COLORADO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS
I-70 FRONTAGE-COLORADO RIVER-DOTSERO (F-08-F)

The 2011 Standard Specifications for Road and Bridge Construction control 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

COLORADO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS
I-70 FRONTAGE-COLORADO RIVER-DOTSERO (F-08-F)

STANDARD SPECIAL PROVISIONS

COLORADO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS
I-70 FRONTAGE-COLORADO RIVER-DOTSERO (F-08-F)

STANDARD SPECIAL PROVISIONS (Cont.)

	Date	No. of Pages
Revision of Section 601 – Concrete Slump Acceptance	(July 29, 2011)	1
Revision of Sections 603, 624 and 705 – Drainage Pipe	(April 26, 2012)	2
Revision of Section 612 – Delineators	(February 3, 2011)	1
Revision of Section 618 – Prestressed Concrete	(April 26, 2012)	24
Revision of Sections 627 and 708 – Pavement Marking with Waterborne Paint and Low VOC Solvent Base Paint	(February 3, 2011)	1
Revision of Section 630 – Construction Zone Traffic Control	(February 17, 2012)	1
Revision of Section 630 – Retroreflective Sheeting	(February 3, 2011)	1
Revision of Section 630 – Retroreflective Sign Sheeting	(February 3, 2011)	1
Revision of Section 703 – Aggregate for Hot Mix Asphalt	(June 16, 2011)	1
Revision of Section 703 – Concrete Aggregate	(July 28, 2011)	1
Revision of Section 712 – Geotextiles	(January 20, 2012)	1
Revision of Section 712 – Water for Mixing or Curing Concrete	(February 3, 2011)	1
Affirmative Action Requirements – Equal Employment Opportunity	(February 3, 2011)	10
Disadvantaged Business Enterprise – Definitions and Requirements	(February 3, 2011)	14
FASTER Monthly Employment Report	(February 3, 2011)	1
Minimum Wages Colorado, U.S. Department of Labor General Decision Numbers CO100016 thru CO100024, MOD 3, Highway Construction, Statewide	(February 10, 2012)	56
On the Job Training	(July 29, 2011)	3
Partnering Program	(February 3, 2011)	1
Federal-Aid Construction Contracts	(July 19, 2012)	14

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 Chief Engineer in the "Notice to Proceed."

The Contractor shall complete all work **within 415 calendar days** in accordance with the "Notice to Proceed."

Stockpiling of materials before the beginning date is subject to the Engineer's approval. If such approval is given, stockpiled material will be paid for in accordance with Sections l09 and 626.

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

Subsection 108.03 shall include the following:

The Contractor shall use Microsoft Project software to develop and manage the critical path method schedule.

Salient features to be shown on the Contractor's progress schedule are:

(1) Preloading Embankment
(2) Removals
(3) Drainage
(4) Walls
(5) Embankment
(6) Embankment Consolidation Period
(7) Spawning Seasons
(8) Piling
(9) Caissons
(10) Abutments
(11) Girder lead time and placement
(12) Deck Pour
(13) Deck Membrane
(14) Approach Slabs
(15) Aggregate Base Course (Class Special and 6)
(16) HMA Bottom Lift
(17) HMA Top Lift
(18) Signing and Striping
(19) Soil Conditioning and Seeding
(20) Removal of Bridge
(21) Project Phasing
(22) Weather Days
(23) Any task deemed critical to the progress schedule.

Preload embankment shall be placed to final grades in the locations indicated in the plans and shall be in place for a consolidation period of 120 days prior to placing sleeper slabs, approach slabs, or any final pavement.

Temporary river access shall not be constructed or remain in the river during anticipated high water from March 1 until water elevation drops below the normal high water elevation of 6138 or as approved by the Engineer.

Construction activities or equipment shall not work in flowing water or disturb sediment during recognized spawning seasons as follows:

Rainbow Trout March 1 – May 31
Brown Trout Oct. 1 – Nov. 30

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COMMENCEMENT AND COMPLETION OF WORK

The Contractor shall coordinate with the Engineer and Special Event Coordinators for any special events that may be impacted by the project. The contractor shall not stop traffic on special event days unless approved by the engineer. The following Special Event dates are from the best available information and are subject to change. Additional Special Event days may occur and shall be accommodated and coordinated the same as those listed.

Colorado Eagle River Ride

Event Coordinator: Seth Ehrlich
Office: (970)926-9292 #102
Email: seth@sosoutreach.org

Event Date: July 28, 2012 (Saturday) & July 28, 2013 (Last Saturday in July) or as determined by promoter

The event involves cyclist heading South on Colorado River road then turning left heading west on Highway 6 across the existing bridge. There will be approximately 800 to 900 riders passing through this section of the race course from 10AM to 3PM on Saturday. They would like to set up an aid station for riders near the boat launch area. They will also have a bus stop and turn around in the boat launch area. Large buses will be transporting people up and down I-70 as part of the race.

Ragnar Relay Series

Event Coordinator: Rachel Peterson
Office: (801) 200-7129
Email: rachel@ragnarrelay.com

Event Date: September 7-8, 2012 and 2013 as determined by the promoter

The relay will have runners on Highway 6 going from Gypsum to the truck pull off in Dotsero. The event coordinator expects runners to pass the construction site anytime from September 7th at 11PM to September 8th at 6 AM.

The American Cup – International Fly Fishing Tournament

Event Coordinator: John Knight
Office: (970) 379-5703
Email: jknight@theamericacup.com

Event Date: September 20-23, 2012 & 2013 as determined by the promoter

John Knight stated the tournament will require vehicle access from I-70 to Cotton Lane.

CONTRACT GOAL (COMBINED)

The Department has determined that Underutilized Disadvantaged Business Enterprises (UDBEs) will participate by contracting for a part of the work of this Contract. The contract goal for participation in this Contract by certified DBEs who have been determined to be underutilized has been established as follows:

UDBE***** 11.00 Percent

The percentage will be calculated from proposals received for this project according to the following formula:

$$\text{Percentage} = 100 \times \frac{\text{**Dollar amount of work to be contracted to underutilized DBEs (UDBEs)}}{\text{Total dollar amount of the original Contract}}$$

***** All DBEs will be considered to be UDBEs.
****** Based on DBE contract unit prices rather than prime contract unit prices.

NOTE: Specific Good Faith Efforts required to meet the Contract Goal specified above are defined in the Standard Special Provisions. In addition, the Transportation Commission has determined an overall 12.69 percent annual goal for the participation of all DBEs.

ON THE JOB TRAINING CONTRACT GOAL

The Department has determined that On the Job Training shall be provided to trainees with the goal of developing full journey workers in the types of trade or classification involved. The contract goal for On the Job Trainees working in an approved training plan in this Contract has been established as follows:

Minimum number of total On the Job Training required 1280 hours

REVISION OF SECTION 104
SCOPE OF WORK

Section 104 of the Supplemental Specifications is hereby revised for this project as follows:

Delete Subsection 104.04 of the Supplemental Specifications and replace with the following:

104.04 Maintaining Traffic

It is the intention of the Department to minimize the impact of construction operations on the traveling public on **US 6**. Special scheduling, coordination and traffic control not usually associated with highway construction will be necessary to accomplish work on this project and maintain traffic flow. Traffic control operations must have the approval of the engineer. Unless otherwise allowed by this specification, the contractor shall abide by the provisions for maintaining traffic to meet the Department's intention of minimizing the impact on the traveling public.

(a) *General*. Construction activities that affect traffic on the traveled roadway shall not commence prior to establishment of traffic control operations for these activities. Construction activities shall be discontinued and all materials and equipment removed from the traveled roadway in time to allow for a safe removal of traffic control devices within the time limits defined in Subsection 104.04 (e) and (f) – *Construction Hours and Periods of No Interference*.

(b) *Traffic Control Requirements for Specific Construction Activities*. In addition to the above, the following restrictions shall apply. In all cases, the Contractor shall schedule and coordinate his work such that the minimum delay to the traveling public will result and all requirements and restrictions are met.

1. Parking. All vehicle or equipment parking will be prohibited where it conflicts with safety, access or flow of traffic. These locations include but are not limited to areas within 30 feet of edge of roadway and in the median area.

