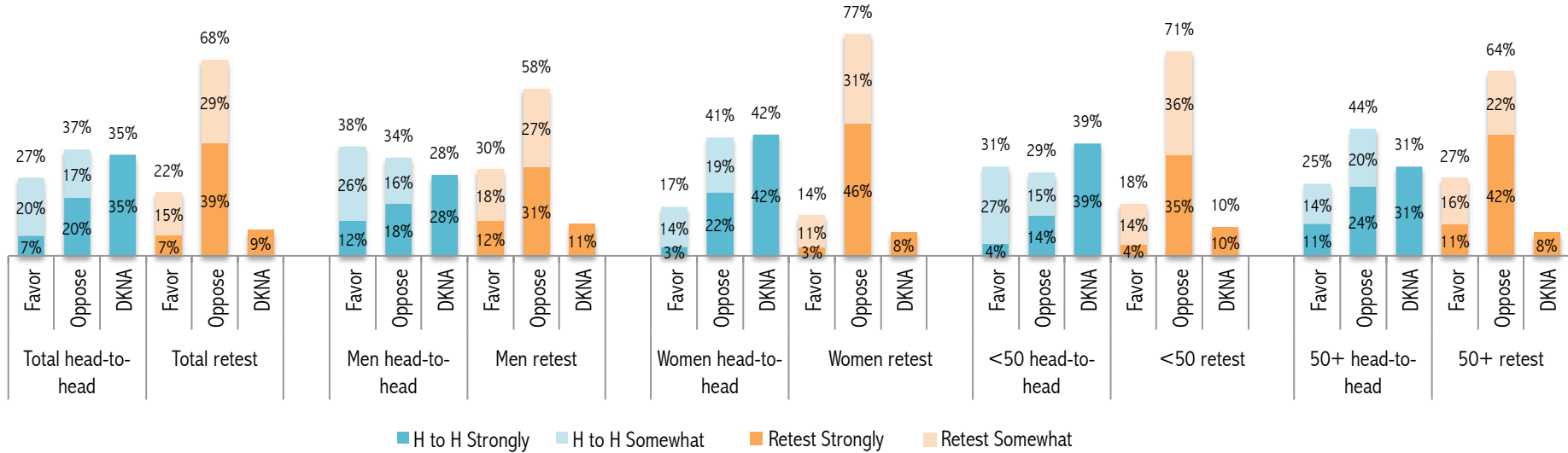
Specific Concerns

This data identifies which specific issues are of the most concern to respondents.



RETEST

After getting a little information about the project, respondents were asked again if they favored or opposed the expansion of the Gross Reservoir and Gross Dam.



Opposition rises across all demographics. Most of the increase comes from a drop in the high initial DKNA responses. This suggests that the more people know about the issue, the more they oppose it, which bears out the results from the initial head-to-head among respondents who knew a lot about the issue.



THE ENVIRONMENTAL GROUP

Environmental Activism for Your Community and Beyond

Date: May 21, 2021

To: Boulder County Commissioners P.O. Box 471 Boulder, CO 80306

Re. Input on Denver Water's Gross Reservoir 1041 Application

Transmitted via email

Dear Boulder County Commissioners,

We are disappointed, although not surprised, to find that Denver Water's latest responses to requests for a more complete 1041 Application are insufficient to address the issues at hand. Their message is clear: they are not going to allow Boulder County to meet their responsibility to oversee this massive project. Rather they refer time and time again to the decisions made by the Army Corps of Engineers and FERC. Decisions that were based on outdated science and data and that are currently being challenged in Federal Court.

"To be clear, at this stage of the process, there is no new alternative that Denver Water or the County can consider. Nor can Denver Water disregard the plan submission and construction deadlines imposed by FERC's order; the schedule is not merely Denver Water's "preferred timeline," but the timeline dictated by the federal authorization for the GRE Project. Denver Water therefore must again decline to revisit as part of this 1041 process the water demand and other analyses underlying the purpose and need for, and alternatives to, the GRE Project, which are integral to the final federal approvals and no longer subject to challenge."

