

**COLORADO
DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS
CLEAR CREEK GREENWAY TRAIL – WEST IDAHO SPRINGS MULTI-USE TRAIL
AND CENTRAL IDAHO SPRINGS MULTI-USE TRAILS**

The 2011 Standard Specifications for Road and Bridge Construction, controls construction of this project. The following special provisions supplement or modify the Standard Specifications and take precedence over the Standard Specifications and plans.

PROJECT SPECIAL PROVISIONS

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**COLORADO
 DEPARTMENT OF TRANSPORTATION
 SPECIAL PROVISIONS
 CLEAR CREEK GREENWAY – WEST IDAHO SPRINGS SEGMENT
 STANDARD SPECIAL PROVISIONS**

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Revision of Section 206 – Structure Backfill at Bridge Abutments	(January 30, 2014)	1
Revision of Sections 206, 304, and 613 – Compaction	(Nov. 10, 2016)	1
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Revision of Section 518 – Bridge Expansion Device	(October 31, 2013)	1
Revision of Section 601 – Class B, BZ, D, DT, and P Concrete	(February 18, 2016)	2
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Revision of Section 601 – Concrete Finishing	(February 3, 2011)	1
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Revision of Section 709 – Epoxy Coated Reinforcing Bars	(February 18, 2016)	1
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NOTICE TO BIDDERS

The proposal guaranty shall be a certified check, cashier's check, or bid bond in the amount of 5 percent of the Contractor's total bid.

Pursuant to subsection 102.04 and 102.05, it is recommended that bidders on this project review the work site and plan details with an authorized City representative. Prospective bidders shall contact the following listed authorized City representatives at least 48 hours in advance of the time they wish to go over the project.

Prime Consultant

THK Associates, Inc.
Sydney Shell
2953 S. Peoria Street, Suite 101
Aurora, CO 80014
Office Phone: 303-770-7201
sshell@thkassoc.com

The above referenced individuals are the only representatives of the City with authority to provide any information, clarification, or interpretation regarding the plans, specifications, and any other contract documents or requirements.

A mandatory pre bid conference will be held on September 6, 2018 beginning at 1:00 pm at Idaho Springs City Hall 1711 Miner Street and will include a site walk-through following the meeting at City Hall. This will be the only opportunity to review the work site and review plan details with THK other than emailed questions to THK. Bids will be accepted only from pre-qualified bidders who attend the mandatory pre-bid conference.

The deadline for questions will be September 14, 2018 at 5:00 pm. Questions received from bidders along with City responses will be posted on the web site listed below as they become available. All questions will be answered in a posted bid addendum by September 20, 2018.

City of Idaho Springs: <https://www.colorado.gov/pacific/idahosprings>

Rocky Mountain e-Purchasing System: <https://www.bidnetdirect.com/colorado>

If the bidder has a question or requests clarification that involves the bidder's innovative or proprietary means and methods, phasing, scheduling, or other aspects of construction of the project, the City Administrator will direct the bidder to contact THK Associates, Inc. directly to address the question or clarification. THK Associates, Inc. will keep the bidder's innovation confidential and will not share this information with other bidders.

THK Associates, Inc. will determine whether questions are innovative or proprietary in nature. If THK Associates, Inc. determines that a question does not warrant confidentiality, the bidder may withdraw the question. If the bidder withdraws the question, THK Associates, Inc. will not answer the question and the question will not be documented on the City web site. If the bidder does not withdraw the question, the question will be answered, and both the question and the answer will be posted on the web site. If THK Associates, Inc. agrees that a question warrants confidentiality, THK Associates, Inc. will answer the question, and keep both the question and answer confidential. The City will keep a record of both question and answer in their confidential file.

Questions and answers shall be used for reference only and shall not be considered part of the Contract.

Complete bids must be received by Wednesday, September 26 at 2:00 pm at the Idaho Springs City Hall, 1711 Miner Street, P.O. Box 907, Idaho Springs, Colorado 80452. All bids will be opened and announced publicly at this time. Bids will not be accepted electronically.

The City of Idaho Springs expects to recommend a bid award at the City Council meeting on Monday, October 8 at 7:00 pm.

COMMENCEMENT AND COMPLETION OF WORK

The Contractor shall commence work under the Contract on or before the 5th day following Contract execution or the 20th day following the date of award, whichever comes later, unless such time for beginning the work is changed by the City Administrator in the “Notice to Proceed.”

The Contractor is subject to the following conditions:

1. The work shall not commence until the Engineer issues a notice to proceed.
2. The Contractor shall complete all work by May 31, 2019.

Section 108 of the Standard Specifications is hereby revised for this project as follows:

Section 108.03 shall include the following:

The Contractor’s progress schedule shall be a Critical Path Method Schedule.

Salient features to be shown on the Contractor’s Critical Path Method Schedule are:

1. Mobilization
2. Erosion and Sediment Control
3. Traffic Detour
4. Demolition
5. Earthwork – Clear and grub, Excavation
6. Drainage
7. Permanent water quality
8. Retaining Walls
9. Pedestrian Bridges
10. Paving – All phases, areas, grades, and thicknesses
11. Curb and Gutter, Sidewalk, Curb Ramps
12. Construction of Stone Landscape Walls
13. Seeding
14. Signing and Striping
15. Clean up, punch-list, Final Seeding, Final Paving, Final Striping, Demobilization

Subsection 108.05 shall include the following:

Limit work as follows:

Monday to Friday 7:00am – 7:00pm

**REVISION OF SECTION 101
DEFINITIONS AND TERMS**

Section 101 of the Standard Specifications is hereby revised for this project as follows:

Section 101 shall include the following:

Subsection 101.01, line 25 shall be deleted and replaced with the following:

Colorado Department of Transportation with City of Idaho Springs, as applicable.

Subsection 101.10 shall be deleted and replaced with the following:

101.10 CDOT Resident Engineer. The City Engineer acting directly or through an authorized representative, who is responsible for engineering and administrative supervision of the project.

In subsection 101.17 delete the first paragraph and replace with the following:

101.17 Contract. The written agreement between the City of Idaho Springs and the Contractor setting forth the obligations of the parties for the performance of work and the basis of payment.

Subsection 101.23 shall be deleted and replaced with the following:

101.23 Contractor. The individual, firm, or corporation contracting with the City of Idaho Springs for performance of prescribed work.

Subsection 101.28 shall be deleted and replaced with the following:

101.28 Department. City Engineering Department. A Consultant to the City of Idaho Springs.

Subsection 101.29 shall be deleted and replaced with the following:

101.29 Engineer. The City Engineer acting directly or through an authorized representative of the City of Idaho Springs, who is responsible for engineering and administrative supervision of the project.

Subsection 101.36 shall be deleted and replaced with the following:

101.36 Holidays. Holidays recognized by the City of Idaho Springs are:

- New Year's Day
- Dr. Martin Luther King, Jr.'s Birthday
- Presidents' Day
- Memorial Day
- Independence Day
- Labor Day
- Veteran's Day
- Thanksgiving Day
- Day After Thanksgiving Day
- Christmas Day

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**REVISION OF SECTION 101
DEFINITIONS AND TERMS**

When New Year's Day, Independence Day, Veteran's Day, or Christmas Day fall on a Sunday, the following Monday shall be considered a holiday. When one of these days falls on a Saturday, the preceding Friday shall be considered a holiday.

In subsection 101.48 delete CDOT and replace with the City of Idaho Springs.

Subsection 101.51 shall be deleted and replaced with the following:

101.51 Project Engineer. The City Engineer's duly authorized representative who may be a City of Idaho Springs employee or an employee of a consulting engineer (consultant) under contract to the City of Idaho Springs as defined below:

- (a) *City of Idaho Springs Project Engineer.* The City Construction Manager or City Engineer's duly authorized representative who is in direct charge of the work and is responsible for the administration and satisfactory completion of the project under contract.
- (b) *Consultant Project Engineer.* The consultant employee under the responsible charge of the consultant's Professional Engineer who is in direct charge of the work and is responsible for the administration and satisfactory completion of the project. The Consultant Project Engineer's duties are delegated by the Project Engineer in accordance with the scope of work in the consultant's contract with the City of Idaho Springs.

Delete subsection 101.58.

Subsection 101.73 (a) shall be deleted and replaced with the following:

- (a) *Standard Specifications:* The Colorado Department of Transportation's printed book (including errata) titled *2011 Standard Specifications for Road and Bridge Construction*. The book is divided into three parts namely:
 - (1) General Provisions (Division 100)
 - (2) Construction Details (Divisions 200 thru 600)
 - (3) Material Details (Division 700)

In subsection 101.95 delete CDOT and replace with the City of Idaho Springs.

**REVISION OF SECTION 102
BIDDING REQUIREMENTS AND CONDITIONS**

Section 102 of the Standard Specifications is here by revised for this project as follows:

Section 102 shall include the following:

The West Idaho Springs and Central Idaho Springs multi-use trail segments are portions of the greater Clear Creek Greenway. The Clear Creek Greenway is a portion of the 65-mile Peaks to Plains Trail. These two trail segments were designed under different contracts and therefor are subject to different requirements.

The Central Idaho Springs Trail Segments, which include City Hall, the Bank, and Riverside Drive; were designed under a contract through the City of Idaho Springs. This contract does not require these trail segments to meet specific federal or Colorado Department of Transportation requirements. These trail segments shall meet the requirements of these Project Special Provisions, the CDOT Standard Specifications 2011, the plans and the construction requirements set forth by the City of Idaho Springs Standards and Specifications for Design and Construction. Any deviation from these documents shall be approved in writing by the Public Works Director.

The following subsections are applicable specifically to the Central Idaho Springs Trail Segments, Riverside Drive:

- Revision of Section 211 -- Dewatering
- Revision of Section 250 – Environmental, Health and Safety Management

The West Idaho Springs Trail Segment is a portion of a 14-mile segment of the Clear Creek Greenway and was designed under a contract through Clear Creek County and CDOT. Due to Federal funding, this project required an Environmental Clearance be conducted throughout the 14-mile corridor. The West Idaho Springs Mitigation Notes section of the plan set is applicable to specifically the West Idaho Springs Trail Segment.

The following subsections are applicable specifically to the West Idaho Springs Trail Segment:

- Revision of Section 240 – Protection of Migratory Birds, Biological Work, is to be Performed by the Contractor's Biologist

The City of Idaho Springs may choose to require the Contractor to abide by the specific Project Special Provisions and the Mitigation Requirements listed above for both the West Idaho Springs multi-use trail and the Central Idaho Springs multi-use trails.

The bid tab is structured to begin with a Base Bid and then, shall include multiple Add Alternate Options. All items listed on the accompanying bid tabs shall be included within the Contractor's Base Bid and/or the Add Alternate Options. The following is a description of the Base Bid and the Add Alternate Options. All items shown on the drawings and discussed within the Project Special Provisions shall be considered and included within the Contractor's proposal for the Base Bid and the Add Alternate Options.

Base Bid

The Base Bid shall include the following:

- West Idaho Springs Multi-Use Trail, Stations 7+75 through 29+21.
- The City Hall Segment
- The Bank Segment

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**REVISION OF SECTION 102
BIDDING REQUIREMENTS AND CONDITIONS**

- Riverside Drive Segment
 - The Contractor's Bid shall include all aspects of Riverside Drive, as discussed within the bid tab, plans, and specifications.
 - The Riverside Drive Segment will be funded partially by a GOCO Grant and partially by the City of Idaho Springs. The Selected Contractor will be provided additional information by THK Associates, Inc. and the City of Idaho Springs that will aid in budget and invoice tracking during construction.

Add Alternate Options

The following is a list of Add Alternate Options:

- West Idaho Springs Multi-Use Trail, Stations 0+00 through 7+75
- City Hall South Walk Connection
- Brick Paver Sidewalk between City Hall and Miner Street
- Riverside Driver Xeriscapes and Bench Area Near the East Bridge

**REVISION OF SECTION 102
PROJECT PLANS AND OTHER DATA**

Section 102 of the Standard Specifications is hereby revised for this project as follows:

Subsection 102.05 shall include the following:

Computer Output Data:

1. West Idaho Springs Area Geotechnical Report – Dated: November 11, 2016
2. Materials Management Plan, Clear Creek County Greenway Trail Project, Empire to Idaho Springs, Clear Creek County, Colorado – Dated: December 21, 2016
3. Geotechnical Evaluation Pedestrian Bridges over Clear Creek, Clear Creek Greenway Trail, Idaho Springs, Colorado Report – Dated: May 17, 2017
4. Materials Management Plan, Riverside Drive Construction, Idaho Springs, Clear Creek County, Colorado – Dated: May 31, 2018

**REVISION OF SECTION 106
CONFORMITY TO THE CONTRACT OF HOT MIX ASPHALT**

Section 106 of the Standard Special Provisions is hereby revised for this project as follows:

Subsection 106.05 shall include the following:

For this project, Contractor process control testing of hot mix asphalt is mandatory.