(c) *Maintain the Traveled Roadway for Traffic*. Unless otherwise provided, the Contractor shall keep the traveled roadway open and in acceptable condition, as determined by the Engineer, while improvements are being made. Traffic shall be maintained on a paved surface at all times, except under special circumstances when approved by the Engineer. Maintenance work to be completed by the Contractor includes work necessary for the safety and convenience of the traveling public to keep the traveled road open and in acceptable condition. This includes all work required as a result of the Contractor's operations, and normal wear and tear due to traffic, including construction traffic.

The Contractor shall perform the following routine maintenance work:

1. Repairing of minor pavement distress such as potholes, small ruts, etc., regardless of cause.
2. Maintaining adequate drainage.
3. Removing daily, or more frequently if required, any rock, dirt, mud or debris that is tracked onto the highway and side roads, and removing accumulations of rock from rock fall barriers.

4. Cleaning, replacing and repairing delineators.
5. Shouldering-up along the edges of pavement. Normal posted speed shall be maintained during this operation.

(d) *Maintenance Work*. The Contractor shall bear all expense of the routine maintenance work required for maintaining the traveled roadway through the project, as described above, until final acceptance of the project is made pursuant to subsection 105.19.

(e) *Construction Hours.* The construction hours and related construction activities shall be limited to the following:

1. Monday through Friday - 7:00 a.m. to 7:00 p.m.
2. Saturday & Sunday – at the approval of the engineer.
3. Holidays – Not permitted as defined in the Standard Specifications
4. Special Events – Not permitted as defined in Commencement and Completion of Work
5. Exceptions:
   A. Emergency condition shall be permitted any hour or day of the week. The emergency situation shall be completed as rapidly as possible to minimize disruptions or disturbance to occupants of adjacent properties.
   B. As directed by the Engineer.

(f) *Periods of No Interference*. During the periods below, the Contractor shall not interfere with traffic on **US 6**:

(See other periods of interference in 104.04 (e) *Construction Hour*).

For all periods not stated above, traffic delays and interruptions by the Contractor will only be allowed as described in subsection 104.04 (g) – *Construction Operations*. Unauthorized delays or traffic interruptions will be considered a violation of this provision and shall be subject to price reductions as described in Revision of Section 105 – Control of work.

If any approved variation from the two-lane traffic results in unsafe conditions or undue delays on the traveling public, the approval of the MHT will be rescinded, and the two-lane shall be immediately re-established. If the Engineer finds that any closures result in undue delays or an unsafe situation, construction activities causing the delay and/or situation shall immediately cease, and the two-lane shall be immediately re-established.

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REVISION OF SECTION 104
SCOPE OF WORK

(g) *Construction Operations*. Traffic control shall be the responsibility of the contractor within the provisions of the contract and CDOT standards. Traffic control shall be coordinated by the Contractor such that the cumulative delays to the traveling public through all construction zones will not exceed **10** minutes, except as approved by the Engineer and in accordance with relevant provisions of this specification. The Engineer prior to implementation must approve requests for authorization to implement traffic control measures.

(h) *Adverse Weather Conditions*. The Contractor shall cease any operation that affects traffic when the Engineer determines that slippery roads, poor visibility, or other adverse weather conditions make traffic control hazardous to the traveling public. Operations shall not begin again until the Engineer determines the traveled roadway is safe.

(i) *Maintaining Other Access*. The Contractor shall provide and maintain public and private access roads from the point of disruption to the traveled way.

(j) *Costs*. All costs incidental to the foregoing requirements, except for subsection 104.04(i) – *Maintaining Other Access*, will not be paid for separately, but shall be included in the work.

Delays or impacts to the Contractor due to the requirements of this provision shall not be a basis for an extension of time or additional compensation, or both. Any denial or revocation of prior approval for traffic-handling requests shall not be the basis for any claim for additional time or compensation.

END OF SECTION REVISION

REVISION OF SECTION 104
CONSTRUCTION MANAGER/GENERAL CONTRACTING PROVISIONS

Section 104 of the Standard Specifications is hereby revised for this project as follows:

Delete subsection 104.07 and replace with the following:

104.07 Value Engineering Change Proposals. Value Engineering Change Proposals (VECP) will not be allowed during the construction of CM/GC Projects.

END OF SECTION REVISION

REVISION OF SECTIONS 105, 106 AND 203
QUALITY OF EMBANKMENT

Sections 105, 106 and 203 of the Standard Specifications are hereby revised for this project as follows:

Subsection 105.03 shall include the following:

Quality Control Plan. The Contractor shall be responsible for Quality Control (QC) for all embankment material on this project. The Contractor shall submit a written Quality Control Plan (QCP), including a methods statement, to the Engineer for acceptance. The Engineer shall have 5 working days to provide a response and acceptance must be achieved prior to beginning work on the construction of the embankment. The QCP shall list all inspection and materials testing procedures utilized by the Contractor to ensure that the work conforms to contract requirements. As a minimum, this plan requires a testing frequency equal to that shown in Table 106-5

Documentation. The Contractor shall maintain current records of quality control operation activities, and tests performed. These records shall be in the form shown in the QCP, and shall include as a minimum, the Contractor or subcontractor, the number of personnel working, weather conditions, type of equipment being used, delays and their cause, and deficiencies along with corrective action taken. Such records shall cover both conforming and defective or deficient features. Additional documentation to the Engineer shall include all daily test results, daily inspection reports, daily non-compliance reports, and monthly certification reports. Copies of these records and a statement that work incorporated in the project complies with the Contract shall be submitted to the Engineer prior to payment for the work or upon request. Monthly certification reports shall be stamped with the seal of a Professional Engineer registered in Colorado. Failure to provide the Engineer with the necessary documentation will result in the suspension of progress payments until the documentation has been completed and accepted by the Engineer. CDOT Quality Assurance documentation shall not be used as supporting documentation for the Contractors certification.

CDOT or CDOT's certified representative will be responsible for Quality Assurance (QA) and Independent Assurance Testing (IAT).

Subsection 106.03 shall include the following:

The supervisor responsible for the direct supervision for the process control sampling and testing shall be identified in the QCP and be qualified according to the requirements of CP-10 (Note: this will require a PE or a NICET Level III certification). The technicians taking samples and performing tests must be qualified according to requirements of CP 10 (Note: this will require WAQTC).

The project verification sampling and testing procedures shown in the field materials manual under the frequency guide schedule for minimum materials sampling, testing and inspection shall be used for the elements shown in Table 106-5

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REVISION OF SECTIONS 105, 106 AND 203
QUALITY OF EMBANKMENT

Table 106-5

EXCAVATION AND EMBANKMENT TESTING SCHEDULE

Minimum Testing Frequency Contractor's Process Control	**Element**	**Minimum Testing Frequency CDOT verification Testing**
None Required	Soil Survey (Classification)	See CDOT Field Materials Manual for Frequency
1 per soil type	Moisture – Density Curve	1 per soil type
1 per 750 m³ (1,000 cubic yards) or fraction thereof.	In-Place Density	1 per 1,500 m³ (2,000 cubic yards) or fraction thereof.
1 per 230 m³ (300) cubic yards or fraction thereof.	In-Place Density when within 30 m (100 ft.) of Bridge Approach(s).	1 per 375 m³ (500 cubic yards) or fraction thereof.
1 per 3,750 m³ (5,000 cubic yards) or fraction thereof.	1 Point Check	1 per 7,500 m³ (10,000 cubic yards) or fraction thereof.

Qualifications for testing and personnel are contained in Section 203, Chapter 200 of the CDOT Field Materials Manual, CP-10, CP 13, CP 15, and CP 80, and the CDOT Inspectors Checklist.

Subsection 203.02 (a) shall include the following:

Unclassified Excavation shall consist of removal of unstable or unsuitable material within the roadway as determined and directed by the Engineer. Proof rolling will be required by the Engineer to observe and verify the stability of the subgrade surface.

Subsection 203.02 (c) shall include the following:

Muck shall not be considered as severely over optimum moisture embankment material that would become stable if dried.

