

5.0 Environmental Requirements

NOTE: A Categorical Exclusion (CatEx) is being prepared for the Project, based upon the Conceptual Design Plans located in the Reference Documents. The Contractor shall be responsible for documenting any changes consistent with a CatEx revision as stated in Section 5.6 below. CDOT holds a Memorandum of Understanding (MOU) with FHWA, the United States Forest Service (USFS), and the Bureau of Land Management. This MOU describes the type of coordination required when agencies are developing projects in areas with overlapping jurisdictions. The MOU is included in Book 3. CDOT and FHWA are pursuing a “No Adverse Effect” determination from the State Historic Preservation Office (SHPO) for the approved Conceptual Design Plans under Section 106 of the National Historic Preservation Act of 1966, and will also coordinate with USFS and FHWA consistent with the Federal Lands MOU. This effect determination may need to be reevaluated with SHPO once the fire department connections and emergency backup generator are designed. Any deviation from the Conceptual Design may require further Governmental Approval from FHWA, USFS, and SHPO.

5.1 Administrative Requirements

5.1.1 Standards

The Contractor shall design and construct the Project in accordance with the requirements of the standards in the documents listed in Table 5-1 and those referenced in Book 3. The Contractor shall use the latest adopted edition at the time of the Proposal Due Date.

Table 5-1 Standards for Environmental

| Author or Agency | Title |
|--|--|
| Colorado Department of Transportation (CDOT) | <i>MS4 Construction Program Manual</i> |
| CDOT | <i>Standard Specifications for Road and Bridge Construction (CDOT Standard Specifications)</i> |
| CDOT | <i>M&S Standards</i> |
| CDOT | <i>Roadway Design Guide</i> |

5.1.2 Environmental Laws, Regulations, and Governmental Approvals

The Contractor shall comply with all requirements of all applicable Local, State, and Federal Environmental Laws, Regulations, Environmental Approvals, and Governmental Approvals issued there under, whether obtained by CDOT or the Contractor.

FHWA's NEPA implementing procedures (23 CFR part 771) list Categorical Exclusions for certain actions that FHWA has determined do not individually or cumulatively have a significant effect on the human environment and therefore do not require the preparation of an EA or EIS (23 CFR 771.117). All tunnel elements are Categorical Excluded (CatEx) under 23 CFR 771.117 Section (c)(28).

The Contractor shall be responsible for implementing required control measures, minimization of environmental impacts, and mitigation measures to minimize environmental harm from the Project. The Contractor shall minimize both environmental impacts and impacts to adjacent property owners as design decisions are made in task force meetings or milestone review meetings, and provide documentation of the decisions to CDOT as defined in Book 2, Section 3.

5.1.3 Submittals

All submittals shall be prepared, reviewed, and submitted in accordance with the requirements set forth in Book 2, Section 3.

5.2 Environmental Management

5.2.1 Environmental Compliance Manager

The Contractor shall employ an Environmental Compliance Manager (ECM) on the Project who shall report directly to the Design Build Project Manager. The ECM shall have experience with environmental documentation and implementing requirements that result from Environmental Impact Statements, Environmental Assessments, Categorical Exclusions, and all associated documents.

The ECM shall:

1. Monitor and ensure full Project compliance with all Environmental Laws, regulations, and Governmental Approvals, including Permits, design, construction, Technical Criteria, and operations.
2. Ensure the implementation of all the environmental, design, construction and operational commitments, and all conditions necessary to achieve the environmental approvals for the Project.
3. Perform formal reviews of changes, design changes, and field design changes to confirm compliance with all Environmental Requirements.
4. Serve as the primary liaison between the Contractor and CDOT on environmental issues during design and construction.
5. Be the lead responder to any noncompliance findings issued by CDOT, the Quality Manager, or the ECM in the case of self-reporting, for the construction Work.
6. Respond to all noncompliances to the Environmental Requirements regardless of severity.
7. Shall conduct final QA/QC reviews on all environmental submittals prior to submittal to CDOT.

8. Have the authority to stop construction if Work Activities violate Environmental Laws, regulations, or Permits; or if they potentially jeopardize human health and safety.
9. Implement quality improvement strategies to reduce the number and severity of noncompliance to the Environmental Requirements.
10. Lead a field review with CDOT to review the Project and environmental issues every month during the construction period.
11. Write and submit any updates to the Environmental Compliance Work Plan (ECWP) for Acceptance.
12. Provide a Mitigation Completion Report that documents and certifies the completion of all Environmental Requirements for Acceptance prior to Final Acceptance.

5.3 Environmental Compliance Documentation

5.3.1 Environmental Compliance Work Plan

The Contractor shall prepare an Environmental Compliance Work Plan specifically identifying all of the environmental compliance requirements for the Project, and the Contractor's approach for complying with those requirements. All post-construction monitoring requirements shall be identified. The Draft Environmental Compliance Work Plan shall be submitted to CDOT for Acceptance within 30 days after NTP1. A Final Environmental Compliance Work Plan shall be submitted to CDOT for Acceptance no later than 30 days prior to NTP2. Acceptance of this Work Plan will be required as a condition for issuance of NTP2.

The Environmental Compliance Work Plan shall include a description of the process for tracking environmental commitments throughout the duration of the Work by the Contractor. The Contractor shall employ and utilize an Environmental Manager on the Project. The Environmental Manager shall lead a field review with CDOT environmental staff to discuss environmental issues during active construction periods. The Environmental Manager shall have the authority to stop construction if Work Activities violate Environmental Laws, jeopardize human health and safety, or do not conform to Contract requirements.

The Environmental Manager shall update the Environmental Compliance Work Plan regularly and document any pertinent discussions that occur during the environmental field reviews. The updated Environmental Compliance Work Plan shall be submitted to CDOT for Acceptance.

A Final Environmental Compliance Work Plan shall be submitted to CDOT for Approval as a condition for Interim Acceptance of the Project.

5.4 Environmental Resources Requirements

5.4.1 Air Quality

As indicated under Table 5-4: Required Environmental Permits of the Design-Build RFP (Book 2, Section 5, Page 5-15), the contractor is responsible for compliance with the Air Pollution Control Division's Air Pollutant Emission Notification (APEN) requirements, and obtaining any Stationary Source Air Quality Permit required for the proposed diesel generator.

5.4.2 Noise

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5.4.3 Historic and Archaeological Resources/Historic Section 4(f) Resources

The pending Categorical Exclusion identified potential No Adverse Effects based on the Conceptual Design Plans and with the assumption that no change to the visual appearance of the interior of the tunnel will occur as a result of final Design Documents. If the appearance of the interior of the tunnel is changed as part of the design, the Contractor may need to reopen the Section 106 and Section 4(f) processes.

5.4.3.1 New Fire Department Connections

CDOT is currently in consultation with SHPO to obtain clearance for the base configuration shown in the reference drawings and described below. If the contractor proposes any changes to this configuration, CDOT will determine if additional consultation is required with SHPO. Changes that impact the visual quality and historic character of the tunnel would require additional consultation. The contractor will be responsible for developing all documentation required to obtain an updated clearance from SHPO. Additional documentation could include detailed design plans and descriptions and visual renderings of the new configuration. The Contractor would also be responsible for any resulting schedule changes. The work in the plenum is not affected by the SHPO consultation, only the work within the tunnel that is visible by the traveling public.