**REVISION OF SECTION 107
LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC**

Section 107 of the Standard Specifications is hereby revised for this project as follows:

Subsection 107.12 shall include the following:

The Contractor shall save existing riparian, wetlands, and other vegetation, except for those that must be removed to accommodate construction of the project. The Contractor shall fence specific areas of vegetation to be protected in the field as shown in the plans or as directed by the Engineer.

The Contractor shall perform all the work in such a manner that the least environmental damage will result. Any questionable areas or items shall be brought to the attention of the Engineer for approval prior to vegetation removal or any damaging activity. Damaged or destroyed fenced trees, shrubs, or wetlands, which could have been saved as determined by the Engineer, shall be replaced in kind at the expense of the Contractor.

If the protective vegetation fence is knocked down or destroyed by the Contractor, the Engineer will suspend the work, wholly or in part, until the fence is repaired to the Engineer's satisfaction. Replacement of the protective fence shall be 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.

Subsection 107.18 shall include the following:

Public Outreach. The Contractor shall work closely with the City Administrator or his/her designee to design an effective program that will provide construction progress, closures, detours and schedule updates to the Public on a bi-weekly basis.

Subsection 107.24 shall include the following:

The Contractor shall reduce fugitive dust emissions during construction by implementing best management practices (BMPs) such as spraying exposed soils, controlling vehicle speeds on construction access roads, and minimizing mud tracking by vehicles through construction of stabilized construction entrances in accordance with section 208.02 (k) requirements.

The Contractor shall reduce air emission from construction vehicles such as reducing idling time of equipment and vehicles, and newer construction equipment or equipment with add-on emission controls.

Subsection 107.25 (a) shall be deleted and replaced with the following:

(a) *Definitions.*

1. *Areas of Disturbance (AD).* Locations where any activity has altered the existing soil cover or topography, including vegetative and nonvegetative activities during construction.
2. *Construction Site Boundary/Limits of Construction (LOC).* The project area defined by the Stormwater Construction Permit.
3. *Discharge of Pollutants.* One or more pollutants leaving the LOC or entering State waters or other conveyances.
4. *Limits of Disturbed Area (LDA).* Proposed limits of ground disturbance as shown on the Plans.
5. *Pollutant.* Dredged spoil, dirt, slurry, solid waste, incinerator residue, sewage, sewage sludge, garbage, trash, chemical waste, biological nutrient, biological material, radioactive material, heat, wrecked or discarded equipment, rock, sand, or any industrial, municipal, or agricultural waste, as defined in the Colorado Code of Regulations (CCR) [5 CCR 1002-61, 2(76)]
6. *Pollution.* Man-made, man-induced, or natural alteration of the physical, chemical, biological, and

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**REVISION OF SECTION 107
LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC**

radiological integrity of water. [25-8-103 (16), CRS]
7. *State waters*. Defined in subsection 101.77.

Subsection 107.25 (b) 6. shall include the following:

The SWMP Administrator shall record the location of potential pollutants on the site map. Descriptions of the potential pollutants shall be added to the SWMP notebook.

On site above ground bulk storage containers with a cumulative storage shell capacity greater than 1,320 U.S. gallons, or storage containers having a “reasonable expectation of an oil discharge” to State waters, are subject to the Spill Prevention, Control and Countermeasure Plan (SPCC) Rule. Oil of any type and in any form is covered, including, but not limited to: petroleum; fuel oil; sludge; oil refuse; oil mixed with wastes other than dredged spoil. EPA Region 8 is responsible for administering and enforcing the SPCC plan requirements in Colorado. Prior to start of work, the Contractor shall submit a SPCC Form which has been approved by the EPA for the project.

Subsection 107.25 (b) 8. shall be deleted and replaced with the following:

Water from dewatering operations shall not be directly discharged into any State waters, unless allowed by a permit. Water from dewatering shall not be discharged into a ditch unless:

- (1) Written permission is obtained from the owner of the ditch.
- (2) It is covered in the approved CDW or Remediation Permit that allows the discharge.
- (3) A copy of this approval is submitted to the Engineer. A copy of the Permit shall be submitted to the Engineer prior to dewatering operations commencing.

If the site is covered by a Colorado Discharge Permit System Stormwater Construction Permit (CDPS-SCP) and the following conditions are met, a separate CDW permit will not be required for discharge to the ground:

- (1) The source is identified in the Stormwater Management Plan (SWMP) as updated by the SWMP Administrator.
- (2) The SWMP describes and locates the practices implemented at the site to control stormwater pollution from the dewatering of groundwater or stormwater.
- (3) The SWMP describes and locates the practices to be used that will ensure that no groundwater from construction dewatering is discharged from the LOC as surface runoff or to surface waters or storm sewers.
107.25 135
- (4) Groundwater and groundwater combined with stormwater do not contain pollutants in concentrations exceeding the State groundwater standards in Regulations 5 CCR 1002-41 and 42.

If surface waters are diverted around a construction area and no pollutants are introduced during the diversion, a CDW Permit is not required. If the diverted water enters the construction area and contacts pollutant sources (e.g. disturbed soil, concrete washout, etc.), the Contractor shall obtain a CDW permit for the discharge of this water to State waters or to the ground.

Construction Dewatering may be discharged to the ground on projects that are not covered by a CDPS-SCP if the conditions of the CDPHE’s low risk guidance document for Discharges of Uncontaminated Groundwater to Land are met. The conditions of this guidance are:

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**REVISION OF SECTION 107
LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC**

- (1) The source of the discharge is solely uncontaminated groundwater or uncontaminated groundwater combined with stormwater and does not contain pollutants in concentrations that exceed water quality standards for groundwater referenced above.
- (2) Discharges from vaults or similar structures shall not be contaminated. Potential sources of contamination include process materials used, stored, or conveyed in the structures, or introduced surface water runoff from outside environments that may contain oil, grease, and corrosives.
- (3) The groundwater discharge does not leave the project boundary limits where construction is occurring.
- (4) Land application is conducted at a rate and location that does not allow for any runoff into State waters or other drainage conveyance systems, including but not limited to streets, curb and gutter, inlets, borrow ditches, open channels, etc.
- (5) Land application is conducted at a rate that does not allow for any ponding of the groundwater on the surface, unless the ponding is a result of implementing BMPs that are designed to reduce velocity flow. If the BMPs used result in ponding, the land application shall be done in an area with a constructed containment, such as an excavation or berm area with no outfall. The constructed containment shall prevent the discharge of the ponding water offsite as runoff.
- (6) A visible sheen is not evident in the discharge.
- (7) BMPs are implemented to prevent any sediment deposited during land application from being transported by stormwater runoff to surface waters or other conveyances.
- (8) All BMPs used shall be selected, installed, implemented, and maintained according to good Engineering, hydrologic and pollution control practices. The selected BMPs shall provide control for all potential pollutant sources associated with the discharge of uncontaminated groundwater to land. The discharge shall be routed 107.25 136 in such a way that it will not cause erosion to land surface. Energy dissipation devices designed to protect downstream areas from erosion by reducing the velocity of flow (such as hose attachments, sediment and erosion controls) shall be used when necessary to prevent erosion.

Discharged water shall be drained slowly so that it soaks into the ground without running outside the project boundary or causing flooding issues. The discharge shall be routed in such a way that it will not contact petroleum products or waste.

Subsection 107.25 (b) 15. and 16. shall be deleted.

Subsection 17. through 24. shall be renumbered as 15. through 22.

Subsection 107.25 (b) 16. shall include the following:

When required by the Colorado Water Quality Control Act, Regulation 5 CCR 1002-61, spills shall be reported to the Engineer and CDPHE in writing.

Subsection 107.25 (b) 19. shall be deleted and replaced with the following:

Prior to start of work, the Contractor shall certify in writing to the Engineer that construction equipment has been cleaned prior to initial site arrival. Vehicles and equipment shall be free of soil and debris capable of transporting noxious weed seeds or invasive species onto the site. Additional equipment required for construction shall also be certified prior to being brought onto the project site.

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**REVISION OF SECTION 107
LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC**

Subsection 107.25 (b) 20. shall be deleted.

Subsection 107.25 21. through 22. shall be renumbered as 20. through 21.

Subsection 107.25 (c) is here by added as follows:

Stormwater Construction Permit. A Colorado Discharge Permit System Stormwater Construction Permit (CDPS-SCP) has been obtained from CDPHE by the City.

1. *City Obtained Stormwater Construction Permit.* The City has obtain the Colorado Discharge Permit System Stormwater Construction Permit (CDPS-SCP) from the Colorado Department of Public Health and Environment (CDPHE) prior to the award of contract. The Contractor may be legally required to obtain all other permits associated with specific activities within, or off the Right of Way, such as borrow pits, concrete or asphalt plant sites, waste disposal sites, or other facilities. These permits may include local agency or federal grading or stormwater permits. It is the Contractor's responsibility to obtain these permits. The Contractor shall consult with the Engineer, and contact the Colorado Department of Public Health and Environment (CDPHE) or other appropriate federal, state, or local agency to determine the need for any permit.

The Contractor shall coordinate with the City on transferring the respective Permit to the Contractor upon award of the Contract. The Contractor shall submit the "Application For Transfer of Ownership For All Permits, Certifications and Authorizations" for the CDPHE Permit, prior to commencement of construction. Work shall not begin until the CDPSSCP permit transfer has been approved by CDPHE, unless otherwise directed

If a Utility Company has obtained a permit for the area prior to the Contractor being on site, then the Contractor shall coordinate with the Utility Company to transfer those areas over to the Contractor prior to work commencing. The Contractor shall not commence construction until Application for Transfer of Ownership for All Permits, Certifications and Authorizations has been approved by CDPHE and submitted to the Engineer.

To initiate partial acceptance of the stormwater construction work (including seeding and planting required for erosion control), the Contractor shall request in writing a Stormwater Completion Walkthrough. The Engineer will set up the walkthrough and will include: the Engineer or designated representative, Superintendent or designated representative, Stormwater Management Plan (SWMP) Administrator, Region Water Pollution Control Manager (RWPCM) and Landscape Architect representing the region. Unsatisfactory and incomplete erosion control work will be identified in this walkthrough, and will be summarized by the Engineer in a punch list. The Water Quality Permit Transfer to Maintenance Punch List may be used as a template in creating the Engineer's punch list.

The Engineer will coordinate with the City on regular inspections of the corrective work. The Engineer will coordinate with CDOT Maintenance on regular inspections of the corrective work when work is within CDOT ROW. The completed action items associated with the corrective work shall be shown as completed on the Punch List. Upon completion of all items shown, the Contractor shall submit the completed Punch List to the Engineer for review. Upon written approval of the Punch List, the Contractor shall submit the "Application for Transfer of Ownership for All Permits, Certifications and Authorizations" 107.25 140 to the CDPHE requesting transfer of ownership of the CDPS-SCP to the City. When requested by the City and approved by the Engineer, the Permit may be transferred by the Contractor to the Resident Engineer instead of the City.

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**REVISION OF SECTION 107
LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC**

Until the transfer of the permit has been approved by the CDPHE the Contractor shall continue to adhere to all permit requirements. Requirements shall include erosion control inspections, BMP installation, BMP maintenance, BMP repair, including seeded areas, and temporary BMP removal. All documentation shall be submitted to the Engineer and placed in the SWMP notebook. All costs associated with the Contractor applying for, holding, and transferring the CDPS-SCP permit between parties will not be measured and paid for separately, but shall be included in the work in accordance with subsection 107.02.

Subsection 107.25 (c) shall be renumbered as Subsection 107.25 (d).

**REVISION OF SECTION 108
PROJECT SCHEDULE**

Section 108 of the Standard Specifications is hereby revised for this project as follows:

Subsection 108.03 shall include the following:

The Engineer will review the schedule submittals. Said schedule review shall not constitute an Approval of the Contractor's construction means, methods, sequencing, or its ability to complete the Work in a timely manner.

Subsection 108.03 (c) delete the first sentence of the second paragraph and replace with the following:

The Contractor shall use Microsoft Project software to develop and manage the Critical Path Method Schedule.

Subsection 108.03 (c) shall include the following:

Changes in logic and/or durations shall not be made without first providing written notification to the Engineer for the Contractor's need to change. No work/activity shall commence without written approval from the Engineer accepting said changes.

The Contractor shall submit a written justification for requested schedule changes. The Engineer will review and determine whether the requested change is reasonable. Acceptance or rejection of such changes is without liability. Logic or duration changes to simply accommodate a perception of still being on-schedule will not be accepted.

A revision of the Schedule may include a Recovery Schedule. At the discretion of the Engineer, when the most current accepted Schedule Update no longer represents the actual prosecution and progress of the work, the Engineer shall require a Recovery Schedule. If it is determined that a Recovery Schedule is required, it shall be provided to the Engineer for review within 15 calendar days of written notification. The Recovery Schedule shall include the original contract work and all approved change order work. The Engineer's review of the Recovery Schedule will not exceed seven calendar days. Revisions required as a result of the Engineer's review shall be submitted within seven calendar days. When accepted by the Engineer in writing, the Recovery Schedule shall become the Project Schedule. All costs related to performing the work in the Recovery Schedule will not be paid for separately, but shall be included in the work. Failure to provide the required schedule information at the required times will result in denial of the relative portion of progress payments until such time that the schedule information is submitted in the correct format at the sole option of the Engineer.