We found the tone of the cover letter to the latest submission to be dismissive and condescending. We also noted that Denver Water suggested that the County might be able to receive monetary compensation for their cooperation (as Grand County did years ago). *"For example, we would be open to discussing with BCPOS opportunities for land preservation or an in-kind of monetary contribution by Denver Water to support the County's habitat management, conservation, research, and restoration goals for the protection of wildlife habitat and plant species of local concern."*

Many people in Grand County are outraged by the "deal with the devil" made between their commissioners and Denver Water. We urge the County not to give in to pressure from this entity, but rather to continue to fight for what is right for our county and for the good of the Colorado River and the environment as a whole.

As you are aware, we represent the majority of residents impacted by this proposed expansion project as well as the 80% of polled county residents who vehemently oppose this project (please see summary poll information submitted under separate cover). The Colorado 1041

process was established exactly for this type of situation – to enable local governments to stand up to hugely destructive projects from external entities. We are so grateful that the county has been diligent in protecting our interests and our environment as Denver Water has continued to push this ridiculous project forward inch by inch over the last 20 years. We implore you to remain steadfast in mandating compliance with Boulder County’s 1041 regulations.

Comments on Denver Water’s responses to Climate Change

How climate change will impact stream flow in the Upper Colorado River Basins (including the Fraser and Williams Fork Rivers) should be of the utmost importance to Denver Water since the efficacy of the Moffat Project rests on these flows.

The Corps states in Attachment B of the ROD that it does not interfere with implementing state water rights or interstate compacts. Rather, the Bureau of Reclamation is the regulatory agency that is working on the Colorado River Basin Compact issue. The Corps assumes that project proponents “*possess or will possess the requisite property interest [e.g. water rights] to undertake the activity proposed in the application.*” The Corps then states that it has reviewed two CWCB documents (2012 and 2014) to assess climate change impacts for the Moffat Project, which decided that there was no need to address this issue further.

However, the Phase III Colorado Risk Study by Hydros¹ (2018) and the Alternative Management Paradigms² (Wheeler 2021) documents were not available during preparation of the ROD. The first evaluates which water rights are at most risk under a Colorado Compact Call. Hydros points out that trans-basin diversions represent a large portion of Colorado’s water rights that are junior to the compact date and are therefore at higher risk of curtailment during a compact call. We summarized the second paper in a submittal to the Docket on 3/3/21, including that:

1. Demand projections in the 2007 Bureau of Reclamation Study are vastly over-estimated. More realistic demand projections are essential for planning purposes.
2. Reclamation hydrologic models of the Colorado River water supply system utilize 20th century flows (1906 to 1999) that, though variable, do not adequately reflect lower flows of the post-2000 “Millenium Drought,” the 1953 drought, the more severe paleo-drought (1576), and predicted reduction in Colorado River flows caused by climate change.
3. “Since the onset of the Millenium Drought in 2000, it has become clear that the Colorado River System is in a tenuous mass balance where demands are met by a combination of historically low inflows, limited conservation commitments by existing users in the Lower Basin and Mexico, and diminishing water in storage. Any further perturbation that reduces inflows, increases demands, or lessens conservation efforts will drive the system to

¹ <https://waterinfo.org/wp-content/uploads/2018/10/West-Slope-BRT-Risk-Study-Phase-II-Task-2-Report-FINAL-8-1-18.pdf>

² https://qcnr.usu.edu/coloradoriver/news/WP6_announce

imbalance with a series of cascading and highly undesirable outcomes including Upper Basin Compact violations, draining Lake Powell and Lake Mead, and large Lower Basin water shortages (page 78).”

Overall, the second paper presents a clear case that, to avoid a compact call under drought conditions, withdrawals from the Colorado River must not increase. Earlier modeling of water availability uses pre-2000 hydrologic conditions. Post-2000 conditions or droughts experienced in the paleo record more adequately represent anticipated future conditions under climate change. To limit the evaluation of the Moffat project to the 1947 to 1991 time period does not address the affects climate change - apparent even in the current Millennium drought - will have on water yields of the Moffat Project. Regardless of permitting, a reduction in water yields would affect the efficacy of the project. To begin to address climate change issues, Denver Water needs to evaluate post-2000 water yields for the project.