- The existing lights in the tunnel will be modified to create a foot gap for the new pipe to come down through the plenum floor. At each fire department connection location, the existing eight-foot-long light will be removed. The electrical lines connecting the lights will remain in place.
- The new pipe will come down through the tunnel ceiling between the existing lights and not in front of them.
- The new pipe will follow along the ceiling and down the wall of the tunnel. The new pipe will be located at the center of the joint between the tunnel wall panels.

- The pipe will be placed in front of the porcelain enamel coated metal panels in the north tunnel. These panels will not be cut. These panels do not exist in the south tunnel and the pipe will be fixed directly to the tunnel wall.
- A gap will be sawcut between the wall panels and the front of the new pipe will be flush with the face of the wall panels. Where the pipe can be recessed further in between the wall panels, a new metal plate will be added to cover the pipe. The new plate shall be flush with the front of the wall panels. If there is room behind the wall panel to contain the entire pipe, pipe fittings and wall connections without cutting the wall panel, this is an acceptable change that will not require any additional SHPO consultation. Space behind the panel may vary by location.
- A new fire department connection will be added to the end of the pipe that will not extend out beyond the toe of the roadside concrete barrier.
- All new pipe, pipe fittings and cover plates will be painted to match the existing wall panels.

5.4.3.2 New Emergency Generator

CDOT is currently in consultation with the USFS and SHPO to obtain clearance for the visual impact of the base configuration shown in the reference drawings and described in Section 14. If the contractor proposes any changes to location or color of the generator, CDOT will determine if additional consultation is required with the USFS or SHPO. The contractor will be responsible for developing all documentation required to obtain an updated clearance. Additional documentation could include detailed design plans and descriptions and visual renderings of the new configuration. The Contractor would also be responsible for any resulting schedule changes.

- The generator and transformer location will be in the location shown on the base plans and the paint color requirements listed in Section 14.
- The new and existing concrete barrier around the generator and fuel tanks will be painted to match the generator.

5.4.3.3 Construction

The Contractor shall be responsible for notifying CDOT of any unidentified historic or archaeological resources encountered or unearthed during construction. Upon discovery of any historic or archaeological resources, the Contractor shall immediately cease work in the vicinity of the discovery, fence off the area, and notify the CDOT archaeologist or cultural resource staff by calling the CDOT Headquarters Cultural Resource Program Manager at 303-757-9631 and Barbara Stocklin-Steely, CDOT Region 1 Historian, at 303-757-9397 or Barbara.stocklin@state.co.us. The Contractor shall not resume Work in the area until receiving formal notification from CDOT allowing Work to re-commence. If historic or archaeological resources are discovered, CDOT will determine the resource mitigation requirements that the Contractor shall implement.

5.4.4 Paleontology

Any fossils may be encountered during construction Activities. The Contractor shall provide design plans to the CDOT paleontologist for review and prior to associated ground-disturbing construction Activities to determine the extent of impact and if monitoring during construction is required.

5.4.5 Recreation Facilities

5.4.5.1 Non-Historic Section 4(f) Impacts

A Non-Historic Section 4(f) resource has been identified within the Project limits. The recreational trail at the west portal of the EJMT, leading to the Continental Divide, shall be preserved. Any impacts to this facility, including temporary closures, will require additional Governmental Approval. The Contractor shall maintain public access to this recreational trail at all times.

5.4.5.2 Section 6(f) Impacts

No Section 6(f) resources, or impacts, have been documented.

5.4.6 Vegetation

Any timber removal necessary for construction activities shall be mitigated in accordance with USFS requirements. The Contractor shall ensure tree removal and disturbance to native plant communities, especially wetlands and riparian plant communities is avoided or minimal. If any trees are removed from the site, removal shall be in accordance with local, state, and federal requirements.

5.4.6.1 Federally Listed Plant Species, United States Forest Service Sensitive Plant Species, and Planted Species of Local Concern

USFS sensitive species are defined as, “Those plant and animal species identified by a Regional Forester for which population viability is a concern, as evidenced by: (a) significant current or predicted downward trends in population numbers or density, or (b) significant or current or predicted downward trends in habitat capability that would reduce a species’ existing distribution” (FSM 2670).

Species of Local Concern designation (a formal or informal designation depending on Forest) is made when species are of management concern because they may be locally rare, occur at the edges of their range, may be subject to viability issues in the future, or may need additional research, but for which a formal designation of Sensitive is not warranted at this time. Based on scoping and a review of habitat onsite with Steve Popovich (Forest Botanist for the Arapaho & Roosevelt National Forests) the following target species survey list was developed for the Project.

Table 5-5-2: USFS Target Plant Species

| Plant Species | Occurrence Potential in Project Area | Designation |
|--------------------------------|--------------------------------------|-------------------------------------|
| <i>Armeria scabra</i> | No Habitat | USFS Sensitive Species |
| <i>Aquilegia saximontana</i> | Moderate | USFS Species of Local Concern |
| <i>Botrychium ascendens</i> | Moderate | USFS Sensitive Species |
| <i>Botrychium crenulatum</i> | Moderate | USFS Species of Local Concern |
| <i>Botrychium lineare</i> | Moderate to High | USFS Sensitive Species |
| <i>Botrychium multifidum</i> | Low | USFS Species of Local Concern |
| <i>Botrychium paradoxum</i> | Moderate | USFS Sensitive Species |
| <i>Botrychium pinnatum</i> | Low | USFS Species of Local Concern |
| <i>Botrychium simplex</i> | Low | USFS Species of Local Concern |
| <i>Chrysopenium tetrandrum</i> | Moderate | USFS Species of Local Concern |
| <i>Draba exunguiculata</i> | Low | USFS Sensitive Species |
| <i>Draba grayana</i> | Low | USFS Sensitive Species |
| <i>Draba porsildii</i> | Low | USFS Species of Local Concern |
| <i>Draba weberi</i> | No Habitat | Federally Listed Candidate Species |
| <i>Eutrema penlandii</i> | No Habitat | Federally Listed Threatened Species |
| <i>Festuca hallii</i> | Low | USFS Sensitive Species |
| <i>Viola selkirkii</i> | Remote | USFS Sensitive Species |

5.4.7 Visual

The Contractor shall comply with the aesthetic element requirements of the Contract Documents described in Book 2, Section 15.

Staging areas that are to remain in place longer than 90 days shall be fenced and screened.

5.4.8 Wildlife

5.4.8.1 Migratory Bird Treaty Act

The Contractor shall comply with the Migratory Bird Treaty Act (MBTA) at all times. Protection of migratory birds under the MBTA shall be in accordance with the Standard Specifications, Revision of Section 240, Protection of Migratory Birds.

5.4.8.2 Special Status Species

5.4.8.2.1 Threatened and Endangered Species Review

A threatened and endangered species list was obtained from the U.S. Fish and Wildlife Service (USFWS) through the Information, Planning, and Conservation System (IPAC) that identified potential species within the EJMT Project area. Analysis of the vegetation communities, elevation and habitat requirements as well as a field review conducted in the summer of 2013 indicates that suitable habitat is only available for two federally listed species; the Canada lynx (*Lynx canadensis*) and the North American Wolverine (*Gulo gulo*). The wolverine has been listed as a proposed threatened species but it is believed that no viable population currently exists in Colorado (USFWS Final Programmatic Biological Opinion, 2011). A formal clearance request was submitted to the USFWS requesting concurrence on potential impacts to the lynx and wolverine based on the Conceptual Level Design Plans. Formal correspondence was received by the USFWS concurring that impacts resulting from the proposed Project are not likely to affect the Canada lynx or jeopardize the North American wolverine. If planned facilities outside the EJMT significantly change from what is shown in the Conceptual Level Design Plans, consultation shall be reinitiated with the USFWS.