The following requirements have been defined to create consistency across all projects schedules for the purpose of analysis.

- (1) Dependencies between activities shall be indicated so that it may be established as to the effect the progress of any one activity would have on the Schedule. Dependencies shall make use of Finish-to-Start (FS), Start-to-Start (SS), or Finish-to-Finish (FF) logic ties. Use of Start-to-Finish (SF) logic ties shall not be used when the creation of an activity will perform the same function (e.g., concrete cure time). Dependencies shall not make use of negative lags. The use of any lead or lag shall require a written explanation by the Contractor in a narrative.
- (2) All activities, except Notice-to-Proceed and Final Completion, are required to have at least one predecessor and one successor.

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**REVISION OF SECTION 108
PROJECT SCHEDULE**

- (3) Date and time constraints, other than those required by the contract, will not be allowed unless accepted by the Engineer.
- (4) Calendar day shall demonstrate conformance to Section 108.08 of the Standard Specifications for Road and Bridge Construction.
- (5) The schedule should be broken down into logical areas of work.
- (6) Summary of Activities
 - i. The Contractor shall include special activities that are a summary of a chain of activities. The start of the activity will be the start date of the first activity in the chain and the finish date will be the finish date of the last activity in the chain.
 - ii. Included in the summary area should be a summary activity designated as Contract Time. The summary activity shall have Notice-to-Proceed as its predecessor, with a SS 0 relationship; and Contractual Completion as its successor, with a FF 0 relationship. The Calendar day schedule shall be used for all summary activities. The duration of this activity must not exceed the contract time.
 - iii. The purpose of these summary activities is to provide monitoring of the contract time and Area progress.
- (7) Tasks related to the submittal/procurement of material or equipment shall be included as separate activities in the project schedule.
- (8) Contractor's original network diagram submittal shall become the Project Schedule, once it is accepted by the Engineer. The Project Schedule shall be duplicated and utilized as the Schedule Update and shown graphically over the Project Schedule.
- (9) The following logic relationships will be required in any precedence diagram method used:
 - i. All logical relationships shall be Finish-to-Start (FS), with the following exceptions:
 - At the start or origin, activities may be Start-to-Start (SS)
 - At a milestone or at the conclusion of the network, activities may be a Finish-to-Finish (FF).
 - Use in Summary activities.
 - ii. Lag factor use should be limited. When used, they should be identified as a functional activity (i.e., concrete curing).
 - iii. Accepted Schedules shall only contain Contract Required Early Start and/or Early Finish Constraints.
 - iv. The retained logic mode is required for schedule calculations.

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**REVISION OF SECTION 108
PROJECT SCHEDULE**

Any deviations / change from these logic specifications require written request to be reviewed for Acceptance from the Engineer prior to implementation, to prevent manipulations to give false results.

Use of the following float-suppression techniques, such as preferential sequencing (arranging critical path through activities more susceptible to City-caused delay) shall be cause for rejection of the Project Schedule or its Updates:

- a. Special lead/lag logic restraints.
- b. Zero total or free float constraints.
- c. Imposing constraint dates other than as required by the contract.
- d. The use of resource Leveling or similar software features used for the purpose of artificially adjusting activity durations to consume float and influence the critical path is expressly prohibited.

Definitions of Float (or Slack):

- a. Free Float is the length of time the start of an activity can be delayed without delaying the start of a successor activity.
- b. Total Float is the length of time along a given network path that the actual start and finish of an activity or activities can be delayed without delaying the project completion date.
- c. Project Float is the length of time between the Contractor's Early Completion and Completion and the Contract Completion Date.
- d. Project Float is for the benefit of the Project and for the mutual use of the City and the Contractor.

Negative float will not be a basis for requesting time extensions. Any extension of time will be addressed in accordance with the Section 108.08, Determination and Extension of Contract Time. Scheduled completion dates that extend beyond the contract or phase completion dates (evidenced by negative float) may be used in computation for assessment of payment withholdings. The use of this computation is not to be construed as a means of acceleration.

In Subsection 108.03 (c) delete subsection (1)

In Subsection 108.03 (c) (2), delete the first paragraph and replace with the following:

The Project Schedule submittal shall consist of a Time Scaled Logic Diagram Schedule Report. It shall be prepared in full and submitted to the Engineer within 30 calendar days of receiving the Notice to Proceed for Design. The Engineer's review of the Project Schedule will not exceed seven calendar days. Revisions required as a result of the Engineer's review shall be submitted within seven calendar days.

Subsection 108.03 (c) (2) Project Schedule shall include the following:

The schedules shall include all activities required for contract completion. The Project Schedule shall be submitted to the Engineer for acceptance.

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**REVISION OF SECTION 108
PROJECT SCHEDULE**

- a. Within seven calendar days after receipt of the complete Project Schedule, the Engineer will communicate in writing, its comments and concerns to the Contractor. Within seven calendar days, the Contractor shall adjust the Schedule to incorporate comments from the Engineer and re-submit.
- b. Upon Engineer's receipt and acceptance of revisions to the Project Schedule, it shall become part of the Contract Documents. Payment to the Contractor shall be withheld until such schedule, satisfactory in form and substance to the Engineer, has been accepted.

Subsection 108.03 (c) (3) Schedule Updates shall include the following:

Updated Schedules shall accompany the monthly Application for Payment, reflecting physical progress since previous month's submittal.

One plotted copy at least 24 inches wide and long enough to show the full Time Scaled Logic Diagram and the following columns: Task ID, Description, Duration, Total Slack, Percent Complete, Early Start and Finish, Late Start and Finish, Actual Start, and Actual Finish sates. In addition one electronic copy containing the Microsoft Project Schedule Update shall be submitted.

The Schedule Update shall show the actual status of all activities, including those in progress, completed, or not started, by the use of Actual Start and Actual Finish dates. For all activities that have a Contractor remaining duration equal to zero days, the activity shall be shown as 100% complete. Any percentage less than 100% shall have a remaining duration in whole one-day increments. In addition, activities having a remaining duration of zero cannot be claimed as less than 100% complete.

Actual Start and Finish dates shall not be automatically updated by default mechanisms that may be included in the CPM scheduling software system. Actual Start and Actual Finish dates on the CPM schedule shall match the dates of actual work accomplished in the field and not on projected completion dates.

Upon Engineer's request, the Contractor shall provide a computer generated report using recognized schedule comparison software listing all changes made between the previous schedule and current updated schedule. The report will identify the name of the previous schedule and name of the current schedule being compared.

The Contractor shall utilize and conform to the current accepted Project Schedule.

REVISION OF SECTION 201 CLEARING AND GRUBBING

Section 201 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

Subsection 201.01 shall include the following:

This work includes the removal of trees less than 4 inches in caliper measured at breast height (DBH), the trimming of trees, removal of dead or broken branches, and removal of shrubs as designated by the Landscape Architect. This work includes the preservation from injury or defacement of all vegetation and objects designated to remain.

Environmental limits are as established by the limits of disturbance on the plans. All trees, shrubs, herbaceous plants, grasses, and other vegetative materials shall remain, except as designated by the Landscape Architect.

Prior to beginning any construction in the vicinity of the tree(s), removal, trimming, and pruning of encroaching vegetation (as determined by the Landscape Architect) shall be completed.

Once all directed clearing, trimming, and pruning is completed and accepted, no additional clearing, trimming, or pruning will be allowed unless approved, in writing, by the Landscape Architect.

This work shall be done by a Contractor or subcontractor who is a qualified tree surgeon and a member of the National Arborist Association. The firm's or individual's name and qualifications shall be submitted at the preconstruction conference for the Landscape Architect's approval.

CONSTRUCTION REQUIRMENTS

Subsection 201.02 shall include the following:

Branches on trees or shrubs shall be removed as noted in the plans or as directed by the Landscape Architect. All trimming shall be done by skilled workmen. All work shall be done according to the following requirements:

1. Pruning shall be done with proper, sharp, clean tools in such a manner as to preserve the natural character of the tree.
2. All final cuts shall leave no projections on or off the branch and shall not be cut so close as to eliminate the branch collar.
3. To avoid bark stripping, all branches 2 inches in diameter and larger shall be cut using the 3-cut method. These branches shall be lowered to the ground by proper ropes.
4. Tools used on trees known or found to be diseased shall be disinfected with alcohol before they are used on other trees.
5. Structural weaknesses, decayed trunk or branches, or split crotches shall be reported to the Landscape Architect.
6. When cutting back or topping trees, the Contractor shall use the drop-crotch method and avoid cutting back to small suckers. Smaller limbs and twigs shall be removed in such a manner so as to leave the foliage pattern evenly distributed.

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**REVISION OF SECTION 201
CLEARING AND GRUBBING**

7. When reducing size (cut back or topping) not more than one-third of the total area shall be reduced at a single operation.
8. Climbing spikes shall not be used on trees not scheduled for removal.

In subsection 201.02, third paragraph, delete the third sentence and replace with the following:

In areas to be rounded at the tops of back slopes and in designated park sites, stumps shall be removed to at least 2 feet below the surface of the final slope line or final grade.

All brush, branches, limbs, and foliage smaller than 4 inches in diameter shall become the property of the Contractor and his responsibility to remove from the project site. Stumps shall be left no higher than 2 feet above the ground surface and shall be removed when within areas of excavation. When trees being cut off are outside the excavation limits, the stumps shall be cut so that no more than 3 inches remains above the ground surface. All removed or trimmed vegetation shall be removed from the project and shall become the property of the Contractor. Stump grinding is not required in any circumstances.

METHOD OF MEASUREMENT

Subsection 201.03 shall include the following:

All clearing and grubbing directed by the Landscape Architect will be paid for as lump sum under the clearing and grubbing item.

BASIS OF PAYMENT

Subsection 201.04 shall include the following:

Removal of trees less than 4 inches in caliper measured at breast height (DBH), the trimming of trees, removal of dead or broken branches, and removal of shrubs will not be measured and paid for separately, but shall be included in the work for Clearing and Grubbing.

**REVISION OF SECTION 202
REMOVAL OF TREE**

Section 202 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

Subsection 202.01 shall include the following:

This work includes the removal of trees greater than 4 inches in caliper as measured at breast height (DBH) and/or pruning large trees in lieu of removal, located on the plans or as directed by the Landscape Architect. This work includes the preservation from injury or defacement of all vegetation and objects designated to remain.

Environmental limits are as established by the limits of disturbance on the plans. All trees, shrubs, herbaceous plants, grasses and other vegetative materials shall remain, except as designated by the Landscape Architect.

Prior to beginning any construction in the vicinity of the tree(s), removal, trimming, and pruning of encroaching vegetation (as determined by the Landscape Architect) shall be completed.

Once all directed removal is completed and accepted, no additional clearing, trimming, cutting, pruning or removal will be allowed unless approved, in writing, by the Landscape Architect.

This work shall be done by a Contractor or subcontractor who is a qualified tree surgeon and a member of the National Arborist Association. The firm's or individual's name and qualifications shall be submitted at the preconstruction conference for the Landscape Architect's approval.

CONSTRUCTION REQUIRMENTS

Subsection 202.02 shall include the following:

Trees shall be removed in their entirety, including root balls.

Access for the removal of trees will be monitored by the City. Trees shall be felled at the risk of the Contractor. Strict limits of disturbance will be defined and shall be adhered to.

All brush, branches, limbs and foliage as a result of removal will be removed from the project site by the Contractor.

BASIS OF PAYMENT

Subsection 202.12 shall include the following:

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Removal of Tree	Each

Payment will be full compensation for all work, equipment, and materials required to remove the trees: when the diameter at breast height (DBH) is 4 inches or greater. Trees with a smaller DBH shall be removed and paid as a part of Section 201 Clearing and Grubbing.

Removal and disposal of brush, branches, limbs, foliage and trunks shall not be paid for separately, but shall be included in the price of the work.

All clearing and grubbing and removal of trees less than 4 inches in diameter as directed by the Engineer and/or

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REVISION OF SECTION 202
REMOVAL OF TREE

Landscape Architect will be paid for as lump sum under Clearing and Grubbing.

**REVISION OF SECTION 202
REMOVAL OF ASPHALT MAT**

Section 202 of the Standard Specifications is hereby revised for this project as follows:

Subsection 202.01 shall include the following:

This work includes removal and disposal of asphalt mat within the project limits as shown on the plans or at locations directed by the Engineer.

In subsection 202.02 delete the seventh paragraph and replace with the following:

The existing asphalt mat shall be removed in a manner that minimizes contamination of the removed mat with underlying material. The removed mat shall become the property of the Contractor and shall be either disposed of outside the project site, or used in one or more of the following ways:

1. Recycled into hot mix asphalt.
2. Placed in subgrade soft spots as directed by the Engineer.

Subsection 202.11 shall include the following:

The removal of the existing asphalt mat will be measured by the square yard of mat removed to the required depth and accepted.