Add subsection 203.081 immediately following subsection 203.08, which shall include the following:

Proof Rolling. Proof rolling with heavy rubber tired equipment will be required as designated on the plans or when ordered. The proof rolling equipment shall have a minimum load of 80 kilo-newtons (18 kips) per axle. The Engineer will determine suitability of the proof rolling equipment. Proof rolling shall be done after specified compaction has been obtained and documented, and within 48 hours prior to paving. When the subgrade will not be covered within 48 hours, or when weather conditions create concern, the Engineer may require additional proof rolling, at the Contractor's expense, prior to the subgrade being paved over. Areas, that are observed to have excessive deflection, as determined by the Engineer, shall be ripped, scarified, wetted or dried if necessary, to sufficient depths, and re-compacted to the requirements for density and moisture at the Contractor's expense.

The contractor is ultimately responsible for the quality of the constructed embankment.

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REVISION OF SECTIONS 105, 106 AND 203
QUALITY OF EMBANKMENT

Subsection 203.13 shall include following:

The disposal of unsuitable material, proof rolling, and replacement of embankment will not be measured and paid for separately, but shall be included in the work.

All costs associated with the Contractor's Quality Control efforts will not be measured and paid for separately but shall be included in the work.

END OF SECTION REVISION

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.

END OF SECTION REVISION

REVISION OF SECTION 107
PERFORMANCE OF SAFETY CRITICAL WORK

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

Add subsection 107.061 immediately following subsection 107.06 as follows:

107.061 Performance of Safety Critical Work. The following work elements are considered safety critical work for this project:

(1) Overhead girder erection – Structure F-08-AJ
(2) Removal of bridge – Structure F-08-F
(3) Temporary works: falsework, shoring that exceeds 5 feet in height, river construction access, cofferdams, and temporary bridges
(4) Work requiring the use of cranes or other heavy lifting equipment
(5) Excavation and embankment adjacent to the roadway if it requires shoring

The Contractor shall submit, for record purposes only, an initial detailed construction plan that addresses safe construction of each of the safety critical elements. When the specifications already require an erection plan, a bridge removal plan, or a removal of portion of bridge plan, it shall be included as a part of this plan. The detailed construction plan shall be submitted two weeks prior to the safety critical element conference described below. The construction plan shall be stamped "Approved for Construction" and signed by the Contractor. The construction plan will not be approved by the Engineer.

The Construction Plan shall include the following:

(1) Safety Critical Element for which the plan is being prepared and submitted.
(2) Contractor or subcontractor responsible for the plan preparation and the work.
(3) Schedule, procedures, equipment, and sequence of operations, that comply with the working hour limitations
(4) Temporary works required: falsework, bracing, shoring, etc.
(5) Additional actions that will be taken to ensure that the work will be performed safely.
(6) Names and qualifications of workers who will be in responsible charge of the work:
    A. Years of experience performing similar work
    B. Training taken in performing similar work
    C. Certifications earned in performing similar work
(7) Names and qualifications of workers operating cranes or other lifting equipment
    A. Years of experience performing similar work
    B. Training taken in performing similar work
    C. Certifications earned in performing similar work

(8) The construction plan shall address how the Contractor will handle contingencies such as:
    A. Unplanned events (storms, traffic accidents, etc.)
    B. Structural elements that don't fit or line up
    C. Work that cannot be completed in time for the roadway to be reopened to traffic
    D. Replacement of workers who don't perform the work safely
    E. Equipment failure
    F. Other potential difficulties inherent in the type of work being performed

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REVISION OF SECTION 107
PERFORMANCE OF SAFETY CRITICAL WORK

(9) Name and qualifications of Contractor's person designated to determine and notify the Engineer in writing when it is safe to open a route to traffic after it has been closed for safety critical work.
(10) Erection plan or bridge removal plan when submitted as required elsewhere by the specifications. Plan requirements that overlap with above requirements may be submitted only once.

A safety critical element conference shall be held two weeks prior to beginning construction on each safety critical element. The Engineer, the Contractor, the safety critical element subcontractors, and the Contractor's Engineer shall attend the conference. Required pre-erection conferences or bridge removal conferences may be included as a part of this conference.

After the safety critical element conference, and prior to beginning work on the safety critical element, the Contractor shall submit a final construction plan to the Engineer for record purposes only. The Contractor's Engineer shall sign and seal temporary works, such as falsework, shoring etc., related to construction plans for the safety critical elements, (3) Removal of Bridge, (4) Removal of Portion of Bridge and (5) Temporary Works. The final construction plan shall be stamped "Approved for Construction" and signed by the Contractor.

The Contractor shall perform safety critical work only when the Engineer is on the project site. The Contractor's Engineer shall be on site to inspect and provide written approval of safety critical work for which he provided signed and sealed construction details. Unless otherwise directed or approved, the Contractor's Engineer need not be on site during the actual performance of safety critical work, but shall be present to conduct inspection for written approval of the safety critical work.

When ordered by the Engineer, the Contractor shall immediately stop safety critical work that is being performed in an unsafe manner or will result in an unsafe situation for the traveling public. Prior to stopping work, the Contractor shall make the situation safe for work stoppage. The Contractor shall submit an acceptable plan to correct the unsafe process before the Engineer will authorize resumption of the work.

When ordered by the Engineer, the Contractor shall remove workers from the project that are performing the safety critical work in a manner that creates an unsafe situation for the public in accordance with subsection 108.05.

Should an unplanned event occur or the safety critical operation deviate from the submitted plan, the Contractor shall immediately cease operations on the safety critical element, except for performing any work necessary to ensure worksite safety, and provide proper protection of the work and the traveling public. If the Contractor intends to modify the submitted plan, he shall submit a revised plan to the Engineer prior to resuming operations.

All costs associated with the preparation and implementation of each safety critical element construction plan will not be measured and paid for separately, but shall be included in the work.

Nothing in the section shall be construed to relieve the Contractor from ultimate liability for unsafe or negligent acts or to be a waiver of the Colorado Governmental Immunity Act on behalf of the Department.

END OF SECTION REVISION

REVISION OF SECTION 109
CONSTRUCTION MANAGEMENT/GENERAL CONTRACTOR FORCE ACCOUNTS

Section 109 of the Standard Specifications is hereby revised for this project as follows:

Delete subsection 109.03 and replace with the following:

109.03 Compensation for Altered Quantities.

(a) *Guaranteed Maximum Price.* On CM/GC Construction projects, when the accepted quantities of work vary from the quantities in the Contract, The Contractor shall accept as payment in full, payment at the original contract unit prices for the installed and accepted quantities of work up to the original quantities shown in the Guaranteed Maximum Price proposal, except as defined in subsections 104.02, 104.03, 108.11, and the Shared CMGC Risk Pool Designated Items, as approved by the Engineer. All planned Force Account items will be paid for in accordance with subsections 104.03 as listed in the Project Special Provision, Force Account Items. Overruns approved by the Engineer on original quantities as accepted in the Guaranteed Maximum Price proposal under the planned Force Account Item, Overrun Pool.

Allowance will not be made except as provided in subsections 104.02, 104.03, and 108.11, for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor resulting either directly from such alterations or indirectly from unbalanced allocation of overhead expense among the contract items or from any other cause.

(b) *Shared Risk Contingency Pool.* Differing site conditions and extra work performed that the Contactor and CDOT have agreed to share risk under will be paid for as stipulated in the order authorizing the work and compensated out of the planned Force Account Item, Shared Risk Contingency Pool. Compensation will be at the accepted Guaranteed Maximum Price unit price.

The shared risk compensations, components, and total amounts for each of the items agreed upon shall be defined in the Project Risk Registry.

If any such alteration directly causes the loss of any work or materials already furnished by the Contractor under the terms of the original Contract, reimbursement for such work or of salvaging such materials will be at actual cost. Any such materials may, at the option of the Department, be purchased at the actual cost to the Contractor, as evidenced by certified invoices.

All cost savings in the Shared Risk Contingency Pool not resulting in the reduction of work or operating performance shall be shared as defined between the Contractor and CDOT upon completion of the work.

Delete subsection 109.04 and replace with the following:

109.04 Compensation for Changes and Force Account Work.

All bid items and quantities that have the CMGC Risk Pool designation in the Summary of Approximate Quantities in the Plans will be paid for using the Shared Risk Contingency Pool.

Compensation will be at unit prices or lump sum, or the Department may require the Contractor to do the work on a force account basis to be compensated in the following manner:

(a) *Labor*. For all labor and foremen in direct charge of the specific operations, the Contractor will receive the actual rate of wage normally paid for each and every hour that the labor and foremen are actually engaged in the work, as documented by certified payrolls.