5.4.8.2.2 Canada Lynx

If night Work becomes necessary within the Project limits, outside the tunnel, it shall be conducted for no more than four consecutive nights of Work separated by three consecutive nights of no Work, to protect the Canada lynx population.

5.4.8.2.3 Fisheries and Aquatic Resources

The Contractor shall utilize control measures to control erosion and sedimentation during construction to protect water quality in Straight Creek and Clear Creek.

5.4.9 Water Quality

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5.5 Recognized Hazardous Materials

Recognized Hazardous Materials (RHMs) are defined as the presence or suspected presence of hazardous substances which may require management and/or disposal. Hazardous substances may exist on the surface or subsurface, in groundwater or surface water, or on Structures to be demolished or modified as part of the Work; and may be mixed with soil, water, building matrices, and/or other waste materials.

Based on the Project's location there is low potential to encounter contaminated soil and groundwater in the Project Area. However, there is a moderate to high potential that asbestos containing materials may be associated with the tunnel building components, and/or subsurface utilities.

The Contractor shall develop a Materials Management Plan (MMP) and a Health and Safety Plan (HASP), as required by Section 250.03 of the Standard Specifications, and a Spill Prevention Control and Countermeasures (SPCC) Plan to be submitted to CDOT. The draft Plans shall be submitted to CDOT for review within 30 days after NTP1. The final Plans shall be submitted to CDOT for Acceptance no later than 30 days prior to NTP2. Acceptance of these Plans will be required as a condition for issuance of NTP2.

The Contractor shall schedule a review meeting with CDOT prior to submittal of the MMP, HASP, and SPCC to discuss the HASP and SPCC. The Contractor's Environmental Manager and the Contractor's Safety Manager shall be present at the meeting. The Contractor shall incorporate modifications into the submitted HASP and SPCC agreed to during this meeting.

The Contractor shall comply with all provisions set forth within the reviewed MMP, HASP, and SPCC and shall maintain documentation of all pertinent certifications of all Subcontractors which shall be available upon request by CDOT. The Contractor shall comply with all applicable requirements, including, but not limited to, all federal, state, and local environmental laws and regulations and the Standard Specifications, Section 250, and any Project special revisions for the management and disposal of the RHMs.

Prior to demolition Activities for or modification of any Structures, or removal of utility lines, the Contractor shall determine the presence or absence of asbestos containing materials. If asbestos is present or identified later during the Work, the Contractor shall conduct abatement in accordance with Section 250 of the Standard Specifications, the revised Section 250 Specification and relevant Occupational Safety and Health Administration (OSHA) and other State and Federal Requirements.

Any metal components painted with lead-containing paint, designated for removal, shall be removed and recycled in accordance with CDOT Specification 250.04. The recycling facility shall be notified of the presence of lead.

The Contractor shall coordinate all Work with CDOT and shall not discuss or negotiate with any regulatory agencies or third parties on behalf of CDOT. The Contractor shall notify CDOT within 24 hours if contacted by any regulatory agencies or third parties concerning RHMs associated or potentially associated with the Contract requirements.

5.5.1 Materials Management Plan

The MMP shall identify potential RHMs, their locations, the extent of impact, proposed Remediation Work, waste management procedures, avoidance measures, investigation measures, and a contingency plan for addressing unforeseen conditions. The plan shall identify the Contractor's representative responsible for environmental compliance (Environmental Manager), the proposed design and construction staff, and the approach to implementing the MMP. In addition to meeting the requirements of Section 250 of the Standard Specifications, the MMP shall include the following provision:

1. The Contractor shall manage all RHMs, including soils, groundwater, surface water, and other contaminated substances to prevent exposure to the

environment, Project personnel and the public, and to prevent any contamination of non-contaminated areas. The Contractor shall classify such wastes according to one of the following categories:

- A. Hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) requiring off-Site disposal and/or treatment
- B. Contaminated soils requiring off-Site disposal
- C. Soils to be stockpiled for further characterization
- D. Soils with concentrations of waste constituents below regulatory concern that can be reused without restriction
- E. Wastewater requiring off-Site disposal and/or treatment
- F. Impacted water to be held for further characterization
- G. Asbestos containing material discovered during construction, structure modification, or demolition
- H. Lead-based paint associated with Structures, signage, light posts, etc.
- I. Waste material to be contained for further characterization

Existing groundwater seepage within the tunnel is currently captured by the tunnel's existing drainage system and third party water rights are established. The Contractor shall not alter current flow patterns in any way.

A scope of work shall be submitted to CDOT for Approval prior to commencing any Remediation Work Activities. The Contractor shall utilize the most cost-effective approach in the performance of any remedial action deemed necessary. Remediation Work shall not include sampling, characterization, stockpiling, or disposal of Materials that are determined not to require off-Site disposal and/or treatment.

The Contractor shall not allow Hazardous Substances to be spilled or tracked off-Site at any time during the Work.

The Contractor shall be responsible for locating storage facilities and disposal sites for RHM that are to be removed from the Work Site.

The Contractor shall maintain documentation of completed waste profiles, manifest forms, and bill-of-lading forms for proper transportation and disposal of Materials off-Site. This information shall be available at all times for review by CDOT. The Contractor shall be held responsible for ensuring that all requirements of the transporter and the receiving disposal facility and the federal, state, and local statutes, rules, regulations, and ordinances are complied with and are properly documented.

The Contractor shall submit RHM reports to CDOT for monthly review on all Activities associated with the Contract. The Contractor shall coordinate with CDOT to determine the format of the report prior to the associated construction Activities.

The Contractor shall develop a Sampling Analysis Plan (SAP) to identify and characterize potential RHMs that may be encountered during the Work. The SAP shall also provide for monitoring/screening during construction Activities to provide safety controls in areas previously not identified. In addition to complying with Section 250 of the Standard Specifications, the SAP shall include:

1. Data quality objectives
2. Sample collection procedures (field screening, borehole drilling/abatement, monitoring well construction, soil, groundwater, and decontamination)
3. Quality control
4. Field equipment calibration procedures/frequency
5. Quality assurance objectives (data)
6. Provisions for corrective action, if needed

5.5.2 Health and Safety Plan

The Contractor shall distribute the HASP to all employees that could be potentially exposed to RHMs. The HASP shall be displayed or made available on-Site at all times. The Contractor shall develop and maintain on-Site all industrial hygiene information, including “right-to-know” information. In addition to meeting the requirements of Section 250 of the Standard Specifications, the HASP shall include the following provision:

The Contractor shall maintain documentation and provide information to CDOT, as requested, regarding potential or actual exposure to the public. The Contractor shall maintain records of all related incidents and notify CDOT and appropriate State authorities immediately.

5.5.3 Spill Prevention Control and Countermeasures Plan

The Contractor shall prepare an SPCC Plan. The Contractor shall perform inspections per the Colorado Discharge Permit System - Stormwater Construction Permit (CDPS-SCP) to assure the construction control measures are adequate for the Site conditions of the Project and are in good working condition. The Contractor shall prevent the discharge of any sediment or pollutants into any storm drains or receiving waters during the life of the CDPS-SCP.