Subsection 202.12 shall include the following:

Payment will be made under:

Pay Item	Pay Unit
Removal of Asphalt Mat	Square Yard

Unless otherwise specified in the Contract, the disposal of the asphalt mat or its use in other locations on the project will not be measured and paid for separately, but shall be included in the work.

**REVISION OF SECTION 203
SURFACE ROCK EXCAVATION (SPECIAL)**

Section 203C of the Standard Specifications is hereby revised for this project to read as follows:

DESCRIPTION

203C.01 General. This work consists of surface rock excavation and disposal of all materials in accordance with these specifications and in conformity with the excavation lines, grades and stations shown on the plans or as established by the Engineer. All rock excavation will have to be performed using mechanical means such as hoe ramming, wedging, drilling, splitting or other method and shall be performed without the use of explosives, and shall be performed under the supervision of a representative of Xcel. There is a high pressure gas line located within the corridor of the West Idaho Springs Multi-Use Trail segment.

203C.02 Definitions.

Final Face. The remaining slope surface after all excavation is complete.

CONSTRUCTION REQUIREMENTS

203C.03 General. The method selected by the Contractor shall allow excavation to the slope line(s) and depth(s) as shown on the plans and shall not affect in any way the material or structures outside the excavation line or grade. Identify required lines, levels, and elevations that will determine extent of proposed excavation. The Contractor shall conduct the work in a manner that ensures the safety of employees, City personnel, and the public.

203C.04 Waterway and Third-Party Impacts. The Contractor shall prevent rocks debris from entering waterways and shall prevent adverse impacts to State Waters in accordance with subsection 107.25.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, negligence or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at no cost to the Owner, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner. The Contractor shall regrade the disturbed area as directed and restore the surface material to match the existing in type and quality.

The Contractor shall submit his proposed methods, and protection of waterways and third-parties, to the Engineer for review at least 3 weeks prior to commencement of any work per section 203C.08. The Contractor shall not begin until written approval is granted by the Engineer. If methods used are not effective in achieving these requirements, the Contractor shall alter the methods and resubmit proposed methods to the Engineer for review.

Verify site conditions and note subsurface conditions in particular buried utilities (e.g. gas lines) that may affect the work covered by this section.

203C.05 Special Considerations. All rock excavation will have to be performed using mechanical means such as hoe ramming, wedging, drilling or splitting and shall be excavated without the use of explosives. Excavation by methods the using of drilling, splitting, wedging or other approved methods not involving the use of explosives shall be utilized

All costs resulting from damage to adjacent roadways, existing slopes, waterways, all utilities, nearby structures, or vegetation shall be the responsibility of the Contractor.

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**REVISION OF SECTION 203
SURFACE ROCK EXCAVATION
(SPECIAL)**

203C.06 Preliminary Submittals. The following shall be submitted to the Engineer no later than three (3) weeks prior to beginning any work involving excavation. Submittals shall be in accordance with subsection 105.02.

- (a) Preconstruction Survey. This submittal shall be in accordance with the requirements presented in these sections.
- (b) Personnel. Written documentation as supporting evidence of the qualifications of personnel shall be submitted to the Engineer
- (c) General Excavation Plan. This submittal shall be a narrative containing at least the following information:
 - 1. A list of equipment, which will be available on the site for performing the work.
 - 2. Proposed method of preventing rock from entering waterways.
 - 3. Schedule for the construction.
 - 4. Equipment and methods for accessing the work area.

203C.07 Construction Submittals. The following shall be submitted as noted herein:

The Contractor shall notify the Engineer not less than 14 days before beginning rock excavation. The Contractor shall not excavate beyond the dimensions and elevations established except as specified or as directed by the Engineer. The Contractor shall not excavate materials in the rock cut areas prior to slope staking of the site.

203C.08 Special Requirements for Permanent Rock Slopes.

Rock shall be excavated without the use of explosives. Excavation methods by the use of drilling, splitting, wedging or other approved methods not involving the use of explosives shall be utilized. The method selected by the Contractor shall allow excavation to the slope line(s) and depth(s) as shown on the plans and shall not affect in any way the material or structures outside the excavation line or grade. Prior to rock excavation, the Contractor shall obtain all necessary permits from regulatory agencies.

The Contractor shall examine the site and may make his own subsurface explorations. Test borings have been performed and made available for information only. The Contractor shall assume all responsibility for any interpretations or for reviewing the available information.

Remove loose or shattered rock, overhanging ledges and boulders, which might dislodge.

METHODS OF MEASUREMENT

203C.08 Measurement of Rock Excavation. Measurement will be in accordance with subsection 203.13 (a) of the Standard Specifications. All materials excavated will be measured in cubic yards in its original position, by cross-sectioning the areas to be excavated prior to and after removal of the material. The Contractor shall perform pre- and post-excavation surveys to determine the pay quantity. The measurement shall extend between the limits of the lines and grades as shown in the plans or as established in the field by the Engineer.

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REVISION OF SECTION 203
SURFACE ROCK EXCAVATION (SPECIAL)

The volume of the excavation will be computed by the Engineer, using the average end area method, as the difference between the aforementioned cross-section as shown in the plans. Excavation outside the excavation limits shall not be measured for payment.

Payment for pre- and post-surveys will be measured and paid under Section 625, Construction Surveying (Hourly).

Scaling that is performed in conjunction with Surface Rock Excavation will not be measured for payment but shall be included in the cost of the work.

BASIS OF PAYMENT

203C.09 The accepted quantities measured as specified above shall be paid for at the unit price bid for the pay items listed below:

Pay Item	Pay Unit
Rock Excavation	Cubic Yard

Payment shall be full compensation for all labor, materials, tools, equipment and incidentals necessary for excavation, removal and disposal of excavated material, scaling, and all other work required to complete the designated pay items in accordance with subsection 109.02.

The Contractor shall bear the expense of the excavation outside the limits established by the Engineer. The Contractor shall bear the expense of any damage to all facilities, waterways, and structures.

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 the proper treatment and disposal of groundwater collected from dewatering operations during excavation and caisson drilling including but not limited to removals and installations of roadway, bridge, and walls.

CONSTRUCTION REQUIREMENTS

211.02. Groundwater elevation varies throughout the project limits. In various locations, sump pumps may be required to keep excavations dry. In accordance with the requirements noted in Subsection 211.02, the Contractor may, at his choosing, manage the groundwater using the following methods (regardless of the methodology used, the Contractor is encouraged to minimize dewatering wherever practicable):

1. Avoid dewatering, thus avoid the need to treat, haul, or otherwise manage the water.
2. Pump, contain, treat, and discharge ground water in accordance with regulatory requirements.
3. Pump, contain, and haul water to a proper disposal facility in accordance with applicable laws and regulations.

Groundwater may be encountered when excavating/trenching, particularly near Clear Creek. Sampling, during the East Bound Peak Period Shoulder Lane project, confirmed that groundwater is impacted with metals that exceed likely surface-water discharge limits; therefore, water from excavations shall be managed in accordance with Revision of Section 107 Water Quality control, and the project specific Materials Management Plan listed in Subsection 250.03. It is the responsibility of the Contractor to obtain all applicable Colorado Department of Public Health and Environment (CDPHE) – Water Quality Control Division (WQCD) permits for dewatering and discharge, and to abide by the requirements of the permit(s). The CDPHE-WQCD permit(s) requirements take precedence to the project specifications and the Materials Management Plan, where applicable.

The Contractor shall apply for and obtain a Colorado Discharge Permit System (CDPS) General Permit for Construction Dewatering (COG0700000) from the CDPHE-WQCD if groundwater will require management. This application must be submitted to CDPHE at least 30 days prior to dewatering activities. If the Contractor intends to treat groundwater for discharge into a waters of the State (e.g., Clear Creek), it is likely that the Contractor will need to apply for and obtain a Remediation Activities Discharge of Surface Water permit (COG315000). If so, this application must be submitted at least 45 days prior to the anticipated date of discharge, and must be considered complete by the CDPHE before the CDPHE review and approval process begins. An application for remediation would need to concisely show how the Contractor intends to treat the water to meet the surface-water standards applicable for the discharge.

Water from dewatering operations shall not be directly discharged into any waters of the State, including wetlands, irrigation ditched, canals, or storm sewers, unless allowed by a permit. Unless prohibited by law or otherwise specified in the Contract, the water from dewatering operations shall be contained in basins in locations approved by the engineer, treated for discharge in accordance with the CDPHE_WQCD permit(s), or shall be hauled away from the project for proper disposal in accordance with applicable laws and regulations.

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**REVISION OF SECTION 211
DEWATERING**

In accordance with permit procedures, the Contractor shall fill out and submit a monthly Discharge Monitoring Report (DMR) to CDPHE-WQCD for the life of permit. Copies of monthly submittals shall be provided to Francesca Tordonato, CDOT Region 1 Environmental Project Manager, 425 B Corporate Circle, Golden, CO 80401, (720) 497-6942.

A project-specific Materials Management Plan has been prepared, and shall be followed by the Contractor. However, any requirements noted on the CDPHE-WQCD permit(s) take precedence to the Materials Management Plan.

Dewatering as described above, will be paid for as a Lump Sum.

**REVISION OF SECTION 212
 SEEDING, FERTILIZER, SOIL CONDITIONER, AND SODDING**

Section 212 of the Standard Specifications is hereby revised for this project as follows:

Section 212.02 (d) is hereby added to the Standard Specifications as follows:

In subsection 212.02 (b), delete the 3rd paragraph and replace with the following:

Soil conditioning shall be derived from a variety of sources including agricultural, bio solids, forestry, food, leaf and yard trimmings, manure, and tree wood.

In subsection 212.02 (b), delete the 4th paragraph.

In subsection 212.02 (b), delete the 5th paragraph and replace with the following:

Soil Conditioner Parameters	Reported as	Requirements	Test Method
pH	pH Units	6.0 - 8.5	TMECC 04-11-A
Soluble Salts (Electrical Conductivity)	mmhos/cm	Maximum 10 dS/m	TMECC 04.10-A
Organic Matter Content	%, Dry Matter Basis	20%-60%	TMECC 05.07-A
Particle Size (Sieve Sizes)	% dry weight basis for each sieve fraction	Passing 1 inch - 100% 1/2 inch - 95%	TMECC 02.02-B
Ammonium-N/Nitrate-N-Dry Ratio	Matter Basis	ratio of < 4	Calculation
Plant Available phosphorus, potassium, zinc, iron, manganese, copper	Dry Matter Basis	level of nutrients must exceed a medium range	AB-DTPA

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**REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER, AND SODDING**

The contractor shall provide a soil test, performed by an agency pre-approved by the Engineer, completed within 90 days prior to beginning use of material, confirming that the material has been tested in accordance with Test Methods for Examination of Composting and Compost (TMECC).

Delete subsection 212.02 (c) *Sod*.

In Subsection 212.06, 3rd paragraph, delete the 5th sentence and replace with the following:

Soil Conditioner shall be evenly incorporated into the top eight inches of soil. Soil Conditioner shall be applied at a rate of three cubic yards per 1,000 square feet in areas consisting of seeding (native) and seeding (lawn).

In Subsection 212.07, 1st paragraph, delete the 1st sentence and replace with the following:

The quantities of seeding (native) and seeding (lawn) will not be measured but shall be the quantities designated in the Contract. Measurements will be made for revisions requested by the Engineer, or for discrepancies of plus or minus five percent of the total quantity designated in the Contract.

Section 212.08 shall include the following:

Payment shall be made under:

Pay Item	Pay Unit
Seeding (Native)	Acre
Seeding (Lawn)	Acre
Soil Conditioning	Acre

**REVISION OF SECTION 213
LANDSCAPE BOULDER**

THIS SECTION IS APPLICABLE TO WEST IDAHO SPRINGS TRAIL SEGMENT, ONLY.

Section 213 of the Standard Specifications is hereby revised for this project as follows:

Subsection 213.01 shall include the following:

Landscape Boulder consists of selecting and transporting stockpiled boulders within the project limits and placing as indicated on the landscape plans, and as applicable to the project site. Additional boulders may need to be obtained from offsite facilities in order to complete the project. Use select angular boulders that are sound and durable, free of visible cracks or fractures. Excavate subgrade for rock placement. Use suitable sub-base material such as gravel and backfill.

Subsection 213.02 shall include the following:

Reserved Landscape Boulders from onsite excavation shall meet or exceed the dimension requirements as described in the Stone Landscape Wall details.

Subsection 213.03 shall include the following:

Existing Landscape Boulders excavated during earthwork operations and meeting the size requirements for Stone Landscape Walls may be used as material for the Stone Landscape Walls and shall be installed as indicated on plans.

Any Landscape Boulder that is fractured, cracked or broken during the installation process shall be replaced with a boulder of appropriate size, shape and type. Boulder replacement shall be at the Contractor's expense.

Subsection 213.04 shall include the following:

Procurement of stockpiled boulders from around the project site shall be paid for as part of Embankment Material (Complete in Place). Equipment and labor to relocate boulders shall be included in the work.

Placement of boulders shall be paid for as part of the work to complete Stone Landscape Walls. Equipment and labor shall be included in the work.