REVISION OF SECTION 109
CONSTRUCTION MANAGEMENT/GENERAL CONTRACTOR FORCE ACCOUNTS

The Contractor shall receive the actual costs paid to, or in behalf of, workers by reason of subsistence and travel allowances, health and welfare benefits, pension fund benefits, or other benefits, when the amounts are required by a collective bargaining agreement or other employment contract or generally applicable to the classes of labor employed on the work.

An amount equal to 67 percent of the actual wages and fringe benefits paid directly to the employees will also be paid to the Contractor. This 67 percent will not be applied to subsistence, travel allowance, or to fringe benefits paid to a third party or a trustee. The CMGC Management Price Percentage as specified in the Contract will not be added to labor costs.

(b) *Materials.* For materials accepted by the Engineer and incorporated in the work, the Contractor shall *receive* the actual cost of such materials, including transportation charges paid (exclusive of equipment rentals as hereinafter set forth) to which the CMGC Management Price Percentage will be added.

(c) *Owned or Leased Equipment.* For the use of any machinery or equipment, approved by the Engineer, which is owned or leased directly by the Contractor or subcontractors, or by entities that are divisions, affiliates, subsidiaries or in any other way related to the Contractor or subcontractors or their parent companies, the Contractor will be paid in the manner hereinafter specified. Rental rates will be from the current edition of the Rental Rate Blue Book of Rental Rates for Construction Equipment and will be used as follows:

1. Determination of the rental rate to be used will be as follows:

Hourly rate: RR = (ADJ BB/176)(RF)+EOC
Standby rate: SR = (ADJ BB/176)(RF)(0.5)
Where: RR = Hourly rental rate
SR = Standby rate
ADJ BB = Blue Book Monthly Rate adjusted for year of manufacture
RF = Regional Factor of 1.06
EOC = Estimated Hourly Operating Costs from Blue Book

2. The number of hours to be paid for will be the number of hours that the equipment is actually used on a specific force account activity.

3. Overtime shall be compensated at the same rate indicated in subsection 109.04(c)1. above.

4. The EOC will be used for each hour that the equipment is in operation on the force account work. Such costs do not apply to idle time regardless of the cause.

5. Idle time for equipment will not be paid for, except where the equipment has been held on the Project site on a standby basis at the direction of the Engineer. Such payment will be made at the standby rate established in subsection 109.04 (b) 1.

Incurrence of costs for standby rates for equipment shall not take place until approval has been received from the Engineer. Payment for standby time will not be made on any day the equipment operates for eight or more hours. For equipment accumulating less than eight hours operating time on any normal work day standby payment will be limited to only that number of hours that, when added to the operating time for that day, equals eight hours. Additionally, payment for standby time will not be made in any consecutive 30 day period that the equipment operates for 176 or more hours. For equipment accumulating less than 176 hours operating time in any consecutive 30 day period, standby payment will be limited to only that number of hours that, when added to the operating time for that consecutive 30

day period, equals 176 hours. Standby payment will not be made in any case on days not normally a work day.

6. The rates established above shall include the cost of fuel, oil, lubrication, supplies, incidental tools valued at less than $500, necessary attachments, repairs, overhaul and maintenance of any kind, depreciation, storage, overhead, profit, insurance, all costs (including labor and equipment) of moving equipment onto and away from the site, and all incidentals, except as allowed in subsection 109.04(c)8.

7. The rental rate for small tools shall be $2.00 per hour. Small tools are defined as any tool which would be valued between $500 and $2,000 if purchased new.

8. Transportation charges for each piece of equipment to and from the site of the work will be paid provided:

(1) The equipment is obtained from the nearest source,
(2) Charges are restricted to those units of equipment not already available or required on the Project, and
(3) The equipment is used solely for the force account work.

9. Fast use expendable parts not included in the Rental Rate Blue Book will be paid at certified invoice cost to which the CMGC Management Price Percentage will be added. Such parts not totally expended on the force account work will be prorated based on actual use.

10. Payable time periods will not include:

(1) Time elapsed while equipment is broken down;
(2) Time spent in repairing equipment; or
(3) Time elapsed after the equipment is no longer needed. If a piece of equipment that is not in the Blue Book is needed, rates shall be agreed to in writing before the equipment is used.

(d) *Rental Equipment.* Use of rental equipment not owned or leased by the Contractor or subcontractors will be paid for by certified invoice cost to which the CMGC Management Price Percentage will be added. The EOC will also be paid if not included in the rental rate. The use of and rates for rental equipment shall be approved by the Engineer prior to use. Proration of rental rates to an hourly rate for equipment not used solely for the force account shall be based on 176 hours per month, 40 hours per week or 8 hours per day as applicable. The cost of moving the rental equipment onto and away from the job will also be paid when the equipment is used solely for the force account work.

(e) *Records.* The Contractor's representative and the Engineer shall, on a daily basis, agree in writing on the quantities of labor, equipment and materials used for work completed on a force account basis.

(f) *Statements.* Payment will not be made for work performed on a force account basis until the Contractor has furnished the Engineer with triplicate itemized statements of the cost of the force account work, detailed as follows:

(1) Labor classification, hours, rate, and extension for each labor class or pay rate within a class.
(2) Equipment type, hours, rate and extension for each unit of equipment.
(3) Quantities of materials, prices, extensions and transportation charges.
(4) Administrative compensation when applicable. Statements shall be accompanied and supported by certified invoices for all materials and rental equipment including transportation charges. If materials

used on the force account work are not specifically purchased for the work, but are taken from the Contractor's stock, the Contractor shall furnish a written statement certifying that the materials were taken from stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

(g) *Alternative Method of Documenting Force Account Work.* The following method of documenting the amount of force account work done may be used in lieu of the method described in subsections 109.04 (e) and (f) above, when agreed to by both the Engineer and the Contractor. The Engineer will keep a daily record of the labor, equipment and material used on approved force account work. The Contractor's representative shall review and initial the record each day to ensure that the record is accurate and complete, and that the costs were actually incurred. The Contractor shall furnish certified copies of invoices for the cost of all materials used including transportation charges. If materials used on force account work are not specifically purchased for the work, but are taken from the Contractor's stock, the Contractor shall furnish a written statement certifying that the quantity claimed was actually used, and that the price and transportation charges claimed represent the actual cost to the Contractor. The Engineer will calculate the cost of the force account work each month and include payment on the monthly progress estimate.

(h) Contract modification orders that change the scope of work outside the accepted GMP documents will include the direct cost of the work and include the CM/GC Management Price Percentage as specified in the contract.

(i) The CMGC Management Price Percentage stated in (a) through (h) above constitute full compensation for all items of expense no specifically designated, including general superintendence, use of incidental tools, field and office overhead, and profit. The total payment made as provided above shall constitute full compensation for such work.

END OF SECTION REVISION

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 existing 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. Used in embankment construction in accordance with subsection 203.06.
2. Placed in bottom of fills as approved by the Engineer.
3. Recycled into the hot mix asphalt.
4. Placed in the 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.

END OF SECTION REVISION

REVISION OF SECTION 202
REMOVAL OF BRIDGE

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

Subsection 202.01 shall include the following:

This work consists of removal of the existing bridge, F-08-F at M.P. 133.51. Bridge removal shall consist of the complete removal of all superstructure and substructure elements unless otherwise shown on the plans.

Subsection 202.02 shall include the following:

The removal of the existing bridge shall be performed in a safe manner.

Coordination with other agencies, (United States Army Corps of Engineers (USACE), US Fish and Wildlife Service, *Colorado Department of Public Health and Environment (CDPHE), etc.)* shall be required. A CDPHE Demolition Notification Application Form must be filed and the Demolition Permit obtained prior to the start of removal operations.

The Contractor shall submit a Bridge Removal Plan to the Engineer, for record purposes only, at least 20 working days prior to the proposed start of removal operations. This Plan shall detail procedures, sequences, and all features required to perform the removal in a safe and controlled manner. The Bridge Removal Plan shall be stamped "Approved for Construction" and signed by the Contractor. The Bridge Removal Plan will not be approved by the Engineer.