The Contractor shall prepare an SPCC Plan for Acceptance by CDOT and submitted 30 days prior to NTP2. The SPCC Plan shall be in accordance with the Standard Specifications. The SPCC Plan shall establish operating procedures for handling pollutants and preventing spills. Pollutant sources include, but are not limited to, exposed and stored soils, paints, solvents, fertilizers or chemicals, vehicle tracking, management of contaminated soils, loading and unloading operations, outdoor storage activities, vehicle/equipment maintenance and fueling, significant dust or particulate generating processes, on-Site waste management practices, concrete truck/equipment washing, dedicated asphalt and concrete batch plants, and non-industrial waste sources that may be significant such as trash and portable toilets.

No discharge to the existing domestic treatment facility located at the EJMT shall be allowed. Of particular concern is the potential for discharge of ethylene glycol or other anti-freeze constituents.

5.6 Categorical Exclusion

A Categorical Exclusion will be prepared for the Project, based upon the Conceptual Level Design Plans located in the Reference Documents. The Contractor shall be responsible for documenting any changes consistent with a CatEx revision. The CatEx Revision shall be coordinated with CDOT's environmental manager and project engineer. The revision Form shall be submitted to CDOT for Approval of any other Work that was not approved as a part of the Categorical Exclusion. FHWA review of the revision may be required and typically requires at least four weeks (depending on environmental changes). The FHWA review and approval must occur prior to CDOT's Approval and before the Work proposed in the CatEx revision can be performed. In addition, the Contractor shall be responsible for additional environmental documentation, permits, and mitigation resulting from impacts associated with any Project change. The Contractor shall implement these potential changes to the environmental impacts at the Contractor's expense and accept responsibility for any additional schedule impacts required for the associated approvals and regulatory clearances.

5.7 Environmental Commitments and Mitigation

The Contractor shall be responsible for implementing required mitigation measures to minimize environmental harm from the Project as described in Table 5-3. The Contractor shall minimize both environmental impacts and impacts to adjacent property owners as detailed design decisions are made. Relevant mitigation requirements shall be included in the final Design Documents or other required deliverables for the Project. The Contractor shall maintain information on the implementation to provide to CDOT upon request to inform the public and/or interested commenting agencies of the progress in carrying out the adopted mitigation measures.

Table 5-3: Project Mitigation, Commitments, and control measures

| Environmental Component | Mitigation | Responsibility |
|-------------------------|--|----------------|
| Right-of-Way | No Mitigation required associated with Conceptual Level Plans. Contractor shall confirm Design Plans do not create right-of-way impacts. | Contractor |

| Environmental Component | Mitigation | Responsibility |
|---|---|--|
| Threatened or Endangered Species/Migratory Birds/Wildlife | <p>Threatened or Endangered species and their habitat will not be impacted by the Project; therefore, mitigation for threatened and endangered species is not required.</p> <ol style="list-style-type: none"> 1. Pre-construction surveys for nesting birds will be completed and will follow the methods set forth by the USFWS, CPW, or CDOT's Section 240 Protection of Migratory Birds Standard Specification (Spec 240 attached). The incidental taking of a migratory bird shall be reported to the Engineer. The Contractor shall be responsible for all penalties levied by the USFWS for the taking of a migratory bird. 2. If night work becomes necessary in habitat outside EJMT, it shall be conducted for no more than four consecutive nights of work separated by three consecutive nights of no work. | <ol style="list-style-type: none"> 1. Contractor 2. Contractor |
| USFS Sensitive Plant Species | <p>If habitat outside of the basic configuration are disturbed, the Contractor shall have a qualified botanist perform presence/absence surveys for Federally Listed Plant Species, U.S. Forest Service Sensitive Plant Species, and Species of Local Concern prior to ground disturbance during the appropriate survey window. If sensitive species are found, the Contractor shall assess the potential for avoidance or minimization of impacts and the potential for transplanting of individuals and seedbeds to suitable habitat on adjoining property. Specific mitigation and avoidance and minimization measures shall be developed in close consultation with the USFS Forest Botanist.</p> | Contractor |
| Water Quality | <p>The Project will comply with CDOT Municipal Separate Storm Sewer System (MS4) permit requirements.</p> | Contractor |
| Wetlands | <p>Wetlands shall be avoided to the maximum extent practicable. However, if wetland impacts do occur as a result of construction activities, the following requirements will apply:</p> <ol style="list-style-type: none"> 1. Permitting through the United States Army Corps of Engineers (USACE) will be required. 2. All impacts, whether temporary or permanent, must be mitigated at a ratio of 1:1. 3. If there is no practical location to mitigate wetland impacts on-Site, then the Contractor shall purchase any wetland bank credits from a wetland mitigation bank approved by the USACE. CDOT requires mitigation for all permanent impacts to wetlands based on acreage. Restoration will be required. 4. All temporarily-impacted areas shall be restored to their original condition. Indirect impacts shall be minimized through the implementation of a Stormwater Management Plan (SWMP) and construction of control measures, as well as appropriate barriers (fencing) to prevent impacts to wetlands. | <ol style="list-style-type: none"> 1. Contractor 2. Contractor 3. Contractor 4. Contractor |

| Environmental Component | Mitigation | Responsibility |
|--|---|--|
| Noxious Weeds | A noxious weed management plan is not required. However, the Project will be required to minimize the spread of noxious weeds according to revised Sections 207, 212, and 217 of the Standard Specifications, and for implementing the standard CDOT control measures. | Contractor |
| Hazardous Materials | <ol style="list-style-type: none"> 1. There is no indication that contaminated soil or groundwater will be generated during construction of this Project. However, naturally-occurring metals may be present in groundwater beneath the site. Therefore, groundwater that is brought to the surface during construction (i.e. tremie displacement of water) must be either 1) immediately containerized for proper off-Site disposal, or 2) dispersed on the ground surface in accordance with the Colorado Department of Public Health and Environment (CDPHE) <i>Low Risk Discharge Guidance: Discharges of Uncontaminated Groundwater to Land</i>. Several criteria must be met if this approach is to be utilized, as detailed in that document. 2. Groundwater must not be allowed to be discharged into sanitary or storm sewers, or any Waters of the State. | <ol style="list-style-type: none"> 1. Contractor 2. Contractor |
| Paleontological | There are no known archaeological and/or paleontological sites within or near the Project areas. However if, any archaeological and/or paleontological resources are uncovered during construction of the Project the Contractor shall immediately cease work and notify the CDOT Project Manager. The Contractor shall be required to fence off all discovered paleontological sites, subject to the Acceptance of CDOT. The Contractor shall not resume work within the area until receiving written notification from the CDOT Project Manager. | Contractor |
| 5.1.1 Historic and Archaeological Resources/ Historic Section 4(f) Resources | <ol style="list-style-type: none"> 1. The CatEx identified No potential Adverse Effects based on the Conceptual Design Plans and with the assumption that no change to the visual appearance of the interior of the tunnel will occur as a result of final Design Documents. 2. If the appearance of the interior of the tunnel or generator design is changed as part of the design, the Contractor may need to reopen the Section 106 and Section 4(f) processes. | <ol style="list-style-type: none"> 1. Contractor 2. Contractor/ CDOT |

5.8 Environmental Permits

The Contractor shall be cognizant of and adhere to the requirements of the various environmental and stormwater permits necessary for construction and operation of the Project. The Contractor shall follow the requirements of the latest CDOT SWMP template and appropriate specifications. The Contractor shall be responsible for complying with CDOT's MS4 Permit. The Contractor shall obtain all permits, unless otherwise indicated.