Subsection 213.05 shall be revised to the following:

Pay Item	Pay Unit
Embankment Material (Complete in Place)	Cubic Yard
Stone Landscape Wall	Square Foot
Landscape Boulder	Each
Landscape Boulder (Special)	Each

**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 AND CONSTRUCTION REQUIREMENTS

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

The wildlife biologist shall record 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 the Engineer.

(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 or City 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.

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 the Engineer. 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, the Engineer 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.

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

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 7 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, 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 wildlife biologist. This buffer dimension may be changed if determined appropriate by the wildlife biologist and approved by the Engineer. 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, the Engineer will suspend 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 Migratory Bird Treaty Act (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 the City has not removed existing nests, then the monitoring of nest building shall become the Contractor's responsibility upon Notice to Proceed.
- 2) During the time that the 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 the 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 the Engineer. 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 the Engineer. 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.

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

METHOD OF MEASUREMENT

240.03 Wildlife Biologist will be measured by the actual authorized number of hours a wildlife biologist is on site performing the required tasks.

BASIS OF PAYMENT

240.04 The accepted quantities measured as provided above will be paid for at the contract unit price for each of the pay items listed below that appear in the bid schedule.

Payment will be made under:

Pay Item	Pay Unit
Wildlife Biologist	Hour

Payment for Wildlife Biologist will be full compensation for all work and materials required to complete the item, including wildlife biologist, wildlife survey, and documentation (record of nest location and protection method)

Clearing and grubbing will be measured and paid for in accordance with Section 201. Mowing will not be measured and paid for separately, but shall be included in the work.

Removal and trimming of trees will be measured and paid for in accordance with Section 202.

Fence (Plastic) will be measured and paid for in accordance with Section 607.

**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:

250.01. Due to the presence of Recognized Environmental Conditions in and near the project area, there is a potential for encountering contaminated materials, particularly mine-related wastes (soil and waste rock), and groundwater impacted by those wastes. A Materials Management Plan has been prepared for this project that details previous environmental investigations, and the means and methods used to identify and handle contaminated or potentially contaminated media. The Contractor shall understand and comply with the Materials Management Plan and the procedures presented therein.

Subsection 250.03 shall include the following:

As specified in the Materials Management Plan, workers shall be alert during excavation for signs of contamination, particularly with regards to mine-related wastes. If soil and/or groundwater contamination is encountered during construction activities, work will stop immediately and the procedures outlines in the Materials Management Plan shall be followed.

The Contractor shall be responsible for the workers' health and safety and environment. The Contractor Health and Safety Officer shall be on site as necessary during the excavations to ensure proper handling, testing and disposal of contaminated media, as detailed in the Materials Management Plan, the Church Placer Repository Operations and Management Plan, Standard Special Provision 250, Subsection 107.25(b), and all applicable local, state and federal regulations. The Contractor shall provide a Materials Management Plan Supervisor, who, in a quality assurance role, will independently verify that the Contractor adheres to the requirements of the Materials Management Plan, and will direct the Contractor as needed when implementation of the Materials Management Plan is required.

It is possible that groundwater may be encountered during excavation operations. Contractor shall manage groundwater as specified in Revised Section 211 of the Specifications.

Subsection 250.08 shall include the following:

Costs associated with analytical work, and material disposal will not be paid for separately but shall be included in the cost of the work.

**REVISION OF SECTION 401
HOT MIX ASPHALT COMPACTION
(PNEUMATIC TIRE ROLLERS)**

Section 401 of the Standard Specifications is hereby revised for this project as follows:

In subsection 401.17, first paragraph, delete the second sentence and replace with the following:

Both steel wheel and pneumatic tire rollers will be required on this project. If the Contractor has demonstrated that all of the manufacturer's recommendations were followed and the pneumatic tire roller is detrimental to the finished surface of the HMA, the Engineer, in cooperation with the Contractor and the Region Materials Engineer, may waive the pneumatic tire roller requirement.

**REVISION OF SECTION 403
 HOT MIX ASPHALT**

Section 403 of the Standard Specifications is hereby revised for this project as follows:

Subsection 403.02 shall include the following:

The design mix for hot mix asphalt shall conform to the following:

Table 403-1							
Property	Test Method	Value For Grading					
				SX (75)			Patching
Air Voids, percent at: N (design)	CPL 5115			3.5 – 4.5			3.5 – 4.5
Lab Compaction (Revolutions): N (design)	CPL 5115			75			75
Stability, minimum	CPL 5106			28			28
Aggregate Retained on the 4.75 mm (No. 4) Sieve for S, SX and SG, and on the 2.36mm (No. 8) Sieve for ST and SF with at least 2 Mechanically Induced fractured faces, % minimum*	CP 45			60			60
Accelerated Moisture Susceptibility Tensile Strength Ratio (Lottman), minimum	CPL 5109 Method B			80			80
Minimum Dry Split Tensile Strength, kPa (psi)	CPL 5109 Method B			205 (30)			205 (30)
Grade of Asphalt Cement, Top Layer				PG 58-28			PG 58-28
Grade of Asphalt Cement, Layers below Top				PG 58-28			PG 58-28
Voids in the Mineral Aggregate (VMA) % minimum	CP 48			See Table 403-2			See Table 403-2
Voids Filled with Asphalt (VFA), %	AI MS-2			65-80			65-80
Dust to Asphalt Ratio Fine Gradation Coarse Gradation	CP 50			0.6 – 1.2 0.8 – 1.6			0.6 - 1.2 0.8 – 1.6

Table 403-1						
Property	Test Method	Value For Grading				
				SX (75)		Patching
Note:	AI MS-2 = Asphalt Institute Manual Series 2					
Note:	Mixes with gradations having less than 40% passing the 4.75 mm (No. 4) sieve shall be approached with caution because of constructability problems.					
Note:	Gradations for mixes with a nominal maximum aggregate size of one-inch or larger are considered a coarse gradation if they pass below the maximum density line at the #4 screen. Gradations for mixes with a nominal maximum aggregate size of 3/4" to 3/8" are considered a coarse gradation if they pass below the maximum density line at the #8 screen. Gradations for mixes with a nominal maximum aggregate size of #4 or smaller are considered a coarse gradation if they pass below the maximum density line at the #16 screen.					
*Fractured face requirements for SF may be waived by RME depending on project conditions.						

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**REVISION OF SECTION 403
 HOT MIX ASPHALT**

All mix designs shall be run with a gyratory compaction angle of 1.25 degrees and properties must satisfy Table 403-1. Form 43 will establish construction targets for Asphalt Cement and all mix properties at Air Voids up to 1.0 percent below the mix design optimum. CDOT will establish the production asphalt cement and volumetric targets based on the Contractor’s mix design and the relationships shown between the hot mix asphalt mixture volumetric properties and asphalt cement contents on the Form 429. CDOT may select a different AC content other than the one shown at optimum on the Contractor’s mix design in order to establish the production targets as contained on the Form 43. Historically, Air Voids adjustments typically result in asphalt cement increases from 0.1 to 0.5 percent. Contractors bidding the project should anticipate this change and factor it into their unit price bid.

Table 403-2

Nominal Maximum Size*, mm (inches)	Minimum Voids in the Mineral Aggregate (VMA)			
	***Design Air Voids **			
	3.5%	4.0%	4.5%	5.0%
37.5 (1½)	11.6	11.7	11.8	N/A
25.0 (1)	12.6	12.7	12.8	
19.0 (¾)	13.6	13.7	13.8	
12.5 (½)	14.6	14.7	14.8	
9.5 (¾)	15.6	15.7	15.8	
4.75 (No. 4)	16.6	16.7	16.8	16.9
	* The Nominal Maximum Size is defined as one sieve larger than the first sieve to retain more than 10%. ** Interpolate specified VMA values for design air voids between those listed. *** Extrapolate specified VMA values for production air voids beyond those listed.			

The Contractor shall prepare a quality control plan outlining the steps taken to minimize segregation of HMA. This plan shall be submitted to the Engineer and approved prior to beginning the paving operations. When the Engineer determines that segregation is unacceptable, the paving shall stop and the cause of segregation shall be corrected before paving operations will be allowed to resume.

CDOT approved Warm Mix Asphalt (WMA) may be allowed on this project in accordance with CP 59. WMA mixes shall utilize additives from the CDOT Approved Products List (APL). Unique requirements for WMA design, production and acceptance testing as documented during CDOT WMA approval shall be submitted and approved prior to creation of the Form 43 and before any WMA production on the project. Delays to the project due to WMA submittal and review will be considered within the Contractor’s control and will be non-excusable.

**REVISION OF SECTION 403
HOT MIX ASPHALT**

Hot mix asphalt for patching shall conform to the gradation requirements for Hot Mix Asphalt (Grading SX).

A minimum of 1 percent hydrated lime by weight of the combined aggregate shall be added to the aggregate for all hot mix asphalt.

Subsection 403.03 shall include the following:

The Contractor shall construct the work such that all roadway pavement placed prior to the time paving operations end for the year, shall be completed to the full thickness required by the plans. The Contractor's Progress Schedule shall show the methods to be used to comply with this requirement.

Delete subsection 403.05 and replace with the following:

403.05 The accepted quantities of hot mix asphalt will be paid for in accordance with subsection 401.22, at the contract unit price per ton for the bituminous mixture.

Payment will be made under:

Pay Item	Pay Unit
Hot Mix Asphalt (Grading SX)(75)(PG 58-28)	Ton
Hot Mix Asphalt (Patching)(Asphalt)	Ton

Aggregate, asphalt recycling agent, asphalt cement, additives, hydrated lime, and all other work and materials necessary to complete each hot mix asphalt item will not be paid for separately, but shall be included in the unit price bid. When the pay item includes the PG binder grade, any change to the submitted mix design optimum asphalt cement content to establish production targets on the Form 43 will not be measured and paid for separately, but shall be included in the work. No additional compensation will be considered or paid for any additional asphalt cement, plant modifications and additional personnel required to produce the HMA as a result in a change to the mix design asphalt cement content.

Historically, typical asphalt cement increases reflected on the Form 43 are from 0.1 to 0.5 percent. However, the Contractor should anticipate the AC increases typical of his mixes. Contractors bidding the project should anticipate this change and factor it into their unit price bid.

When the pay item does not include the PG binder grade, asphalt cement will be measured and paid for in accordance with Section 411. Asphalt cement used in Hot Mix Asphalt (Patching) will not be measured and paid for separately, but shall be included in the work.

Excavation, preparation, and tack coat of areas to be patched will not be measured and paid for separately, but shall be included in the work.

**REVISION OF SECTION 504
STONE LANDSCAPE WALL**

Section 504 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

504.01 This work consists of constructing stone landscape walls at the locations and to the dimensions shown on the plans. Stone landscape walls are formed of interlocking, dry-stacked boulders.

The Contractor shall furnish all labor, materials and equipment required for completing the Work. The Contractor shall select the method of excavation, rock placement method and equipment to meet the requirements specified herein.

The stone landscape walls shall include excavation to the lines and grades shown on the Plans; providing and placing geotextile, rocks and boulders and bedding material to construct the walls as shown on the Plans.

MATERIALS

504.02

Materials shall conform to the following:

Boulders. Boulders used for the wall shall be composed of sound rock. The longest dimension of any individual rock should not exceed three times its shortest dimension.

Loading and hauling of rocks shall be included in the cost of the landscape boulder walls.

The additional materials listed below shall conform to the sections of the Standard Specifications and Project Special Provisions indicated.

Material:

Bed Course material (3/4")	Section 703.07
Geotextiles	Section 712.08

CONSTRUCTION

504.03

General. The Contractor shall survey and verify the limits of the stone landscape wall installation.

Stone Landscape Wall Construction.

(a) **Excavation.** The Contractor shall perform the work in accordance with Section 203. The Contractor shall excavate the foundation to a minimum width equal to the specified base rock width ('B').

(b) **Rock Placement.** The first course of rock shall be placed on bedding material as shown in the plans. As the stone landscape wall is constructed, the rocks shall be placed so that there are no continuous joints in either the vertical or lateral direction.

The Contractor shall avoid placing rocks which have shapes that create voids with a linear dimension greater than 8 inches.

(c) **voids.** Where voids with a minimum dimension of 6 inches or greater exist in the face of the wall, the Contractor shall chink the voids with smaller rock.

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**REVISION OF SECTION 504
STONE LANDSCAPE WALL**

- (1) Chinking rocks shall not be loose or able to be moved or removed by hand after the wall is complete. The Contractor shall reset loose chinking rocks until securely placed
- (2) A filter geotextile shall be placed between the rock and wall backfill.

MEASUREMENT

504.04. Stone Landscape walls will not be measured for payment in the field, but will be paid for by the calculated quantities shown on the plans. The Contractor's construction of a system that requires increased or decreased quantities of any of the components to complete the stone landscape wall to the dimensions shown will not result in a change in pay quantities. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies on the plans in an amount of at least plus or minus five percent of the plan quantity.

BASIS OF PAYMENT

504.05. The accepted quantities of work will be paid for at the contract price per unit of measurement for the pay items listed below.