The Bridge Removal Plan shall provide complete details of the bridge removal process, including:

(1) The removal sequence, including staging of removal operations. Sequence of operation shall include a detailed schedule that complies with the working hour limitations.

(2) Equipment descriptions including size, number, type, capacity, and location of equipment during removal operations.

(3) Shoring that exceeds 5 feet in height, all falsework and bracing.

(4) Details, locations and types of protective coverings to be used. The protective covering shall prevent any materials, equipment or debris from falling onto the property below. When removal operations are located over or in proximity to any live waterway, railroad, or pedestrian/bicycle path, additional width of protective covering sufficient to protect these facilities shall be required. Detailed methods for protection of the existing roadway facilities, including measures to assure that people, property, utilities, and improvements will not be endangered.

(5) Detailed methods for protection of live waterways including minimization of turbidity and sedimentation, and protection of existing wetlands.

(6) Detailed methods for mitigation of fugitive dust resulting from the demolition.

(7) Details for dismantling, removing, loading, and hauling steel elements.

(8) Methods of Handling Traffic, including bicycles and pedestrians, in a safe and controlled manner.

(9) Methods of protecting existing utilities and coordination schedule for required utility relocations.

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REVISION OF SECTION 202
REMOVAL OF BRIDGE

A Pre-Removal Conference shall be held at least seven days prior to the beginning of removal of the bridge. The Engineer, the Contractor, the removal subcontractor, the Contractor's Engineer, and the Traffic Control Supervisor (TCS) shall attend the Pre-Removal Conference. The Bridge Removal Plan shall be finalized at this Conference.

The Contractor's Engineer shall sign and seal (1) and (3) listed above in the final Bridge Removal Plan. Calculations shall be adequate to demonstrate the stability of the structure remaining after the end of each stage of removal, before traffic is allowed to resume in its normal configuration.

The final Bridge Removal Plan shall be stamped "Approved for Construction" and signed by the Contractor. The Contractor shall submit a final Bridge Removal Plan to the Engineer prior to bridge removal for record purposes only. The Contractor shall not begin the removal process without the Engineer's written authorization.

Submittal of the final Bridge Removal Plan to the Engineer, and field inspection performed by the Engineer, will in no way relieve the Contractor and the Contractor's Engineer of full responsibility for the removal plan and procedures.

Unless otherwise directed, the Contractor's Engineer need not be on site when bridge removal operations are in progress, but shall be present to conduct daily inspection for written approval of the work. The Contractor's Engineer shall inspect and provide written approval of each phase of the removal prior to allowing vehicles or pedestrians on, below, or adjacent to the structure. The Contractor's Engineer shall certify in writing that the falsework, bracing, and shoring conform to the details of the final Bridge Removal Plan. A copy of the certification shall be submitted to the Engineer.

The Contractor's Engineer shall inspect the bridge removal site and report in writing on a daily basis the progress of the operation and the status of the remaining structure. A copy of this daily report shall be available at the site of the work at all times, and a copy of the previous day's inspection report shall submitted to the Engineer daily.

The Contractor shall have all necessary workers, materials, and equipment at the site prior to closing any lanes to traffic to accommodate bridge removal operations. While the lanes are closed to public traffic, work shall be pursued promptly and without interruption until the roadway is reopened to traffic.

Removal of hazardous material shall be in accordance with Section 250.

The Contractor shall take all steps to avoid contaminating state waters, in accordance with subsection 107.25.

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REVISION OF SECTION 202
REMOVAL OF BRIDGE

Should an unplanned event occur or the bridge removal operation deviate from the submitted bridge removal plan, the bridge removal operations shall immediately cease after performing any work necessary to ensure worksite safety. The Contractor shall submit to the Engineer, the procedure or operation proposed by the Contractor's Engineer to correct or remedy the occurrence of this unplanned event or to revise the final Bridge Removal Plan. The Contractor shall submit his Engineer's report in writing, within 24 hours of the event, summarizing the details of the event and the procedure for correction.

Before removal of the protective covering, the Contractor shall clean the protective covering of all debris and fine material.

Bridge removal may be suspended by the Engineer for the following reasons:

(1) Final Bridge Removal Plan has not been submitted, or written authorization has not been provided by the Engineer to begin the removal.

(2) The Contractor is not proceeding in accordance with the final Bridge Removal Plan, procedures, or sequence.

(3) The Contractor's Engineer is not on site to conduct inspection for the written approval of the work.

(4) Safety precautions are deemed to be inadequate.

(5) Existing neighboring facilities are damaged as a result of bridge removal.

(6) The Contractor does not possess a CDPHE Demolition Permit.

Suspension of bridge removal operations shall in no way relieve the Contractor of his responsibility under the terms of the Contract. Bridge removal operations shall not resume until modifications have been made to correct the conditions that resulted in the suspension, as approved in writing by the Engineer.

The Contractor shall notify all emergency response agencies of the proposed removal work and any detours 24 hours in advance of work. This shall include the Colorado State Patrol, local Police Department, local Fire Department, all local ambulance services, and the Sheriff's Department, as appropriate.

All required traffic control devices, night time flagging stations, barricades and VMS signs shall be in place, with detours in operation, prior to the beginning of removal operations each day. Night work shall conform to the requirements of the MUTCD 2009, Parts 1, 5, and 6.

Explosives shall not be used for removal work without the written approval of the Engineer.

Removal shall include the superstructure, the substructure, which includes the piers, the abutments and wingwalls, the bridge rail, and any approach slabs and sleeper slabs.

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REVISION OF SECTION 202
REMOVAL OF BRIDGE

Removal of the substructure shall be taken down to at least 1 foot below the natural existing or future ground surface at the lowest point of interface with the abutment, unless otherwise approved by the Engineer. Holes resulting from substructure removal shall be backfilled with Structure Backfill (Class 2) to the adjacent existing grades. Structure Backfill (Class 2) used for filling holes resulting from bridge removal operations shall not be paid for separately, but shall be included in the work.

All other materials removed from the existing structure shall become the property of the Contractor and shall be properly disposed of offsite at the Contractor's expense, unless otherwise stated in the plans or specifications.

Existing structures, facilities, and surrounding roadways shall not be damaged by the removal operations. Damage that does occur shall be repaired immediately at the Contractor's expense.

Subsection 202.12 shall include the following:

Payment will be made under:

Pay Item	**Pay Unit**
Removal of Bridge	Each

Payment for Removal of Bridge will be full compensation for all labor and materials required to complete the work, including, preparation and implementation of the Bridge Removal Plan, inspection, equipment, debris handling and disposal, salvaging, handling and storage of salvable materials, handling and disposal of all hazardous materials and disposal of non-salvable materials.

Lighting required for nighttime operations will not be measured and paid for separately, but shall be included in the work.

END OF SECTION REVISION

REVISION OF SECTION 202
REMOVAL OF STRUCTURES
COATED WITH HEAVY-METAL BASED PAINT

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

Subsection 202.01 shall include the following:

This work consists of the removal of a structure or components of a structure coated with paint which may contain lead, other heavy metals, or a combination thereof. Management of paint debris waste shall be accomplished in accordance with Section 250.

Subsection 202.12 shall include the following:

Payment for removal of structures, or portions thereof, coated with heavy-metal based paint will be full compensation for all work necessary to complete the item. Paint debris waste management and disposal will be measured and paid for in accordance with section 250.

END OF SECTION REVISION

REVISION OF SECTION 203
EMBANKMENT MATERIAL

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

In subsection 203.03(a), first paragraph, after the second sentence add the following:

Embankment material shall have a resistance value of at least 40 when tested by the Hveem Stabilometer.

END OF SECTION REVISION

REVISION OF SECTION 208
WATER CONTROL

Section 208 of the Standard Specifications is hereby revised for this project to include the following:
The work of this section consists of controlling groundwater, tributary Stormwater in-flow, and river flows during construction, and minimizing sediment entrainment in river flow originating from construction activity.

SUBMITTALS
The Contractor shall submit a Stormwater Management Plan (SWMP) and a water control plan. The water control plan shall include location, height, and type of construction of any temporary accesses, dams, or flow rerouting schemes as well as a schedule for construction and removal consistent with the constraints listed in the Commencement and Completion of Work.