Finally, just last week the Colorado River basin managers in Colorado issued a stern warning that both Lake Powell and Lake Mead are expected to soon reach historic lows which mandates draining Upper Basin reservoirs to try and save Lake Powell.³ Thus, building more reservoirs in Colorado to divert even more water, as the Moffat Project would do, flies in the face of federal directives as well as common sense.

Comments on the Quarry Operations Plan:

Quarry Reclamation Design Rainfall

Denver Water’s reclamation plan for the quarry was designed for the 10-year 1-hour rainfall event which has a 10% chance of occurring each year. Though this may be standard practice, climate change is expected to produce not only longer drier droughts but also more intense precipitation events. As example, the 2013 flood occurred over two to three days dropping approximately 12 or more inches of rain during that time. Denver Water needs to describe how the planned quarry reclamation design would function under more stringent conditions and longer-duration storms.

Noise and Vibration Impacts to Local Residents

Noise considerations are very important to local residents at the site. Preliminary noise data from earlier work indicated that, particularly at Miramonte, blasting and drilling at the Osprey quarry would cause noise levels to exceed the 5 dBA increase where changes in noise levels are noticeable to residents. Test drilling and blasting at the site caused noise levels to increase by 26.8 dBA and 52.3 dBA at Miramonte, respectively. Also, when blasting occurred at the quarry outside Eldorado Springs residents would feel their houses shake even those 1,000 feet or more away from the blast site. This issue is not addressed in the Quarry Operations Plan because

³ <https://www.kunc.org/environment/2021-05-20/declining-lake-powell-levels-prompt-colorado-river-states-to-form-new-plan?>

expected noise levels are not expected to exceed construction site standards of 70 to 90 dBA. It is not sufficient to say that noise impacts will be moderate, temporary, and not expected to exceed relevant noise standards or guidelines.

Noise and vibrations need to be monitored at nearby residences - on both the north and south shores to provide data on the actual levels of these parameters during construction and quarry operations at local residences - particularly during blasting operations. Data need to be supplied to homeowners and Boulder County officials. Denver Water needs to include in their plans how it proposes to reduce noise and vibration levels for local residences if levels from construction and quarrying sites are high. There need to be stiff penalties imposed if requirements are not met

This would also apply to helicopter and biomass processing noises during Tree Removal operations. These plans call for trucks to be loaded from four "landing zones" around the periphery of the reservoir using low-flying helicopters that are extremely disruptive to humans and wildlife. One of the joys of living or recreating near Walker Ranch, Meyer's Gulch or Gross Reservoir is experiencing the quiet of nature. The incessant drone of helicopters and quarrying operations is the antithesis of what county constituents want in our open space. How can this possibly conform to the goals of the Boulder County Comprehensive Plan?

Comments on the Noxious Weed Control Plan

Denver Water proposes to spray for weeds at all areas that would be disturbed - both before and after disturbance - and up to 100 feet around the disturbance area. What herbicide will be used to spray for weeds? Several products - such as Round Up - are toxic to bees and insects. Any product containing glyphosate, a known carcinogen, must be strictly forbidden.

Residents note that Denver Water has done essentially nothing to control noxious weeds around Gross Reservoir to date. Even the most casual observer can see that Cheat Grass covers extensive areas of Denver Water property and that large patches of Canada thistle are thriving - even along the road to the boat house where Denver Water employees must see them every day.

Given their abysmal track record in this arena Boulder County needs to provide very specific plans on exactly how noxious weeds are to be controlled and to also demand that existing areas be cleaned up. But this all must be done in accordance with environmentally safe processes. Boulder County Open Space managers know that using herbicides in our fragile environment is dangerous to resident wildlife and people - this is why they sponsor volunteer efforts to hand pull noxious weeds around Meyer's Gulch and nearby areas. Denver Water will need an army of people to deal with the effects of construction equipment bringing in even more noxious weeds. This needs to be addressed with specificity and there needs to be stiff penalties in place if they are unable to meet their commitments.