Pay Item	Pay Unit
Stone Landscape Wall	SF

The cost of all work associated with construction of stone landscape walls shall not be paid for separately but shall be included in item Stone Landscape Wall. This includes but is not limited to selection and transport of stone boulders, bedding course material, geotextile separator, excavation, backfill and wall construction.

Payment will be full compensation for all work and materials required to construct the stone landscape wall. Miscellaneous items such as chinking, grout, mortar, shimming material will not be measured and paid for separately but shall be included in the work.

**REVISION OF SECTION 506
RIPRAP (SPECIAL)**

Section 506 of the Standard Specifications is hereby revised for this project as follows:

Subsection 506.05 shall include the following:

Structure Excavation will not be paid for separately but shall be included in the work.

**REVISION OF SECTION 514
PEDESTRIAN RAILING (STEEL)**

DESCRIPTION

Section 514 of the Standard Specifications is hereby deleted for this project and replaced with the following:

514.01 This work shall include all necessary work and material required to install pedestrian railing as shown on the Drawings.

MATERIALS

514.02 Steel shall conform to the requirements of Section 509 and the following:

- (1) Tubes shall conform to the requirements of ASTM 500.
- (2) Steel plates and bars shall conform to the requirements of ASTM A36.
- (3) Bolts shall conform to the requirements of ASTM A307.
- (4) Zinc coating shall conform to the requirements of ASTM A123, A153, A385 and A386.

Welding shall conform to the American Welding Society Structural Welding Code – Steel, D1.1.

Shop Drawings: Shop drawings shall be submitted in accordance with 105.02 of the Standard Specifications. The Contractor shall submit shop drawings of all pedestrian metal railing fabrications to Engineer for approval, showing sizes and thicknesses of all members, types of materials, methods of connection and assembly, complete dimensions, clearances, anchorage, relationship to surrounding work by other trades, shop paint and protective coatings and other pertinent details of fabrication and installation.

- (a) The shop drawings shall indicate profiles, sizes, connection attachments, reinforcing, anchorage, openings, size and type of fasteners and any accessories.
- (b) The shop drawings shall include erection drawings, elevations, applicable details and field dimensions.
- (c) The shop drawings shall indicate welded connections using standard AWS welding symbols. Indicate net weld lengths.

Samples: The Contractor shall submit duplicate samples of all materials to be furnished under this section as requested by Engineer.

1. One sample panel will be erected in full prior to mass fabrication of the entire quantity called for.
2. Do not order materials or begin fabrication until Engineer's approval of submittals has been obtained.
3. Furnish to the Engineer a certified statement that the shop-applied finishes conform to these Specifications, including compliance with application thickness and adhesion.
4. Live loads shall be not less than the minimum required by code. Where specific live loads are not set forth in the codes applicable to the work, and are not given on the Drawings, designs shall be such as to support live loads without deflection of more than $L/360$ of length of any member and without permanent deformation, all with a safety factor of not less than 2.5 to 1.
5. Rail panel sections shall slope with sidewalk.

Immediately before painting, remove rust, loose mill scale, dirt, weld flux, weld spatter, and other

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**REVISION OF SECTION 514
PEDESTRIAN RAILING (STEEL)**

foreign material with SSPC-SP6 commercial sandblast treatment.

Steel elements shall then be painted with a two-coat inorganic zinc polyurethane paint system as specified in Section 708 except that the minimum dry film thickness of the top coat shall be 4.0 mils.

The top coat shall be in conformity with subsection 509.24. Dark brown paint shall be manufactured to meet Fed. Spec. TT-E-529G and the color shall match Federal Standard 595B, No. 20059.

CONSTRUCTION REQUIREMENTS

514.03 Materials shall be carefully handled and stored under cover in manner to prevent deformation and damage to the materials and to shop finishes, and to prevent rusting and the accumulation of foreign matter on the metal work. All such work shall be repaired and cleaned both prior to and after erection.

Work shall be erected square, plumb and true, accurately fitted, and with tight joints and intersections. All anchors, inserts, and other members to be set into concrete or sandstone base shall be furnished loose by this trade to be built into concrete by those trades as the work progresses. Later cutting or drilling shall be avoided wherever possible.

Materials shall be new stock, free from defects impairing strength, durability or appearance, and of best commercial quality for each intended purpose.

1. All steel members shall be fabricated of structural steel conforming to ASTM A 36.
2. Steel strapping, wire fabric, rails and posts shall be fabricated in a single panel and fastened to posts as detailed.

Connections shall be continuous-welded type for rigid construction, with weld ground smooth. Welding shall conform to applicable requirements of AWS D1.1.

Provide all anchors, bolts, plates and other parts required for securing each item of work of this Section of the construction. Furnish required anchors, bolts and other items required for installation on concrete.

Exposed fasteners shall be of the same material and finish as the metal to which applied, unless otherwise noted.

Metal surfaces shall be clean and free from mill scale, flake, rust, and rust pitting, well-formed and finished to shape and size, true to details with straight, sharp lines and angles and smooth surfaces. Exposed sheared edges shall be eased.

All permanent connections shall be welded. All welds shall be continuous on all exposed surfaces, exposed welds shall be ground flush and smooth with voids filled with metallic filling compound. Tack-welding will be permitted where specifically called for. Screws and bolts will not be permitted, unless otherwise approved by the Engineer in locations where welding is not possible. Where used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening.

Fastenings shall be concealed where practical. Thickness of metal and details of assembly and supports shall give ample strength and stiffness. Joints exposed to weather shall be formed to exclude water.

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**REVISION OF SECTION 514
PEDESTRIAN RAILING (STEEL)**

Contractor shall perform all cutting, punching, drilling, and tapping required for attachment of hardware and of work of other Sections where so indicated or where directions for same are given prior to, or with approval of shop drawings.

Pedestrian rail shall be rigidly braced and secured to surrounding construction, and shall be tight and free of rattle, vibration or noticeable deflection during construction.

All steel shall comply with Section 514 of the Standard Specifications. Exceptional care shall be taken in welding and grinding, filing and surface sanding to provide truly smooth, clean, neat and flush construction throughout, free of all surface defects and defacements.

The Contractor shall remove and replace work at no additional cost to the project for work of this section which is improperly located or is not true to line, grade and plumb within tolerances and indicated.

The Contractor shall repair damaged components and finishes as recommended by the manufacturer and as indicated herein.

METHOD OF MEASUREMENT

514.05 Pedestrian Railing shall be measured and paid for by the linear foot from end to end of metal rail sections, as shown on the Drawings.

BASIS OF PAYMENT

514.06 The accepted quantities of the various types of rail measured as provided above will be paid for at the Contract unit price per linear foot, which shall be full compensation for all labor, equipment and materials including embedded anchorages, painting, installation and adjustment, required to complete the item.

Payment will be made under:

Pay Item	Pay Unit
Pedestrian Railing (Steel)	Linear Foot

**REVISION OF SECTION 601
STRUCTURAL CONCRETE COATING**

Section 601 of the Standard Specifications is hereby revised for this project as follows:

CONSTRUCTION REQUIREMENTS

In Subsection 601.14 (b)4, paragraph 3 (2) shall be deleted and replaced with the following:

(2) Following sandblasting, a mortar mix, proportioned by volume, consisting of one part Portland cement, two to three parts sand (conforming to the requirements of ASTM C 144), and an approved bonding agent shall be used to patch all holes produced by form ties, honeycombing, voids ¼ inch or larger in any dimension, broken corners and edges, and other defects. The mortar mix shall include an approved bonding agent. The quantity, and application procedure of the bonding agent shall be in accordance with the recommendations of the manufacturer of the bonding agent. Areas to be patched shall be moistened with water before the mortar is applied, and the patched area shall be float finished and left flush with the concrete surface without checking or cracking of patches. Patching shall be done when the ambient temperature is at least 40 °F. Holes deeper than ¾ inch shall be filled in multiple layers.

Subsection 601.14 (b)4, paragraph 5 shall be deleted and replaced with the following:

The coating shall be applied at a rate that will provide a minimum dry film thickness of 10 to 12 mils without texturing agent. The coating shall be mixed by a mechanical mixer and applied by spraying, rolling, or brushing and in all cases shall be applied in two coats. The first coat shall be backrolled immediately after application. Workmanship shall be such that the final coated surface is colored and textured uniformly and presents a pleasing appearance. All areas determined by the Engineer to be insufficiently coated shall be recoated.

END OF SECTION REVISION

**REVISION OF SECTION 603
CULVERTS AND SEWERS**

Subsection 603 of the Standard Specifications is hereby revised for this project to include the following:

Subsection 603.12 shall include the following:

Structure excavation and structure backfill required for all pipes, pipe extensions will not be measured and paid for separately, but shall be included in the cost of the item.

**REVISION OF SECTION 608
SIDEWALKS AND BIKEWAYS**

Section 608 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

Subsection 608.01 shall include the following:

This work shall include the construction of brick pavers, sidewalk chase drains, thickened concrete edge and concrete swale in accordance with these specifications and in conformity with the lines and grades shown on the plans.

CONSTRUCTION REQUIREMENTS

Section 608 is hereby revised to include the following:

Brick Paver Sidewalk.

Contractor shall not use unit pavers with chips, cracks, voids, discolorations, or other defects that might be visible or cause staining in finished work.

Contractor shall cut unit pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.

Tolerances shall not exceed 1/32-inch unit-to-unit offset from flush (lippage) nor 1/8 inch in 10 feet from level, or indicated slope, for finished surface of paving.

Sand for Leveling Course shall be sound, sharp, washed, natural sand or crushed stone complying with gradation requirements in ASTM C 33 for fine aggregate.

Sand for Joints shall be fine, sharp, washed, natural sand or crushed stone with 100 percent passing No. 16 sieve and no more than 10 percent passing No. 200 sieve.

Separation Geotextile shall be woven geotextile fabric, manufactured for separation applications; made from polyolefins or polyesters, with elongation less than 50 percent; complying with AASHTO M 288.

Subsection 608.03 (a) shall include the following:

Excavation for sidewalk chase drains, if shown on the plans, shall be included in the work.

Excavation for thickened edge, if shown on the plans, shall be included in the work.

Structural reinforcing, if shown on the plans, shall be included in the work.

Subsection 608.03 (d) shall include the following:

Concrete Bikeway (6 inch) shall be finished in accordance with the plans. All tears and voids, and all other blemishes resulting from the finishing shall be repaired by the contractor at no additional cost to the project.

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**REVISION OF SECTION 608
SIDEWALKS AND BIKEWAYS**

For all Concrete Bikeway (6 inch) widths greater than 6 feet, saw cut jointing shall be required. Wet tooled joints will not be allowed.

METHOD OF MEASUREMENT

Saw cutting of joints in the sidewalk greater than 6 feet will not be measured and paid for separately, but shall be included in the cost of the Concrete Bikeway (6 inch) work.

Structural reinforcing will not be measured and paid for separately, but shall be included in the cost of the Concrete Bikeway (6 inch) work.

Brick Pavers shall be measured and paid for by the accepted square yard. All equipment, material, sand, concrete, etc. will not be paid for separately, but shall be included in the price of the work.

Reset Brick Pavers shall be measured and paid for by the accepted square foot. All equipment, material, sand, concrete, stockpiling, removal etc. will not be paid for separately, but shall be included in the price of the work.

BASIS OF PAYMENT

Subsection 608.06 shall include the following:

Payment will be made under:

<u>Pay Item</u>	Pay Unit
Concrete Bikeway (6 inch)	Square Yard
Concrete Bikeway (8 inch)	Square Yard
Brick Pavers	Square Foot
Rest Brick Pavers	Square Yard

**REVISION OF SECTION
608 SIDEWALK DRAIN**

Section 608 of the Standard Specifications is hereby revised for this project as follows:

Subsection 608.01 shall include the following:

This work consists of the construction of sidewalk drains in accordance with these specifications and in conformity with the lines and grades shown on the plans or established in the field.

Subsection 608.02 shall include the following:

Trench frame and cover 712.06

Concrete for sidewalk drains shall be Class B, and meet the requirements of Section 601.

Subsection 608.05 shall include the following:

Sidewalk drain will be measured by the linear foot of finished surface.

Subsection 608.06 shall include the following:

Payment shall be made under:

Pay Item	Pay Unit
Sidewalk Drain	Linear Foot

Payment for sidewalk drain shall be full compensation for all labor, equipment, materials and incidentals necessary to construct the item in accordance with the plans and specifications, including but not limited to excavation, forms, concrete, expansion joints, trench frame and cover.

REVISION OF SECTION 614 BICYCLE AND PEDESTRIAN TRAFFIC COUNTER

DESCRIPTION

This work consists of the installation of a counter for collecting and storing bicycle and pedestrian volume counts.

MATERIALS

All bicycle and pedestrian counters shall be waterproof, and conform to an Ingress Protection (IP) rating of 68. Counters shall operate in a temperature range of negative 40° F to 120° F. Continuous count sites should be installed with batteries which can operate continuously for two years. The detection range of pedestrian counting units shall be such that the unit detects the entire width of the multi-use trail, path, or sidewalk on which it is placed. Inductive loop bicycle counters shall be configured to have a detection area as specified by the Engineer. Any counter installed shall be capable of recording traffic at varying speeds, including speeds exceeding 20 miles per hour.