PRODUCTS
River construction access, dams, or diversions shall be constructed with clean material (e.g., barrier, clean rock, sheet piling, plastic sheeting, or sandbags) to protect water quality. Onsite materials within the limits of construction may also be used to construct temporary dams and berms as long as appropriate sediment control is achieved and maintained. The Contractor may be required by the Engineer, at no additional cost to the Owner, to provide additional protection of water control facilities, if in the opinion of the Engineer, existing control appears inadequate or is not in conformance with the SWMP or water control plan.

In no instance shall any dams, berms, dikes, or diversion channels be left unprotected.

EXECUTION
The Colorado River and adjacent wetlands are Waters of the U.S. under the jurisdiction of the U.S. Army Corps of Engineers. If there are any impacts beyond those shown on the plans and in the nationwide permit, the Project Engineer shall be contacted immediately and all work shall stop.

GENERAL
For all excavation, the Contractor shall provide suitable equipment and labor to remove water, and he shall keep the excavation dewatered so that pipe, and concrete work can be carried on under dewatered conditions where required by the Contract Drawings and Specifications. Water control shall be accomplished in such a way that no damage is done to the adjacent banks

LOW FLOWS
Temporary access consisting of berms and dams are allowed as an aid controlling water in work areas. The design, placement and safety of temporary access is entirely the Contractor's responsibility.

All excavations made as part of dewatering operations shall be backfilled with native fill or filter bedding material and compacted to 95 percent of maximum density (AASHTO T-99).

STORM FLOWS
The Contractor shall conduct operations in such a manner that storm waters may proceed uninterrupted along their drainage courses. The Contractor shall investigate the risk arising from such waters and plan the work accordingly. Any damage done during storm flows to temporary or partially completed structures or resulting from the Contractors operation shall be repaired at the Contractors expense.

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REVISION OF SECTION 208
WATER CONTROL

SEDIMENT CONTROL
The Contractor shall minimize sediment entrainment within the river flow and the diversion channels through use of protected control structures. Such protection shall consist of, but not necessarily be limited to, geotextiles fabrics, riprap, and conduits.

In no instance shall construction activities or equipment be allowed to work in flowing water during recognized spawning seasons or any other time not approved by the Engineer. See commencement and completion of work for additional information.

HAZARDOUS MATERIALS
In no instance shall oil or other hazardous materials be allowed to enter any flowing or contained water in or adjacent to the project sites or tributary areas. No hazardous materials shall be stored in the river channel at any time.

MATERIAL AND EQUIPMENT STORAGE
Contractor is responsible for all material and equipment at the project sites. At no time and under no circumstance shall any equipment or material be stored in the river channel or between top of banks. No equipment or material is to be stored in the river channel overnight unless approved by the Engineer. All material not installed and all equipment other than pumps to maintain water control shall be removed from the channel beyond the top of banks at the end of each workday unless approved by the Engineer.

MEASUREMENT AND PAYMENT
Subsection 208.12 shall include the following:

Payment will be made under:

Pay Item	**Pay Unit**
Water Control	Lump Sum

Payment will be full compensation for all work necessary to complete the temporary access into the river, including all measures implemented to protect the work and minimize sediment entrainment in the river, including but not limited to temporary shoring, diversion berms (earthen, sheet pile or other), earthwork, temporary low flow crossings, geotextile fabrics, riprap, dewatering wells, pumps, associated grading, and all work associated with temporary wetland vegetation protection and cleanup.

The cost of temporary access and cofferdams in the river shall be based on an average water surface elevation of 6136 feet between the new and existing bridges. Actual water elevations in excess of 6136 feet will require additional costs to construct higher access roads and cofferdams. Scheduling around the fall 2013 spawning season for bridge demolition may require additional costs for remobilization to construct access and demolish the bridge. The following item has been established to allow compensation for these additional costs.

Pay Item	**Pay Unit**
Temp Diversion	LF

Measurement for the additional height of access shall be based on the actual water height above the base elevation of 6136 feet as surveyed by the contractor and verified or approved by the engineer. No additional compensation will be paid if the actual water elevation exceeds 6136 feet, and no additional work or modification is performed by the Contractor, as determined by the Engineer. If the actual water surface elevation is below the elevation of 6136 feet, the Contractor shall be due no additional compensation for this work item.

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REVISION OF SECTION 208
WATER CONTROL

Access into the river with water surface elevations in excess of 6138 feet will not be permitted as flow rates at that elevation near flows comparable with average high water. In the event that water surface elevations exceed 6138 feet during the scheduled period for bridge demolition, these activities will be postponed until December 1, 2013. Additional costs for remobilization will be paid by the following item if the project Engineer has suspended time in order to wait until access to the river can take place.

Pay Item	**Pay Unit**
Mobilization (Without Auto Pay)(Special)	LS

The Guaranteed Maximum Price (GMP) proposal, as submitted by the Contractor, is to be based on a Notice to Proceed (NTP) prior to **September 1, 2012.** A NTP prior to Sept. 1 allows sufficient time to complete all work necessary for Water Control Access installation, as defined in the revision of Section 208 Water Control, prior to the Brown Trout Spawning season anticipated to being on Oct. 1.

If Water Control Access cannot be installed prior to the Brown Trout Spawning season, the installation will be delayed until Dec. 1 due to the spawning season constraints. Delayed access installation will introduce additional costs to make the necessary phasing adjustments to meet schedule constraints. The following Shared Contingency Rick Pool has been established as compensation in the event that the NTP is issued after Sept. 1 or there are Excusable Delays as defined in Section 108.08(c) preventing the installation of Water Control Access prior to the Brown Trout Spawning season.

Share Contingency Risk Pool:

Late Start Premium Cost		**Contractor's Share**	**Owner's Share**
$68,100		20%	80%

If Water Control Access is installed prior to the Brown Trout Spawning season, the Contractor will be compensated an amount equal to the Contractor's Share percentage of the Total Risk Pool as listed in the table above.

END OF SECTION REVISION

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

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

DESCRIPTION

240.01 This work consists of protecting migratory birds during construction.

MATERIALS 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 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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REVISION OF 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 seven days immediately prior to ground disturbing activities.

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

   If birds establish a nest within the survey area, an appropriate buffer of 50 feet will be established around the nest by the CDOT biologist. This buffer dimension may be changed if determined appropriate by the CDOT 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 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.

   The wildlife biologist shall conduct raptor nest surveys within 0.5 mile of the construction site prior to the start of construction and prior to each construction phase. This survey can be done with binoculars. If construction activities are located within the Colorado Division of Wildlife (CDOW) recommended buffer zone for specific raptors, "NO WORK" zones shall be established around active sites during construction according to the CDOW standards or as recommended by the wildlife biologist in consultation with the CDOW. The "NO WORK" zone shall be marked with either fencing or signing. Work shall not proceed within a "NO WORK" zone until the wildlife biologist has determined that the young have fledged or the nest is unoccupied.

(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 CDOT has 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 ¾ inch by ¾ 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.

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.

Removal of nests will be measured by the actual number of man-hours spent removing inactive nests just prior to and during the breeding season, April 1 through August 31. During this period, the Contractor shall submit to the Engineer each week for approval a list of the workers who removed nests and the number of hours each one spent removing nests.

Netting will be measured by the square yard of material placed to keep birds from nesting on the structure. Square yards will be calculated using the length of netting measured where it is attached to the ground and the average height of the netting where it is attached to the structure.

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
Removal of Nests	Hour
Netting	Square Yard

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)

Payment for Removal of Nests will be full compensation for all work and material required to complete the work.

Payment for netting will be full compensation for all work and material required to complete the item. Overlaps of netting will not be measured and paid for separately, but shall be included in the work. Maintenance and replacement, removal, and disposal of netting will not be measured and paid for separately, but shall be included in the work.

Clearing and grubbing will be measured and paid for in accordance with Section 201. Removal and trimming of trees less than 6 inches in diameter, and mowing will not be measured and paid for separately, but shall be included in the work.

Removal of trees greater than 6 inches in diameter will be measured and paid for as Removal of Tree in accordance with Section 202.

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

REVISION OF SECTION 304
AGGREGATE BASE COURSE

Section 304 of the Standard Specifications is hereby revised for this project as follows:

Subsection 304.02 shall include the following:

Materials for the base course shall be Aggregate Base Course (Class 6) as shown in subsection 703.03

The Aggregate Base Course (Class 6) must meet the gradation requirements and have a resistance value of at least 78 when tested by the Hveem Stabilometer method.