Comments on Quarry Reclamation Activities

Denver Water proposes to use diversion structures to divert rainwater away from steeper reclaimed slopes and inundation areas. Reclaimed areas - other than the quarry walls itself - have slopes of 2H:1V. Because much of the terrain around Gross Reservoir is steep, Denver Water also needs to stabilize slopes where possible and utilize diversion structures above steeper inundation areas in other parts of the reservoir to prevent erosion of inundation areas and slopes above the high-water mark.

Comments on the Traffic Management Plan

It now appears that biomass haul routes have been evaluated for both the west and east side of the reservoir. Boulder County requested that permits be issued from Jefferson and Gilpin Counties for hauling biomass as well as construction materials before they issue the 1041 permit. Those permits were not included in the Traffic Management Plan.

Boulder County also requested that additional details be provided for improvements to FS359 and CR97E - west side roads used for tree removal operations. These details need to be included in the final Traffic Management Plan.

The Traffic Management Plan indicated that during dam raise construction, 7,000 tons or 288 truck-loads of cement/fly-ash would be needed every week, which is 60 loads per day. Distributed over an entire day this amounts to one truck load every 8 minutes, but the plan anticipates that these 60 trucks would all travel to the site at once. This seems excessive and would hinder traffic patterns along SH72 and Gross Dam road particularly if trucks need to travel at 10 mph along Gross Dam Road to make the switchbacks. It seems that construction material requirements could be anticipated and spread out to avoid such high truck traffic in the canyon. It might require additional storage capacity at the site.

On Figure #18 it shows a biomass haul route that proceeds north and east along 119 through Boulder. Has Boulder reversed its decision to not allow haul trucks to travel through Boulder?

Chapter 9 of the Traffic Management Plan, "Environment Mitigation Measures", is very brief and needs to be expanded with many more details. One example is the noise and lighting section – under the quarry plan it was suggested that noise and vibration level data be collected at nearby residences to confirm that noise and vibration levels remain below acceptable levels. This also applies to truck noise on SH72 and Gross Dam Road. Denver Water needs to present what levels are acceptable and include in the plan measures that could be taken to reduce these parameters for residents along the Gross Dam Road (for instance are mufflers effective). Another example is that Denver Water says it will avoid impacting wildlife during nesting seasons and elk winter migrations. However, there is no detail - if an eagle or other bird is nesting in an area to be logged what protocol will be followed?

Comments on the Recreation Management Plan

Boulder County is very familiar with the challenges presented across the county by too many people wanting to recreate in many of our beautiful outdoor areas. Per Denver Water's data, visitation to Gross Reservoir was 275,600 people in 2020. This does not include visits to nearby Walker Ranch and Meyer's Gulch recreation areas. There are huge issues associated with these types of numbers, including but not limited to:

- Increased fire danger (illegal campfires, cars parked on grass areas, cigarette butts, etc.)
- Parking issues
- Bike / car interactions
- Trash management issues
- Environmental damage (social trails, collecting, waste elimination)

Denver Water has done a very poor job of addressing CURRENT issues with visitation to Gross Reservoir. Residents have met repeatedly with DW personnel to try to get concerns addressed. They listen and take notes. But rarely are suggestions ever followed up on or is anything ever done. Given this history, the recreation plan appears to leave more questions than answers.

Denver Water proposes moving ALL recreation activity at the reservoir to the North Shore during the construction project. This is completely untenable. Already the parking situation at North Shore is a disaster. It is overflowing on weekends and people park everywhere, including on private property. DW proposes expanding the parking facility at North Shore but the additional spaces will not begin to accommodate all the people who currently visit Windy Point, Osprey Boat Ramp, Forsythe Falls, etc. They discuss the "possibility" of a shuttle system, particularly to get boats down to the water level using the existing road to the boat house (which is closed to the public). From where do they propose to shuttle people? Walker Ranch has no additional parking. Will they run a shuttle from the bottom of Flagstaff? The lack of details in this plan defies explanation.