All bicycle and pedestrian counters shall collect and store volume counts by direction. Counters must be able to store a minimum of one year of count data. Counters shall bin data in 15 minute, 1 hour, and 24 hour increments, and have the ability to use a 24 hour clock. The collection device shall be capable of displaying the volume count data at the site through either the device itself or by means of a retrieval device such as a laptop or tablet. Counters shall report and store data in a format which can be imported into Microsoft Excel. The count collection device shall provide a way to download count data to a retrieval device at the site of the counting unit. Remote data transmission capabilities shall be provided for all permanent bicycle and pedestrian counting units. Counters must count and report bicycling and pedestrian modes separately.

INSTALLATION REQUIREMENTS

Prior to the start of work, the Contractor shall submit a traffic control plan which addresses pedestrian, bicycle, and motorized traffic during the installation. The plan must conform to applicable CDOT and MUTCD traffic control requirements.

A minimum of two weeks prior to the installation of the traffic counter, the Contractor will coordinate the installation date and installation location with the Engineer or representative of the City. During the installation of the traffic counter the Engineer, a City representative, or a Manufacturer Representative must be present. Only if City transportation representative staff states in writing that one of these individuals is not needed on site will they not be required to be present.

The contractor shall locate all buried and overhead utilities near the planned installation location of the counter. The Contractor shall contact the Utility Notification Center of Colorado (UNCC) at 811 or 1-800-922-1987 for location of member utilities at least three working days prior to any excavation, not including the day of actual notice. The Contractor shall also locate non-member utilities, such as storm sewer. All utility conflicts encountered at the proposed installation site shall be brought to the attention of the Engineer immediately.

The location of the counters shall be as close as possible to the locations shown on the plans or as identified by the Engineer. Final placement may vary so that counters are not located near bodies of water, overhead power lines, or pointing towards vehicular traffic. Exact locations shall be approved by the Engineer and City representative. For counters which require inductive loops, the Engineer, a City representative, or Counter Manufacturer representative will identify the loop locations on the pavement surface with chalk or a visible marker. Loops shall be the dimensions shown on CDOT's standard details or as provided by the Counter

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**REVISION OF SECTION 614
BICYCLE AND PEDESTRIAN TRAFFIC COUNTER**

Manufacturer. The Contractor will perform saw cuts along identified lines to complete any inductive loop installations. The saw cut slots shall be as straight as possible and shall not vary more than ½ inch when checked against a straight-edge. Loop lead wires shall be twisted in accordance with manufacturer's recommendations, or 10 complete revolutions per foot. Saw cuts shall be hydro-blasted with a mixture of water and air and then blown free of water and debris with compressed air, using a large capacity air compressor of at least 150 CFM. The cuts shall be dry prior to placement of loop wire.

The piezo loop wire and paired loop lead wires shall be placed in the saw slot with a blunt non-metallic object. Half-inch backer-rod may be used to ensure the loop wire does not float to the surface during sealing. Backer-rod shall be installed in 4 to 6 inch pieces with 1 to 2 foot gaps in-between, to ensure the sealant will come in contact with the piezo loop and lead wires. One continuous piece of backer-rod will not be allowed.

Prior to sealing inductive loops the Contractor will test the loops and verify the level of inductance matches what is required by the Manufacturer. Prior to completing the installation the contractor is required to test any loops or passive infrared counting device to ensure that such devices are detecting properly. For counters which are to detect bicycle traffic this will require the contractor test the device using a bicycle.

Loop lead wires from the pavement edge to the pull box shall be enclosed in a minimum ¾ inch diameter electrical conduit to protect the wire from abrasion. Loop lead wires from the pavement edge, to pull box, shall be twisted 10 turns per foot. Pull boxes or irrigation boxes shall contain a minimum of 3 feet of loop lead wire for splicing. All loop and loop leads shall be clearly labeled in all pull boxes or irrigation boxes.

Saw cuts shall be sealed with a two-part self-curing, self-bonding, weatherproof epoxy approved for sealing traffic loops. Loop sealant shall conform to manufacturer's recommendations. Loop sealant shall not coagulate prior to installation and shall be spread out across the loop installation area with a sealant spreader tool such that the sealant is flush with the pavement surface. At sites where a curb exists, backer board shall be installed along sidewalk and curb joints to prevent sealant from spilling. Loop sealants which are in excess of 60° C or 140° F shall not be used.

The Contractor shall follow all environmental regulations and best management practices during the saw cutting and installation of the loops. All damages or penalties associated with failing to meet environmental requirements shall be at the Contractor's expense.

Acceptance will be based on the Contractor performing a complete test of the counter to ensure that it is functioning correctly and is fully operational. Non-functioning systems will not be accepted and will be repaired or replaced at the Contractor's expense.

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**REVISION OF SECTION 614
BICYCLE AND PEDESTRIAN TRAFFIC COUNTER**

METHOD OF MEASUREMENT

Bicycle and Pedestrian Traffic Counter will be measured as the actual number of counters that are installed and accepted.

BASIS OF PAYMENT

Payment will be made under:

Pay Item	Pay Unit
Bicycle and Pedestrian Traffic Counter	Each

Payment will be full compensation for all labor, materials and equipment required to install the counter.

Electrical conduit will not be measured and paid for separately, but shall be included in the work.

All costs associated with the manufacturer's representative will not be measured and paid for separately, but shall be included in the work.

Traffic Control items and associated costs will not be measured and paid for separately, but shall be included in the work.

**REVISION OF SECTION 621
PEDESTRIAN BRIDGE (COMPLETE-IN-PLACE)**

Section 621 of the Standard Specifications is hereby revised for this project as follows:

Subsection 621.01 shall include the following:

This work includes construction of the Pedestrian Bridge (80' x 10')(Complete-in-Place) and Pedestrian Bridge (120' x 10')(Complete-in-Place) as shown in the plans.

Subsection 621.02 is revised for this project to include the following:

Pedestrian Bridge (80' x 10') (Complete-in-Place) and Pedestrian Bridge (120' x 10')(Complete-in-Place) shall be constructed as specified in the Contract and shall not be measured but will be paid on the lump sum basis. Pedestrian Bridge (80' x 10') (Complete-in-Place) and Pedestrian Bridge (120' x 10')(Complete-in-Place) shall include, but is not limited to construction staking, location, protection of existing facilities and utilities, excavation, shoring, removal of excess materials and rubble, forms, formwork, reinforcing steel, concrete, vibrating, tooling, crack control and expansion joints, chamfering, finishing, curing, structural backfill, final grading, foundation work, structural coating, and all incidentals required for a complete installation.

Also includes furnishing and installing a new prefabricated steel pedestrian bridge with concrete deck, installation of drilled caissons and construction of concrete abutments, wingwalls, approach slabs, slope paving, structural coating, and all associated connection hardware required as shown on the plans for a complete in place structure. All structure excavation and backfill shall be completed in accordance with Section 206 of the Standard Specifications and applicable Special Provisions. All caisson construction shall be completed in accordance with Section 503 of the Standard Specifications and applicable Special Provisions. All concrete work shall be completed in accordance with Section 601 of the Standard Specifications and applicable Special Provisions, and structural concrete coating applied in accordance with the Section 601 Project Special Provision. All reinforcing steel shall be epoxy coated and meet the requirements of Section 602 of the Standard Specification.

BASIS OF PAYMENT

Subsection 621.03 shall include the following:

The accepted work will be paid for at the contract unit price for each of the items listed below that appear in the bid schedule.

Payment will be made under:

Pay Item	Pay Unit
Pedestrian Bridge (80' x 10')(Complete-in-Place)	Lump Sum
Pedestrian Bridge (120' x 10')(Complete-in-Place)	Lump Sum

Payment shall be made at the applicable contract unit price for Pedestrian Bridge (80' x 10') (Complete-in-Place) and Pedestrian Bridge (120' x 10')(Complete-in-Place) and shall include full compensation for all labor, equipment, materials and all other work to complete the installation.

END OF SECTION REVISION

REVISION OF SECTION 622
Bench

Section 622 of the Standard Specifications is hereby revised for this project as follows:

Subsection 622.01 shall include the following:

This work shall consist of furnishing, installing, resetting and adjusting park benches. All designated benches on the plans shall be carefully removed, and stored, reinstalled, or adjusted in a manner that will avoid loss or damage.

Subsection 622.02 shall include the following:

Bench Materials shall meet the following criteria:

- (1) Supports. End Supports shall be ASTM A48 Class 30 cast iron.
- (2) Seat Assembly. Seat straps shall be manufactured from 1/4" x 1 1/2" ASTM A36 carbon steel flat bar. Support pipes shall be manufactured from 1 1/2" (1 15/16" OD) ASTM A513 schedule 40 steel tubing. Seat contour straps shall be manufactured from 1/2" thick ASTM A36 steel plate.
- (3) Anchoring. Stainless steel expansion anchors (1/2" x 3 3/4") provided by the manufacturer.

Bench Dimensions shall meet the following criteria:

- (1) Six foot bench. Overall: 75" long x 27 5/16" deep x 32" high

Bench Finish shall meet the following criteria:

- (1) Powder Coating. All parts shall be processed through an 8-stage iron phosphorous wash system. Parts shall be coated with a zinc-rich epoxy primer to an AVERAGE of 4-5 mils. Parts shall be then finished with a top coat of TGIC-polyester powder to an AVERAGE of 4-5 mils. Powder shall be cured at the powder manufacturers specifications using combination of infrared and convection heat for approximately 20 minutes. Finished parts shall comply with the following American Standard Test Method (ASTM) for coating and coating method: ASTM-D-523, ASTM-D-3363, ASTM-D-1737, ASTM-D-3359, ASTM-D-2794, ASTM-B-117 and ASTM-D-3451.
- (2) Seats, back, legs, framework, and hardware shall be powder coated green.

Contractor shall submit to the Landscape Architect for approval, a cut sheet of the proposed bench prior to ordering.

Section 622.20 shall be renamed the following:

Trash Receptacles and Benches.

Section 622.20 shall include the following:

Benches shall be installed in accordance with the manufacturer's recommendations.

Bench (Install Only) shall consist of resetting a bench as identified in the plans. Related labor materials shall include all work necessary to remove the items from their existing location and reinstall at the new location as indicated on the plans, and shall include all mounting hardware, footings, and all other work necessary to complete the reset item.

Damage to the bench by the Contractor shall be repaired or replaced at the Contractor's expense.

Section 622.27 shall include the following:

Bench (Install Only) shall be measured by the number of actual benches that are reset for service at new location and accepted by the Engineer.

Benches shall be measured by the actual number of units constructed or reset and accepted by the Engineer.

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REVISION OF SECTION 622
Bench

Subsections 622.28 delete paragraph 2 through 3.

Subsection 622.28 shall include the following:

Payment shall be made under:

Pay Item	Pay Unit
Bench	Each
Bench (Install Only)	Each

All materials and labor required to construct, install and reset the bench shall be included in the pay item.

**REVISION OF SECTION 625
CONSTRUCTION SURVEYING (HOURLY)**

Section 625 of the Standard Specifications is hereby revised for this project as follows: Subsection 625.01 shall include the following:

The Contractor shall also perform Construction Surveying (Hourly) as required by the Engineer. This item will not be used for work as defined in item 625 Construction Surveying. The intent of this is to compensate the Contractor for plan revisions or work to be done due to inconsistencies or errors on the plans that could not have been reasonably detected by the Contractor.

Subsection 625.12 shall include the following:

The method of measurement for the work described as construction surveying (hourly) shall be measured on an hourly basis. The number of hours paid will be the actual crew time, based on a 2-man crew, as determined by the Engineer. Office support hours for calculations, etc., will be paid at one half hour of crew time per one hour of office work as determined by the Engineer.

In subsection 625.13, delete the second paragraph and include the following:

Payment for the work described as construction surveying (hourly) shall be paid at the hourly rate bid and will be full compensation for the work necessary to complete the work. The payment will be made when the work is complete.

Payment will be made under:

Pay Item	Pay Unit
Construction Surveying (Hourly)	Hour

**REVISION OF SECTION 630
CONSTRUCTION ZONE TRAFFIC CONTROL**

Section 630 of the Standard Specifications is hereby revised for this project as follows:

CONSTRUCTION REQUIREMENTS

Subsection 630.10 shall be modified to include the following:

The Contractor must maintain a minimum lane width of 10' and a minimum 1' shy from the face of construction traffic control devices at all times. Traffic Control must be implemented so that emergency vehicle access in or through the work zones on public roads can be provided.

In Subsection 630.10 (a) first paragraph, shall include:

West Idaho Springs Traffic Control Plan

Contractor shall adhere to notes in the construction documents and traffic control plan.

Closure of the existing pedestrian bridge located at the west end of the project shall be permitted with prior written approval by the Engineer. Contractor shall not drive vehicles or equipment on the existing pedestrian bridge.