END OF SECTION REVISION

REVISION OF SECTION 304
AGGREGATE BASE COURSE (SPECIAL)

Section 304 of the Standard Specifications is hereby revised for this project as follows:

Subsection 304.01 shall include the following:

This work consists of furnishing and placing asphalt millings stockpiled on the west end of the project as base course in the pavement structure as shown in the typical sections.

Subsection 304.08 shall include the following:

Payment will be made under:

Pay Item	**Pay Unit**
AGGREGATE BASE COURSE (SPECIAL)	Cubic Yard

END OF SECTION REVISION

REVISION OF SECTIONS 401
SAFETY EDGE

Sections 401 of the Standard Specifications are hereby revised for this project as follows:

Subsection 401.10 shall include the following:

The paver shall include an approved longitudinal paver wedge system to create a sloped safety edge as shown on the plans. The wedge system shall be attached to the screed and shall compact the HMA to a density at least as dense as the compaction imparted to the rest of the HMA layer by the paving screed. The system shall provide a sloped Safety Edge equal to 32 degrees plus or minus 5 degrees measured from the pavement surface cross slope extended. The use of a single plate strike off is not permitted. The system shall be adjustable to accommodate varying paving thicknesses. The Engineer may allow the Contractor to use handwork for short sections or to saw cut the sloped Safety Edge after paving operations are completed in areas such as transitions at driveways, intersections, interchanges.

The Contractor shall submit the proposed system for approval at the Preconstruction Conference. The Engineer may require proof that the system has been used on previous projects with acceptable results or may require a test section constructed prior to the beginning of work to demonstrate that it creates an acceptable wedge shape and compaction. Paving shall not begin until the system is approved in writing by the Engineer. The Safety Edge may be constructed on each lift of HMA or on the full specified plan depth on the final lift. The finished shape of the Safety Edge shall extend for the full depth of the asphalt pavement or for the top 5 inches whichever is less.

Subsection 401.22 shall include the following:

All costs associated with the construction of the Safety Edge will not be paid for separately, but shall be included in the work.

END OF SECTION REVISION

REVISION OF SECTION 401 AND 403
HOT MIX ASPHALT(GRADING SX) (75)

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

In Subsection 401.22 under Basis of Payment, delete the fifth paragraph.

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

VALUE FOR PROPERTY		TEST METHOD	
Grading			(SX75)
Air Voids, percent at N(des)		CPL 5115	3.5-4.5
Lab Compaction (Revolutions) N(des)		CPL 5115	75
Stability, minimum		CPL 5106	28
Aggregate retained on the No. 4 sieve with at least 2 Mechanically Induced fractured faces, % minimum		CP 45	70
Accelerated Moisture Susceptibility Tensile Strength Ratio (Lottman), minimum Method B		CPL 5109	80
Minimum Dry Split Tensile Strength, psi (kPa) Method B		CPL 5109	30 (205)
Grade of Asphalt Cement, Top Layer			PG 58-28
Grade of Asphalt Cement, Layers Below Top			PG 58-28
Voids in the Mineral Aggregate (VMA), % min		CP 48	See TABLE 403-2
Voids Filled with Asphalt (VFA), %		AI MS-2	65-80
Dust to Asphalt Ratio	Fine Gradation	CP-50	0.6 — 1.2
Coarse Gradation	CP-50	0.8 — 1.6	

Note: AI MS-2 = Asphalt Institute Manual Series 2
Note: The current version of CPL 5115 is available from the Region Materials Engineer
Note: Mixes with gradations having less than 40% passing the 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 ¾ inch or smaller are considered a coarse gradation if they pass below the maximum density line at the #8 screen.

All mix designs shall be run with a gyratory compaction angle of 1.25 degrees and properties must satisfy Table 403-1. CDOT Form #43 will establish construction targets for Asphalt Cement and all mix properties at Air Voids up to 1.0% below the mix design optimum.

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REVISION OF SECTION 401 AND 403
HOT MIX ASPHALT(GRADING SX) (75)

TABLE 403-2
Minimum Voids in the Mineral Aggregate (VMA)

Nominal Maximum Size * Inches (mm)		***Design Air Voids **		
		3.5%	4.0%	4.5%
1 1/2	(37.5)	11.6	11.7	11.8
1	(25.0)	12.6	12.7	12.8
3/4	(19.0)	13.6	13.7	13.8
1/2	(12.5)	14.6	14.7	14.8
3/8	(9.5)	15.6	15.7	15.8

* The nominal 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. 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. Any delays to the project due to WMA submittal and review shall be considered within the Contractor's control and will be non-excusable.

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

Acceptance samples shall be taken at the location specified in either Method B or C of CP 41, as determined by the Region Construction and Materials personnel.

Aggregate, additives, hydrated lime, and all other work necessary to complete each Hot Mix Asphalt item will not be paid for separately but shall be included in the unit price bid. Asphalt cement will be measured and paid for separately in accordance with Section 411 except that asphalt cement used in Hot Mix Asphalt (Patching) will not be measured and paid for separately, but shall be included in the work.

END OF SECTION REVISION

REVISION OF SECTION 403
HOT MIX ASPHALT TICKET COLLECTION

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

Subsection 403.05 shall include the following:

The Contractor shall collect the scale ticket on each load when it is delivered to the project site, and ensure that the information required in subsection 109.01 is shown on each ticket:.

The scale tickets shall be available on site for CDOT personnel to inspect.

Each day the Contractor shall provide to the Engineer envelopes which contain the previous day's signed tickets and the following:

1. On each envelope: Project number, date of paving, type of material, daily total and cumulative total.

2. One of the following:

   A. Two adding machine tape tabulations of the weight tickets with corresponding totals run and signed by different persons,
   B. One signed adding machine tape tabulation of the weight tickets that has been checked and signed by a second person,
   C. Signed check tape of computer scale tickets that have a cumulative total. These scale tickets must be consecutive and without voids adjustments.

3. A listing of any overweight loads on the envelope, including ticket numbers and amount over legal limit.

4. A comparison of the actual yield for each day's placement to the theoretical yield. Theoretical yield shall be based on the actual area paved, the planned thickness, and the actual density of the mixture being placed. Any variance greater than +2.5% shall be indicated on the envelope and a written explanation included.

The Contractor shall provide a vehicle identification sheet that contains the following information for each vehicle:
(1) Vehicle number
(2) Length
(3) Tare weight
(4) Number of axles
(5) Distance between extreme axles
(6) All other information required to determine legal weight.
(7) Legal weight limit.

END OF SECTION REVISION

REVISION OF SECTION 503
DRILLED CAISSONS

Section 503 of the Standard Specifications is hereby revised as follows:

In Subsection 503.06 delete the first sentence and replace with the following:

Temporary casings shall be used, they shall be steel of ample thickness and strength to withstand distortion due to handling, the internal pressure of fresh concrete, and the external pressure of the surrounding soil and groundwater, and shall be watertight.

Add Subsection 503.071 immediately following Subsection 503.07 as follows:

503.071 Cross-Hole Sonic Logging

(a) *General Requirements.*

The nondestructive testing method called Cross-hole Sonic Logging (CSL) shall be used on all drilled shafts.

The testing shall not be conducted until 48 hours after the placement of all concrete in a shaft, and must be completed within 20 calendar days after placement on production drilled shafts. The Engineer may specify a longer minimum time if special retarders, mix designs, or other factors result in slower-setting concrete.

The CSL tests shall be conducted by an experienced independent testing organization retained by the Contractor and approved by the Engineer prior to testing.

The CSL tests measure the time it takes for an ultrasonic pulse to travel from a signal source in one access tube to a receiver in another access tube. In uniform, good quality concrete, the travel time between equidistant tubes will be relatively constant and correspond to a reasonable concrete pulse velocity from the bottom to the top of the foundation. In uniform, good quality concrete, the CSL test will also produce records with good signal amplitude and energy. Longer travel times and lower amplitude/energy signals indicate the presence of irregularities such as poor quality concrete, voids, honeycomb and soil intrusions. The signal will be completely lost by the receiver and CSL recording system for the more severe defects such as voids and soil intrusions.