There is extensive discussion of the Winiger Ridge area and associated camping. As the County is well aware, there are terrible issues even now with illegal camping in that area and particularly with the fact that there is no trash service or vault toilets available for campers there. And yet in the "new" plan Denver Water states that they have no intention of addressing that issue by installing a toilet. This is a prime example of the kind of "recreation management" to be provided in the future. Building out more visitor spaces without providing adequate infrastructure is ridiculous.

The Recreation Management Plan focuses a lot on all the wonderful new visitor areas planned following construction. There is no discussion of the FACT that the water in the reservoir will drop to 40% of full during construction (so getting down to the water will be practically impossible anyway). One DW employee confided to us that they are actually assuming that because of that people will give up trying to recreate at Gross and they won't have to deal with any of these "plans". In the bigger scheme of things, climate models all point to a likelihood that the reservoir will never fill again. So this watery gem that hundreds of thousands of county residents enjoy every summer will quite possibly become just a deep hole in the ground, denuded of trees and bereft of wildlife.

There is no discussion in the plan of increased Ranger support. The current rangers are spread so thin that it is just lucky if they are around when there is an incident. Lack of enforcement of existing regulations is a huge problem today and it will only get worse if there are more areas for people to recreate with no attempt to plan for real management and infrastructure. The recreation plan is a skimpy outline full of nice pictures and non-specific plans. It needs much more detail as to exactly how they are going to handle existing issues, let alone future needs.

In Summary

In general, Denver Water has provided very generic responses to specific questions and, as such, completely fails to deal with the issues raised repeatedly by both Boulder County and residents. Typical responses include phrases like

- We will develop a plan....
- That question was addressed in previous comments...
- We will take xxxx into account....
- We will follow local and state regulations

Unfortunately our interactions and experience with Denver Water have consistently shown that promises and good intentions mean nothing. At this point, Boulder County is the only entity that is able to hold Denver Water accountable. You must demand that they meet our stringent local regulations and that you establish that you are in a position to enforce any and all requirements laid out for this project.

For the last 20 years Denver Water has told us that they learned their lesson during the Two Forks fight and that they are a kinder and gentler organization. They now ask us – and the County – to trust them to do the right thing as they hide behind their oft-referenced federal approvals. We urge Boulder County to stand up for OUR values. You have the opportunity to stop this environmental travesty and to maintain the legacy of preserving and caring for our environment as you have so often in the past. The Gross Dam Expansion project is ill conceived. The decision at the federal level to move forward did not acknowledge climate change and was not based on current science. Please don't concede to that mistake. We urge you to reject this 1041 Application.

Sincerely,

TEG Board of Directors

Beverly Kurtz, Jennie Curtis, Timothy Guenthner, Seth Cousin, Josh King

The Environmental Group (TEG)

PO Box 7532

Boulder, CO 80306



Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

May 25, 2021

Boulder County Community Planning and Permitting
PO Box 471
Boulder, CO 80306

Attn: Summer Frederick

**Re: Gross Reservoir and Dam Expansion - Draft Invasive Species
Management Plan – 2nd Re-Referral, Case # SI-20-0003**

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has reviewed the documentation for **Gross Reservoir and Dam Expansion - Draft Invasive Species Management Plan ("Plan")**. Please note that PSCo has existing high-pressure natural gas *transmission* facilities within Lakeshore Drive and overhead electric *distribution* facilities east of Gross Dam Road cutting over to South Boulder Creek in areas of the FERC Project Boundary line.

PSCo has no particular concerns with the **Plan**, contingent upon PSCo's ability to maintain all existing rights and this amendment should not hinder our ability for future expansion, including all present and any future accommodations for natural gas transmission and electric transmission related facilities.

Donna George
Right of Way and Permits
Public Service Company of Colorado dba Xcel Energy
Office: 303-571-3306 – Email: donna.l.george@xcelenergy.com