For the length of the project the Contractor must maintain a minimum of 1 lane of open traffic during construction for Chicago Creek Road (SH 103). Closures of Chicago Creek Road (SH 103) may be approved by project Engineer. Closures shall be kept to a minimum and estimated closure time must be provided to the Engineer for approval. The Contractor must maintain access to all businesses and tourist attractions (Mt. Evans Scenic Byway) during construction. Two-way movement must be in place at the end of each workday.

In Subsection 630.10 (a) shall include:

Central Idaho Springs Traffic Control Plan. The Contractor shall provide a Traffic Control Plan to be approved in writing by the Engineer. The contractor shall control traffic in accordance with the approved Traffic Control Plan (TCP). To implement the TCP, the Contractor shall develop and submit a Method for Handling Traffic (MHT) for each different phase of construction showing the Contractor's proposed construction phasing and proposed traffic control devices consistent with the TCP. If at any time the Contractor desires to change the MHT, it shall be considered a different phase requiring a new MHT.

The following restrictions shall be included in the proposed Traffic Control Plan:

- (1) Riverside Drive Segment. For the length of the project the Contractor must maintain a minimum of 1 lane of open traffic during construction for Riverside Drive and Colorado Boulevard. Closures of Riverside Drive may be approved by project Engineer. Closures shall be kept to a minimum and estimated closure time must be provided to the Engineer for approval. The Contractor must maintain access to all businesses during construction. Two-way movement must be in place at the end of each workday. Vehicles and equipment may not be operated on the Maison De Ski property without written consent of the owner. Vehicles and equipment may utilize the Sinclair property for bridge and trail construction with prior written consent of the Engineer. MHT plan shall also include accommodations for river users during all phases of construction.
- (2) City Hall Segment. For the length of the project the Contractor must maintain a minimum 1 lane of open traffic during construction for Miner Street, 17th Avenue and Riverside Drive unless otherwise approved by the Engineer. The Contractor must maintain access to all businesses during construction. The

**REVISION OF SECTION 630
CONSTRUCTION ZONE TRAFFIC CONTROL**

Contractor must maintain parking access to the Bike Shop. Two-way movement must be in place at the end of each workday for all streets.

- (3) Bank Segment. For the length of the project the Contractor must maintain a minimum 1 lane of open traffic during construction for Colorado Boulevard, Miner Street, 17th Avenue and Riverside Drive unless otherwise approved by the Engineer. The Contractor must maintain access to all businesses during construction. Two-way movement must be in place at the end of each workday for all streets.

Subsection 630.10 (a) (1) through (9) shall become Subsection 630.10 (a) (4) through (12)

METHOD OF MEASUREMENT

Subsection 630.15, the first four paragraphs, shall be deleted and replaced with the following:

All construction traffic control devices required including, but not limited to: Electronic Advance Warning Signs (portable variable message boards number and use to be as directed by the Engineer), Temporary Channelizing Devices, Concrete Barrier, Temporary Striping, Temporary and Advance Construction Signs, if deemed necessary pilot car operations in order to safely perform the work shall be measured and paid for separately but shall be included as part of the Lump Sum pay item listed in the Contract.

Traffic Control Management will include the development of the traffic management plan as well as meeting the requirements in subsections 630.10 and 630.11.

BASIS OF PAYMENT

Subsection 630.16, the first four paragraphs, shall be deleted and replaced with the following:

All construction traffic control devices not listed above or in the standard specifications shall be paid for under Lump Sum. Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Flagging	Hour
Traffic Control (Special)	Lump Sum
Traffic Control Management	Day
Traffic Control Inspection	Day

**FORCE ACCOUNT ITEMS
DESCRIPTION**

This special provision contains the Division's estimate for force account items included in the Contract. The estimated amounts marked with an asterisk will be added to the total bid to determine the amount of the performance and payment bonds. Force Account work shall be performed as directed by the Engineer.

BASIS OF PAYMENT

Payment will be made in accordance with Subsection 109.04. Payment will constitute full compensation for all work necessary to complete the item.

Force account work valued at \$5,000 or less, that must be performed by a licensed journeyman in order to comply with federal, state, or local codes, may be paid for after receipt of an itemized statement endorsed by the Contractor.

Force Account Item	Unit	Estimated Amount
F/A Minor Contract Revisions	F.A.	\$TBD

Force Account Descriptions

F/A Minor Contract Revisions – This work consists of minor work authorized and approved by the Engineer, which is not included in the contract drawings or specifications, and is necessary to accomplish the scope of work of this contract

TRAFFIC CONTROL PLAN – GENERAL

The key elements of the Contractor's method of handling traffic (MHT) are outlined in Subsection 630.10.

The components of the TCP for this project are included in the following:

- (1) Subsection 104.04 and Section 630 of the specifications.
- (2) Revised Standard Plan S-630-1, Traffic Controls for Highway Construction, and Standard Plan S-630-2, Barricades, Drums, Concrete Barriers (Temp.) and Vertical Panels.
- (3) Temporary Traffic Control/Advance Warning Plans
- (4) Manual on Uniform Traffic Control Devices (MUTCD).

Special Traffic Control Plan requirements for this project are as follows:

The Contractor shall maintain access to existing residences and businesses at all times. In the event that work requires temporary closure of a residential or business access, the Contractor must provide written notice to each affected property or business owner within 72 hours of the closure and must have an agreed upon duration of the closure that is acceptable to the property or business owner, the City, and the Contractor. This must be documented by the Contractor and made available to the Engineer.

The Contractor shall maintain a minimum lane width of 10' and a minimum 1' from the edge of the travel lane to the face of a traffic control device (temporary concrete barrier, channelizing drum, etc.) at all times. The Contractor shall maintain two lanes along all roadways adjacent to construction work zones at all times or provide flagger operations to facilitate two way traffic during active work operations.

All work shall be performed between the hours of 7:00 AM and 7:00 PM Monday thru Thursday and 7:00 AM and 5:00 PM on Friday unless otherwise approved by the Engineer. No work shall be conducted at night or on weekends without the prior approval of the Engineer.

Work shall not occur on Federal Holidays (New Year's Day, MLK Day, Presidents Day, Memorial Day, 4th of July, Labor Day, Columbus Day, Veterans Day, Thanksgiving, the day after Thanksgiving, and Christmas Day). There is potential for the City to have designated no work days to be determined during the length of contract due to local events. Notice will be provided to the Contractor as early as possible. Contractor shall coordinate with the Engineer when the City requests no-work days.

The Contractor shall be required to submit for approval and update as necessary during construction a General Pedestrian Access Plan. The Contractor shall provide one pedestrian access route at all times during construction. This plan shall clearly identify how residents and business owners will access their respective buildings during construction activities adjacent to the parcel. The Contractor is the primary point of contact with each property owner/tenant, but if an owner/tenant requests special consideration for access or parking, the Contractor shall notify the Engineer of the request.

During non-work hours of 7:00 PM to 7:00 AM, the Contractor shall leave the work zone in a suitable manner to allow emergency vehicle access to all residences or businesses.

Construction signing may be placed on temporary supports.

The Contractor shall not have construction equipment or materials in the lanes open to traffic at any time, unless approved by the Engineer.

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TRAFFIC CONTROL PLAN – GENERAL

Workers, Contractors, Suppliers, etc. shall not access the work area by crossing roadways unless proper traffic control or other necessary precautions are provided. Suitable transportation to the work site for personnel whose vehicles are parked off site shall be provided by the Contractor.

The Contractor shall organize the work such that there will be no hazards within a roadway's clear zone at the completion of each day's work.

Contractor employees shall park in areas approved by the Engineer.

The Contractor shall equip construction vehicles with flashing amber lights or as otherwise directed by the Engineer.

The Contractor shall supply portable CB radios or FM radios (5 mile range), as required for traffic and safety control, for the Engineer, TCS, flaggers, Contractor's superintendent, and other personnel as required.

UTILITIES

Potential and known utilities and contacts within the limits of this project are:

UTILITY/ADDRESS	CONTACT/EMAIL	PHONE
Xcel Energy 5460 W. 60 th Avenue Arvada, CO 80003	Paul Heald paul.r.heald@xcelenergy.com Or Kelli Fries Kelli.fries@xcelenergy.com	303-425-3944 Or 303-445-4540
Xcel Energy	Application for electric/gas services BCLCO@xcelenergy.com	1-800-628-2121

The work described in these plans and specifications requires coordination between the Contractor and the utility companies in accordance with subsection 105.10 in conducting their respective operations as necessary to complete the utility work with minimum delay to the project. Also, in accordance with the plans and specifications, and as directed by the Engineer, the Contractor shall keep the utility company(s) advised of any work being done to their facility, so that the utility company(s) can coordinate their inspections for final acceptance of the work with the Engineer.

PART 1 – CONTRACTOR SHALL PERFORM THE WORK LISTED BELOW:

Coordinate project construction with the performance by the utility owner of each utility work element listed in Part 2 below. Perform preparatory work specified in Part 2 for each utility work element. Provide an accurate construction schedule that includes all utility work elements to the owner of each impacted utility. The Contractor shall note that the expected durations for utility elements listed below are approximate. The Contractor shall work with utility owners to identify required work elements, traffic control and to verify schedules. No added time will be granted to the construction schedule unless approved by the Project Engineer.

Provide each utility owner with weekly updates to the schedule. Conduct detailed utility coordination meetings prior to each construction phase to coordinate all requirements and schedules, and provide other necessary accommodations as directed by the Engineer. Notify each utility owner in writing, with a copy to the Engineer, prior to the time each utility work element is to be performed by the utility owner. Provide the notice the number of days specified in Part 2 immediately prior to the time the utility work must be begun to meet the project schedule.

Provide traffic control, as directed by the Engineer, for any utility work by the utility owner expected to be coordinated with construction. However, traffic control for utility work outside of typical project work hours shall be the responsibility of the utility owner.

Perform each utility work element for every utility owner listed here in Part 1. Notify each utility owner in advance of any work being done by the Contractor to its facility, so that the utility owner can coordinate its inspections for final acceptance of the work with the Engineer.

Project Limits -All utility Owners

The Contractor shall identify existing utilities (by potholing if necessary) and protect the existing buried utilities when constructing the project, including sub excavation work. If existing utilities are within close proximity horizontal or vertically, the Contractor shall alter the sub excavation work limits, construction methods or equipment to avoid impacting the existing utilities.

Due to utility relocation operations that may have occurred after preparation of the plans, attention is directed to the possible existence of underground facilities not known or in a location different from that which is indicated on the plans. The Contractor shall take reasonable steps to ascertain the exact location of all underground facilities

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UTILITIES

prior to doing work that may damage such facilities or interfere with their service. If the Contractor discovers underground facilities not indicated on the plans or in the special provisions, immediately give the Engineer and the utility owner written notification of the existence of such facilities and coordinate the rearrangement of the facility.

Xcel Energy:

The Contractor shall coordinate all work activities and allow Xcel access to the work zone. Where construction is above an Xcel Gas Line, contractor shall restrict loads on the line. Contractor shall verify the load limit and proposed construction methods with an Xcel representative. The contractor shall notify an Xcel representative a minimum of ten days before construction commences over a gas line.

Where construction is being performed in the vicinity of existing overhead power lines, the Contractor shall coordinate Xcel to establish the minimum clearance from any existing power poles and overhead power lines located within limits of the project.

PART 2 – UTILITY OWNERS SHALL PERFORM THE WORK LISTED BELOW:

Although the Contractor shall provide traffic control for utility work expected to be coordinated with construction, traffic control for utility work outside of typical project work hours shall be the responsibility of the utility owner. The utility owner shall prepare and submit to the Engineer a Method of Handling Traffic for utility work to be performed outside typical project work hours. The utility owner shall obtain acceptance of the Method of Handling Traffic from the Engineer prior to beginning the utility work to be performed outside typical project work hours.

Part 3 - GENERAL:

The Contractor shall comply with Article 1.5 of Title 9, CRS ("Excavation Requirements") when excavation or grading is planned in the area of underground utility facilities. The Contractor shall notify all affected utilities at least two (2) business days, not including the day of notification, prior to commencing such operations. The Contractor shall contact the Utility Notification Center of Colorado (UNCC) at (8-1-1) or 1-800-922-1987 to have locations of UNCC registered lines marked by member companies. All other underground facilities shall be located by contacting the respective company. Utility service laterals shall also be located prior to beginning excavating or grading.

The locations of utility facilities as shown on the plan and profile sheets, and herein described, were obtained from the best available information. No warranty is made for the adequacy or accuracy of subsurface information provided. The Contractor shall cooperate with the utility owners in their relocation operations as provided in subsection 105.11 of the Standard Specifications for Road and Bridge Construction. No guarantee is made that utility conflicts will be resolved prior to construction activities and any delays resulting from utility relocation work shall be dealt with in accordance with subsection 108.07 of the Standard Specifications for Road and Bridge Construction as amended.

All costs incidental to the foregoing requirements will not be paid for separately, but shall be included in the work. Full compensation for compliance and cooperation, as required by this section, shall be considered to be included in the unit prices paid for Contract items of work and no additional compensation will be allowed.