The listing herein is not all-inclusive and it shall be the responsibility of the Contractor to determine all of the permits required to perform the Work. CDOT is partially liable for any Contractor negligence. Fines may be incurred upon the Project for permit non-compliance by CDOT or other regulatory agencies. Any non-compliance fines will be passed onto the Contractor.

The Contractor shall be responsible for obtaining all governmental and agency permits required for the Work, not otherwise obtained by CDOT, including, but not limited to, the environmental permits listed in Table 5-4.

Table 5-4: Required Environmental Permits

| Permits/approvals | Permitting Agency |
|---|---|
| Clean Water Act Section 404 Permit | USACE |
| CDPS-SCP | CDPHE - Water Quality Control Division |
| MS4 Discharge Permit (CDOT MS4 discharge requirements) | CDPHE - Water Quality Control Division |
| Clean Water Act Section 402 Construction Dewatering Permit, or Individual Construction Dewatering Permit if contaminated groundwater is expected to be encountered | CDPHE - Water Quality Control Division |
| Construction waste material and transportation of solid wastes | CDPHE - Hazardous Materials and Waste Management Division |
| Air Pollution Emission Notice (APEN) and Construction Permit | CDPHE - Air Pollution Control Division |
| Stationary Source Air Quality Permit (Emissions from portable units, such as rock crushers, generators, asphalt plants, and cement plants used during construction) | CDPHE - Air Pollution Control Division |
| SB 40 Certification (impacts to stream banks, stream channels, and riparian areas) | Colorado Parks and Wildlife |

5.8.1 Colorado Discharge Permit System - Stormwater Construction Permit

The Contractor shall be responsible for all stormwater permit requirements in the CDPS-SCP. This includes the maintenance of all control measures and seeded/landscaped areas until final stabilization has been achieved, all temporary control measures have been removed, and there is no potential for erosion. The Contractor shall review and incorporate the latest requirements from CDOT for erosion and sediment control and according to other requirements in the Contract.

Implementation of the permit requirements (i.e. SWMP, SWMP Site Map, and SPCC Plan) shall be a first construction item. Construction cannot begin until these items have been Accepted by CDOT. CDOT will review the Contractor's stormwater management Activities throughout the duration of the Project for verification of compliance with the CDPS-SCP, CDOT's construction section of the MS4 Permit. The Contractor shall comply with the Standard Specifications, Sections 101, 107 and 208.

The Contractor shall obtain a CDPS-SCP from CDPHE for construction of the Project prior to NTP2. The CDPS-SCP shall be in the Contractor's and CDOT's name. The Contractor shall adhere to all requirements of the CDPS-SCP and the Construction Section of CDOT's MS4 Permit. Most, but not all, non-compliance issues and necessary control measure maintenance will be noted during monthly inspections by CDOT, Regional Erosion Control Advisory Team (RECAT) inspections, in CDOT Form 1176 by the Transportation Erosion Control Supervisor (TECS). The Contractor shall prevent the discharge of any sediment or pollutants into any storm drains or receiving waters during the life of the CDPS-SCP.

5.8.1.1 Stormwater Management Plan

The SWMP shall include the CDOT SWMP template and a SWMP Site Map that documents the detailed erosion/sediment control measures and their locations. The Contractor shall submit a SWMP and SWMP Site Map for Acceptance by CDOT. The SWMP shall clearly describe the relationship between the phases of construction and the implementation and maintenance of the stormwater management controls. Any major modifications (i.e., change modification orders or minor changes revisions) to the CDOT SWMP template shall be submitted to CDOT for Acceptance. The Contractor shall revise the SWMP Site Map as necessary based on actual construction activities throughout the duration of the CDPS-SCP. All control measures shall be listed on the SWMP Site Map per the requirements of the CDPS-SCP.

All documents pertaining to the CDPS-SCP shall be kept on-site in the CDOT SWMP Notebook (provided by CDOT) to maintain compliance with the CDPS-SCP. Upon permit inactivation, the SWMP Notebook shall become the property of CDOT.

5.8.1.2 Control Measures

The Contractor shall install and maintain the construction control measures for the Project in accordance with the CDOT Erosion Control and Stormwater Quality Guide and the Standard Specifications. Construction control measures for the Project shall include, but are not limited to, those listed in the Standard Specifications, as well as, preservation of existing vegetation, surface roughening, tackifier or soil binder, soil retention blankets, temporary clean water diversions, storm drain and basins, protection of trees, hazardous waste and spill containment and saw water disposal, stabilized construction entrances, and pavement sweeping of the affected Project areas. The Contractor shall add a control measure narrative on how it is being used to the SWMP, and shall supply the manufacturer details to be placed in the SWMP Notebook. The Contractor shall have a complete supply of all necessary construction control measure Materials on-Site at all times in preparation for construction water quality control emergencies.

Where permanent seeding operations are not feasible because of seasonal constraints (e.g., summer and winter months), the Contractor shall have mulch and mulch tackifier applied to disturbed areas to prevent erosion.

The Contractor shall use erosion control blankets on slopes steeper than 4H:1V, newly seeded slopes to control erosion, and to promote the establishment of vegetation.

Slopes shall be roughened at the end of each day. Concrete washout shall be contained.

Non-structural control measures may include litter and debris control, street sweeping, and landscaping and vegetative practices.

5.8.1.3 Drainage

The Contractor shall be responsible for temporary drainage of the Project area during construction of the Project. Throughout the duration of the CDPS-SCP, the Contractor shall continually protect inlets from sediment and pollutants and, if needed, shall remove any material deposited in the systems as a result of the Contractor's activities. All inlets shall be identified on the SWMP Site Map and shall follow the requirements of Section 208 of the Standard Specifications.

5.8.1.4 Transportation Erosion Control Supervisor

The Contractor shall assign to the Project an employee or Subcontractor to serve in the capacity of the TECS. The TECS shall be a person other than the Construction Manager and shall be a person dedicated solely to erosion/sediment control. The TECS shall be experienced in all aspects of construction and have satisfactorily completed an TECS training program authorized by CDOT. Certification that this requirement has been met shall be submitted to CDOT prior to NTP2. A list of authorized TECS training programs will be provided by CDOT upon request by the Contractor.

The Contractor's TECS responsibilities shall follow the duties as laid out in the Standard Specifications, Section 208, in addition to the following:

1. Direct the removal of sediment, trash, and debris from the construction control measures and other drainage facilities within the affected areas of the Project.
2. Prepare a written report documenting that control measures are adequate for the Site conditions of the Project and are in good working condition after inspections requiring documentation. The reports shall be kept with the SWMP inspection documentation and submitted to the CDOT Region Water Quality Pollution Control Manager. The appropriate form for this report will be supplied by CDOT. The inspections shall be made during the progress of the Work, during Work suspensions, and for the duration of the CDPS-SCP. During periods of no Project Work, inspections shall take place at least once every 30 days, and within 48 hours after each event that

causes surface runoff. After construction is complete, inspections shall take place at least once every 30 days until the permit can be closed.

3. Implement the necessary actions to reduce water quality or erosion problems resulting from construction Activities. The criteria for this action shall be based on water quality data derived from any inspections and monitoring operations or by any anticipated conditions (e.g., predicted storms) that could lead to unsuitable water quality situations.

5.8.1.5 Inspections

During the Project, multiple inspections by CDOT and the Contractor and their TECS will be occurring. Inspections shall be on the appropriate CDOT Forms and shall follow the requirements in the Standard Specifications, Section 208. Prior to work commencing, a pre-construction conference shall be held with the CDOT's Region Water Quality personnel. In addition, when the first phase of control measures has been installed, the Contractor shall notify CDOT's Region Water Quality personnel to come out and inspect the control measures for proper installation. Work shall not begin until the control measure installation inspection has occurred. CDOT's Region Water Quality personnel will be inspecting the Site on a monthly basis, as well as during the surprise Regional Erosion Control Assessment Team inspections. The Region Water Quality personnel may inspect the Project at any time and document any non-compliance issues that need to be resolved immediately by the Contractor. Fines may be assessed to the Contractor with the potential of Project shut downs, depending on the severity of the non-compliance. Prior to Interim Acceptance of the Project construction, CDOT's Region Water Quality personnel shall be notified to perform a final walkthrough inspection. Any items identified for maintenance, replacement, or removal shall be done immediately or liquidated damages may be incurred upon the Contractor.

5.8.1.6 Colorado Discharge Permit System, Stormwater Construction Permit Closure

The Contractor shall be responsible for all stormwater permit requirements until the Project has achieved final stabilization (see Book 2, Section 17, Landscaping) and the CDPS-SCP can be closed. This includes the maintenance of all control measures, maintenance of all seeded/landscaped areas, and removal of all control measures once all erosion potential has been eliminated.

5.8.1.7 Municipal Separate Storm Sewer Permit

CDOT has obtained an MS4 Permit for the storm drainage systems it owns and maintains. The Contractor shall be responsible for complying with the terms and conditions of the CDOT MS4 Permit that pertain to the Project. Since the Project is outside CDOT's MS4 urbanized area, the New Development/Redevelopment section does not apply. However, an Industrial Discharge Permit shall apply to any discharge of treated Fire Suppression System runoff. The Example Industrial Discharge Permit for the EJMT is included in the Reference Documents to show existing effluent limitations. The Project may be required to obtain its own Industrial Discharge Permit which may be more restrictive than the example

provided, and the proposed treatment system shall meet the stricter provisions, as necessary. The MS4 Permit is available on the web at

<http://www.coloradodot.info/programs/environmental/water-quality/documents>

The Contractor shall install control measures for the Project in accordance with the CDOT Erosion Control and Stormwater Quality Guide. The Contractor shall construct permanent water quality control measures for the Project as necessary to comply with the requirements of the CDOT MS4 Permit. Permanent water quality control measures for the Project shall include, but are not limited to, such components as sediment basins and proprietary vaults, water quality ponds, grass roadside ditches, and grass buffer strips.

The Contractor shall immediately notify CDOT of any suspected illicit or improper connections or discharges into any storm sewer system discovered during construction of the Project.

CDOT will be responsible for investigation of the suspected illicit connection and implementing corrective action. The Contractor shall not maintain, reconnect, or otherwise allow discharge of improperly disposed materials into the storm sewer system within the limits of the Project.

The existing drainage system at the EJMT is designed to capture stormwater and snowmelt runoff. Runoff from the Fixed Fire Suppression System can be captured by this system-but it is anticipated that adequate treatment of such runoff using stormwater control measures is not feasible or effective. The Contractor shall either demonstrate the feasibility of on-Site treatment and design and construct such on-Site treatment facilities; or design and construct facilities that contain the fire system runoff for haulage and treatment off-Site later. If the system is designed to treat runoff on-Site, then the discharge shall meet the Industrial Discharge Permit requirements for discharge into Clear Creek. The existing wastewater treatment plant located at the EJMT shall not be used for any Fixed Fire Suppression System runoff, storage, or treatment.

5.8.2 Wetlands/Waters of the U.S. and Section 404 Permit

5.8.2.1 Permit Application

No impacts to wetlands and waters of the U.S. were identified during Preliminary Design.

Should subsequent design identify an impact of a regulated wetland and waters of the U.S., the Contractor shall prepare a Clean Water Act, Section 404 Permit Application for impacts to wetlands and Waters of the U.S. The Application shall be submitted to CDOT for review and in advance of a subsequent submittal to CDOT for Approval and submittal to USACE at least 45 days before the start of construction Activity which would impact wetlands or other waters of the U.S. The Contractor shall submit a Wetland Finding Report if impacts exceed the thresholds identified in the 2006 *“Memorandum of Agreement between FHWA and CDOT Regarding the Programmatic Approval of Wetland Findings”*. Depending on the

final assessment of wetland impacts, a CDOT Functional Assessment of Colorado Wetlands (FACWet) may be required. The Contractor shall comply with the requirements and special conditions outlined in the Section 404 Permit.

5.8.2.2 Wetlands Field Investigation and Identification

A wetland delineation was not required for this project. If impacts are proposed outside the Base Configuration, the Contractor shall have a qualified biologist or wetland specialist conduct a wetland survey and delineation in accordance with the guidelines and criteria of the USACE 1987 Wetland Delineation Manual (Environmental Laboratory, 1987) and the Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region. Wetlands field investigation and identification associated with the Project include, but are not limited to, the following Activities: Prior to construction Activities, the Contractor shall identify and mark (with orange fencing or flagging) all wetlands and Waters of the U.S. that have the potential to be impacted by the Work. The Contractor shall identify the wetlands and Waters of the U.S. that will actually be impacted by the Project, calculate the actual acreage of impacts, and submit that information to CDOT for review prior to commencement of the associated Work.

The Contractor shall report in the updated Environmental Compliance Work Plan all wetlands and Waters of the U.S. impacted during the previous month's Work. CDOT will utilize this information to complete annual monitoring requirements, if applicable, per conditions stipulated in the Section 404 Permit.

5.8.2.3 Impact Monitoring

Impacts to wetlands are not anticipated, unless substantive deviations from the base configuration occur. If impacts occur as a result of design changes, then the Contractor will be required to conduct permitting and mitigation in accordance with USACE and CDOT protocols.

If there are changes to the Base Configuration, and new wetlands are identified, the Contractor shall fence off wetlands to be avoided during construction activities prior to construction,. The Contractor shall employ all applicable avoidance and minimization measures, strategies, and control measures to minimize impacts and protect wetlands and Waters of the U.S. to the greatest extent possible. The Contractor shall update CDOT throughout the duration of the Work on the calculations of estimated and actual wetland and Waters of the U.S. impacts. If at any time estimated impacts are calculated to change, immediate consultation with CDOT shall be initiated. Should waterway diversions be required, the Contractor shall submit a Diversion Plan, included as part of the Section 404 Permit Application, to CDOT prior to beginning any construction Activity within the creek(s). The Contractor shall be responsible for implementation of permits for any wetland and waterway impacts during construction.

5.8.2.4 Wetland and Waters of the U.S. Mitigation

If impacts to wetlands and Waters of the U.S. occur, the Contractor shall mitigate for temporary and permanent wetland impacts, through banking, to both

jurisdictional and non-jurisdictional wetlands on a 1:1 basis, at a minimum. The Contractor shall purchase any wetland bank credits from a wetland mitigation bank approved by the USACE. CDOT requires mitigation for all permanent impacts to wetlands based on acreage.

5.8.3 Construction Dewatering Permit

The Contractor shall obtain a Construction Dewatering Permit from the CDPHE for any dewatering of groundwater during construction in accordance with Water Quality Control Division (WQCD) requirements. The Contractor shall apply for this permit at least 30 days prior to the start of discharge Activities. The Contractor shall provide all information needed to assist the WQCD in their evaluation and setting of a water quality standard for this permit, which may include monitoring of the discharged water.

The Contractor shall monitor for any settlement caused by dewatering. The Contractor shall conduct a preliminary survey of any private property or buildings that may be affected by dewatering to establish existing conditions.

The Contractor shall repair any damage caused by dewatering operations.

The Contractor shall construct settling ponds for effluent from dewatering operations, as required by the Construction Dewatering Permit.

All costs for dewatering Work shall be the obligation of the Contractor.

5.8.4 SB-40 Wildlife Certification

Preliminary design of the Project indicates that SB-40 resources would not be impacted; therefore, SB-40 Wildlife Certification would not be required. However, if the Contractor's design changes impact a potential SB-40 eligible resource, then the Contractor shall comply with the General and Special Conditions provided in the April 2013, "*Guidelines for Senate Bill 40 Wildlife Certification*" developed and agreed upon by CPW and CDOT. The Contractor shall prepare an application for a formal Wildlife Certification to CPW for activities in areas that are subject to Colorado Senate Bill-40 (SB-40). After CDOT's Approval, CDOT will submit the application to CPW at least 60 days prior to planned construction or maintenance Activities to allow 30 days for CPW review of the submitted documents and 30 days for follow-up coordination, if required. CPW will complete its review of the application and issue SB-40 Certification or request additional information or mitigation commitments within 30 days of final submittal. The Contractor shall submit its application so as to allow CDOT sufficient time to complete these activities.

5.9 Deliverables

At a minimum, the Contractor shall submit the following to CDOT for Review, Approval, or Acceptance:

Table 5-5: Deliverables by the Contractor

| Deliverable | Review, Acceptance or Approval | Schedule |
|--|--------------------------------|---|
| Draft Environmental Compliance Work Plan | Acceptance | Within 30 days after NTP1 |
| Final Environmental Compliance Work Plan | Acceptance | No later than 30 days prior to NTP2 |
| Environmental Compliance Work Plan updates | Acceptance | Regularly |
| Final Environmental Compliance Work Plan | Approval | As a condition for Interim Acceptance |
| Design Plan submittal to the CDOT Paleontologist | Review | Prior to associated construction Activities |
| Draft Materials Management Plan (MMP) | Review | Within 30 days after NTP1 |
| Draft Health and Safety Management Plan (HASP) | Review | Within 30 days after NTP1 |
| Draft Spill Prevention Control and Countermeasures (SPCC) Plan | Review | Within 30 days after NTP1 |
| Final Materials Management Plan (MMP) | Acceptance | No later than 30 days prior to NTP2 |
| Final Health and Safety Management Plan (HASP) | Acceptance | No later than 30 days prior to NTP2 |
| Final Spill Prevention Control and Countermeasures (SPCC) Plan | Acceptance | No later than 30 days prior to NTP2 |
| Remediation Scope of Work | Approval | Prior to commencing Remediation Work |
| Recognized Hazardous Materials Reports | Review | Monthly |
| CDOT CatEx revision | Approval | For any Work not approved as a part of the Categorical Exclusion, as required |
| Environmental permits (Section 5.4 above) | Acceptance | Per the requirements of the permit and the Contract Documents |
| SWMP Site Map | Acceptance | Prior to RFC |
| SWMP Plan(s) | Acceptance | Prior to RFC |

| Deliverable | Review, Acceptance or Approval | Schedule |
|--|--------------------------------|---|
| Clearly label environmentally sensitive areas (wetlands, riparian areas, and areas of undisturbed subalpine habitat) with “No Parking and No Staging Area” on final plan sheets. | Review | As part of the final plan sheet submittal |
| Mitigation Completion Report | Acceptance | Prior to Final Acceptance |

All deliverables shall also conform to the requirements of Book 2, Section 3.

5.10 Project Special Provisions

The following pages provide the modified standard specifications that shall be applicable to the Project.

**REVISION OF SECTION 211
DEWATERING**

Section 211 is hereby added to the Standard Specifications for this project as follows:

DESCRIPTION

211.01 This Work consists of dewatering to facilitate construction activities.

CONSTRUCTION REQUIREMENTS

211.02 Groundwater within the Project limits may have contaminants at concentrations greater than that acceptable for direct discharge under standard NPDES permits and other beneficial uses. The Contractor shall manage contaminated groundwater in accordance to the requirements herein.

Removal, sample collection, analytical testing, containerization, transportation, and disposal or treatment of all contaminated groundwater shall be in accordance with Standard Specifications 250, and 107.25 and the Contractor's Dewatering Plan and Materials Management Plan. The Contractor shall manage the Work according to guidelines and criteria from CDPHE and the State Engineer's Office. Contaminated groundwater shall either be treated on-site or containerized and hauled off-Site for treatment at a permitted treatment facility, as Approved by CDOT.

The Contractor shall:

Minimize the disturbance of contaminated groundwater by avoidance.

1. Limit intrusion of groundwater into excavations.

The Contractor shall obtain the appropriate Colorado Discharge Permit System (CDPS) general permit for management of groundwater from CDPHE Water Quality Control Division. A completed application shall be submitted to CDPHE at least 4 weeks prior to commencement of dewatering operations.

In accordance with permit procedures, the Contractor shall fill out and submit a monthly Discharge Monitoring Report (DMR) to CDPHE for the life of the permit. Copies of monthly submittals shall be provided to CDOT.

The Contractor shall measure the rate of groundwater discharge during the dewatering process using a certified inline flow device capable of measuring flow rates with an accuracy of plus or minus five (5) gallons per minute. The Contractor shall record the rate of discharge daily and shall submit a discharge report to the Engineer weekly.

The Contractor shall submit a Dewatering Plan to CDOT at least 4 weeks prior to the start of dewatering operations. This Plan shall detail the Contractor's method of dewatering for all construction activities. The Dewatering Plan shall be stamped "Approved for Construction" and signed by the Contractor.

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**REVISION OF SECTION 211
DEWATERING**

The Dewatering Plan shall provide complete details of the Contractor's method for construction dewatering including:

Copies of all permits required for dewatering, including treatment of and (or) disposing of contaminated groundwater.

1. If applicable, copies of agreements for disposing of groundwater in storm sewers, sanitary sewers etc.
2. Method and details for minimizing dewatering for all construction activities.
3. Method of measuring groundwater discharge for dewatering activities.
4. Equipment descriptions including size, number, type, capacity, and location of equipment during dewatering operations.
5. Methods of testing groundwater to determine appropriate disposal methods.
6. Detailed methods for disposal of contaminated groundwater.
7. If applicable, name of facility where contaminated groundwater is to be delivered.

**REVISION OF SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY THE CONTRACTOR'S BIOLOGIST**

Section 240 is hereby added to the Standard Specifications for this Project as follows:

DESCRIPTION

240.01 This work consists of protecting migratory birds during construction.

MATERIALS

240.02 The Contractor shall schedule clearing and grubbing operations and work on structures to avoid taking (pursue, hunt, take, capture or kill; attempt to take, capture, kill or possess) migratory birds protected by the Migratory Bird Treaty Act (MBTA).

CONSTRUCTION REQUIREMENTS

240.03 The Contractor shall retain a qualified wildlife biologist for this Project. The wildlife biologist shall have a minimum of three years of experience conducting migratory bird surveys and implementing the requirements of the MBTA. The Contractor shall submit documentation of the biologist's education and experience. A biologist with less experience may be used by the Contractor subject to CDOT Approval based on review of the biologist's qualifications.

The wildlife biologist shall survey the location of each protected nest, bird species, the protection method used, and the date installed. A copy of these records shall be submitted to CDOT for Review.

- (a) *Vegetation Removal*. When possible, vegetation shall be cleared prior to the time when active nests are present. Vegetation removal activities shall be timed to avoid the migratory bird breeding season which begins on April 1 and runs to August 31. All areas scheduled for clearing and grubbing between April 1 and August 31 shall first be surveyed within the work limits for active migratory bird nests. The Contractor's wildlife biologist shall also survey for active migratory bird nests within 50 feet outside work limits. Contractor personnel shall enter areas outside CDOT right of way only if a written, signed document granting permission to enter the property has been obtained from the property owner. The Contractor shall document all denials of permission to enter property. The Contractor shall avoid all active migratory bird nests. The Contractor shall avoid the area within 50 feet of the active nests or the area within the distance recommended by the biologist until all nests within that area have become inactive. Inactive nest removal and other necessary measures shall be incorporated into the work as follows:
1. *Tree and Shrub Removal or Trimming*. Tree and shrub removal or trimming shall occur before April 1 or after August 31 if possible. If tree and shrub removal or trimming will occur between April 1 and August 31, a survey for active nests shall be conducted by the wildlife biologist within the seven days immediately prior to the beginning of work in each area of tree and shrub removal or trimming. The survey shall be conducted for each phase of tree and shrub removal or trimming.

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REVISION OF SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY THE CONTRACTOR'S BIOLOGIST

If an active nest containing eggs or young birds is found, the tree or shrub containing the active nest shall remain undisturbed and protected until the nest becomes inactive. The nest shall be protected by placing fence (plastic) a minimum distance of 50 feet from each nest to be undisturbed. This buffer dimension may be changed if determined appropriate by the wildlife biologist and Approved by CDOT. Work shall not proceed within the fenced buffer area until the young have fledged or the nests have become inactive.

If the fence is knocked down or destroyed by the Contractor, CDOT will suspend the work, wholly or in part, until the fence is satisfactorily repaired at the Contractor's expense. Time lost due to such suspension will not be considered a basis for adjustment of time charges, but will be charged as contract time.

2. *Grasses and Other Vegetation Management.* Due to the potential for encountering ground nesting birds' habitat, if work occurs between April 1 and August 31, the area shall be surveyed by a wildlife biologist within the seven days immediately prior to ground disturbing activities.

The undisturbed ground cover to 50 feet beyond the planned disturbance, or to the right of way line, whichever is less, shall be maintained at a height of 6 inches or less beginning April 1 and continuing until August 31 or until the end of ground disturbance work, whichever comes first.

If birds establish a nest within the survey area, an appropriate buffer of 50 feet will be established around the nest by the CDOT biologist. This buffer dimension may be changed if determined appropriate by the CDOT. The Contractor shall install fence (plastic) at the perimeter of the buffer. Work shall not proceed within the buffer until the young have fledged or the nests have become inactive.

If the fence is knocked down or destroyed by the Contractor, CDOT will suspend the work, wholly or in part, until the fence is satisfactorily repaired at the Contractor's expense. Time lost due to such suspension will not be considered a basis for adjustment of time charges, but will be charged as contract time.

- (b) *Work on structures.* The Contractor shall prosecute work on structures in a manner that does not result in a taking of migratory birds protected by the MBTA. The Contractor shall not prosecute the work on structures during the primary breeding season, April 1 through August 31, unless he takes the following actions:

1. The Contractor shall remove existing nests prior to April 1. If the Contract is not awarded prior to April 1 and CDOT has removed existing nests, then the monitoring of nest building shall become the Contractor's responsibility upon Notice to Proceed.

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**REVISION OF SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY THE CONTRACTOR'S BIOLOGIST**

2. During the time that birds are trying to build or occupy their nests, between April 1 and August 31, the Contractor shall monitor the structures at least once every three days for any nesting activity.
3. If birds have started to build any nests, they shall be removed before the nest is completed. Water shall not be used to remove the nests if nests are located within 50 feet of any surface waters.
4. Installation of netting may be used to prevent nest building. The netting shall be monitored and repaired or replaced as needed. Netting shall consist of a mesh with openings that are $\frac{3}{4}$ inch by $\frac{3}{4}$ inch or less.

If an active nest become established, i.e., there are eggs or young in the nest, all work that could result in abandonment or destruction of the nest shall be avoided until the young have fledged or the nest is unoccupied as determined by the wildlife biologist and Approved by CDOT. The Contractor shall prevent construction activity from displacing birds after they have laid their eggs and before the young have fledged.

If the Project continues into the following spring, this cycle shall be repeated. When work on the structure is complete, the Contractor shall remove and properly dispose of netting used on the structure.

- (c) *Taking of a Migratory Bird.* The taking of a migratory bird shall be reported to CDOT. The Contractor shall be responsible for all penalties levied by the U. S. Fish and Wildlife Service (USFWS) for the taking of a migratory bird.
- (d) CDOT Form 730, *Permission to Enter Property*, must be obtained to facilitate the wildlife biologist's ground surveys within adjacent property within 50feet of work limits, where Region Environmental Personnel have determined ground nesting bird habitat may be present. If Permission to Enter Property is denied by a property owner, the denial shall be recorded and placed in the Project file to document that due diligence was pursued.

**REVISION OF SECTION 250
ENVIRONMENTAL, HEALTH AND SAFETY MANAGEMENT**

Section 250 of the Standard Specifications is hereby revised for this Project as follows:

Subsection 250.01 shall include the following:

There is potential for encountering hazardous materials due to recent and historic events associated with spills and multiple sources of contamination in the Project area. The Contractor shall review any site investigation reports included in Reference Documents.

There exists a potential that Project construction operations will encounter groundwater contaminated with elevated levels of heavy metals exceeding Colorado basic groundwater standards (CBSGs) and/or surface water discharge limits. Further, petroleum hydrocarbons and other industrial contaminants resulting from historical operations at the facility and spills may be encountered. Workers shall be alert during excavations for visual and olfactory signs of contamination. If soil and/or groundwater contamination is encountered during construction activities, work will stop immediately, and the procedures outlined in CDOT Specification 250 Environmental Health and Safety Management shall be followed.

The Contractor shall prepare a Materials Management Plan (MMP) and a Health and Safety Plan (HASP). The Contractor shall be responsible for workers' health and safety, the general public, and the environment. The Contractor's HSO and/or Monitoring Technician shall be on-Site as necessary during subsurface excavations to ensure proper handling, testing and disposal of contaminated soil and groundwater, as detailed in the CDOT Standard Specification 250 and Subsection 107.25.8 and all applicable local, state and federal regulations. Contaminated water brought to the surface shall be contained in tank(s) or drums and shall not be directly discharged into any State Waters including wetlands, irrigation ditches, canals, unless allowed by a CDPHE permit. Additional information regarding groundwater management is presented Revision of Section 211 - Dewatering specification.