Upon completion of CSL testing all water shall be removed from access tubes and any other drilled holes. After the CSL results have been evaluated, required repair of defects has been conducted and the repair has been evaluated with another CSL survey, the CSL tubes shall then be grouted at the direction of the Engineer with an approved prepackaged grout having a minimum compressive strength of 4000 psi.

(b) *Preparation for Testing*

A minimum of four (4) CSL tubes shall be installed in each drilled shaft, equally spaced around the perimeter of the shaft at 90 degrees, as shown in the Contract Plans.

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REVISION OF SECTION 503
DRILLED CAISSONS

The tubes shall be Schedule 40 steel with an inside diameter of 1 ½ inches to 2 inches. Galvanized steel will not be permitted. Substitution will not be permitted. Pipes shall have a round, regular internal diameter free of defects or obstructions, including any at pipe joints (all pipe joints shall be threaded without any couplings), in order to permit the free, unobstructed passage of a 1.35 inch diameter source and receiver probe. Tubes shall be watertight and free from corrosion with clean internal and external faces to ensure passage of the probes, and to provide good bond with the concrete.

CSL pipes shall be fitted with a watertight shoe on the bottom and a removable cap on the top. The pipes shall be securely attached to the interior of the reinforcement cage with a minimum cover of 3 inches.

Pipes shall be installed in each shaft in a regular, symmetric pattern such that each tube is placed the maximum distance possible from each adjacent tube, with a spacing of 90 degrees around the perimeter of the cage as specified above. The tubes shall be as near to parallel as possible, and are typically wire-tied to the reinforcing cage every 3 feet, or are otherwise secured such that the tubes stay in position during placement of the rebar cage and concrete.

The tubes shall extend from ½ foot above the shaft bottoms to at least 3-feet above the shaft tops. Under no circumstances shall the tubes be allowed to rest on the bottom of the drilled excavation. If the shaft top is sub-surface, the tubes shall extend at least 3 feet above the ground or water surface.

All joints in the tubes required to achieve full-length shall be made watertight. Care shall be taken during reinforcement installation operations in the drilled shaft hole so as not to damage the tubes. After placement of the reinforcement cage and prior to concreting the caisson, the tubes shall be filled with clean water as soon as possible (no later than 4 hours after placement of cage) and the tube tops capped or sealed to keep debris out of the tubes. Care shall be exercised in the removal of caps or plugs from the pipes after installation so as not to apply excess torque, hammering, or other stresses which could break the bond between the tubes and the concrete.

The Contractor shall submit to the Engineer for review the proposed CSL system including equipment schematics, material specifications, tube size, installation details, testing procedures, and joint connections at least 14 days prior to starting drilled caisson construction.

(c) *Typical CSL Test Equipment.* Typical CSL test equipment consists of the following components:

1. A microprocessor based CSL system for display of individual CSL records, analog-digital conversion and recording of CSL data, analysis of receiver responses and printing of CSL logs.
2. Ultrasonic source and receiver probes for 1-½ inches to 2-inch inside diameter pipe, as appropriate.
3. An ultrasonic voltage pulsar to excite the source with a synchronized triggering system to start the recording system.
4. A depth measurement device to determine and record depths.
5. Appropriate filter/amplification and cable systems for CSL testing.

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REVISION OF SECTION 503
DRILLED CAISSONS

(d) *CSL Logging Procedures*

Before the placement of concrete, a minimum of one tube per shaft shall be plumbed and the tube length recorded, including a notation of the tube projection above the shaft tops. Information on the shaft bottom and top elevations and/or length, along with construction dates shall be provided to the Engineer before the CSL tests.

CSL tests shall be conducted between the pairs of tubes encompassing the perimeter and the major diagonals. Additional logs shall be conducted at no additional cost to the Department in the event anomalies are detected.

The CSL tests shall be carried out with the source and receiver probes in the same horizontal plane unless test results indicate potential defects, in which case, the questionable zone may be further evaluated with angled tests (source and receiver vertically offset in the tubes). CSL measurements shall be made at depth intervals of 0.5 feet or less, and shall be done from the bottom of the tubes working upward to the top of each shaft. Probes shall be pulled simultaneously, starting from the bottoms of the tubes, over a depth-measuring device.

Any slack shall be removed from the cables prior to pulling to provide for accurate depth measurements of the CSL records. Any defects indicated by longer pulse arrival times and significantly lower amplitude/energy signals shall be reported to the Engineer, and further tests shall be conducted as directed by the Engineer to evaluate the extent of such defects.

Additional NDT methods may be used to evaluate possible shaft defects including Single hole Sonic Logging, Gamma-Gamma Nuclear Density Logging, 3D Tomography, and/or Surface Sonic Echo and Impulse Response tests. The Contractor shall provide consultants and/or personnel, on an as needed basis, who are experienced and competent performing the above NDT methods. If a defect is found by the additional NDT, then the cost of the additional NDT shall be the responsibility of the Contractor. If no defect is found by the additional NDT, then the cost of the additional NDT will be the responsibility of the Department.

(e) *CSL Testing Results*

CSL results shall be presented to the Engineer in a report. The test results shall include CSL logs with analyses of:

1. Initial pulse arrival time versus depth
2. Pulse energy/amplitude versus depth

A CSL log shall be presented for each tube pair tested, with any defect zones indicated on the logs and discussed in the test report as appropriate.

Additional needed NDT results shall also be presented to the Engineer in a report format.

Copies of all data (written, electronic, etc.) obtained from the CSL and NDT inspections shall be submitted to the Department in an expedient manner. These submitted copies shall become the property of the Department.

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REVISION OF SECTION 503
DRILLED CAISSONS

(f) *Evaluation of CSL Test Results*

The Engineer will evaluate the CSL and NDT (if needed) results within 7 days of receipt from the Contractor and determine whether or not the drilled shaft construction is acceptable.

If the NDT records are complex or inconclusive, the Engineer may require coring in accordance with subsection 503.071(g) below, or excavation of the shaft to verify shaft conditions. If a defect is confirmed, the Contractor shall pay for all coring or excavation costs, including grouting of all core holes. If no defect is encountered, the Department shall pay for all coring or excavation costs, including grouting of all core holes.

The acceptance of each drilled shaft shall be the decision of the Engineer, based on the results of the shaft integrity testing report(s), including shaft coring, and other information on the shaft placement. Rejection of a shaft based on the shaft integrity testing shall require conclusive evidence that a defect exists in the shaft which will result in inadequate or unsafe performance under expected loads.

In the case that any shaft is determined to be unacceptable, the Contractor shall submit a plan for remedial repairs to the Engineer for approval. Any modifications to the foundation shafts and load transfer mechanisms caused by the remedial action will require calculations and working drawings stamped by a Professional Engineer registered in the State of Colorado for all foundation elements affected. All labor and materials required to perform remedial shaft repairs shall be provided at no cost to the Department and with no extension of the contract time.

(g) *Core Drilling of Drilled Shaft Concrete*

When directed by the Engineer, production drilled shafts that are determined to be unacceptable by the CSL tests shall be cored to determine the quality of the concrete. One core sample shall be taken from each defective shaft for the full depth of the irregularities and for three (3) feet above and below the irregularity.

Because it is desired to obtain a high percentage of core recovery for visual inspection and testing methods, equipment shall be as follows:

1. The core drill shall be in good condition and capable of delivering a smooth flow of power to the bit, both in rotation and down thrust. The pump shall be in good condition and of the positive displacement type. The pump shall be capable of delivering a minimum of 15 gallons of water per minute at 200 psi. It shall be equipped with a relief valve set to release at a maximum of 200 psi. It shall be equipped with a pressure gauge with range from 0 psi to 1,000 psi.

2. The drill shall be size HW or larger. The core barrel shall be size HW or larger, M series, double-tubed, with a chromed inner barrel. The diamond set bit for each hole shall be of best quality, new, and with a minimum of four waterways. The Engineer may require a new bit or replacement of the core barrel at any time inspection indicates excessive wear or loss of diamonds.

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REVISION OF SECTION 503
DRILLED CAISSONS

3. The core drill machine shall be set so that the drill force will be exactly vertical and so there will be not more than five (5) feet of laterally unsupported drill rod between the bottom of the drill spindle (chuck) and the top of the shaft concrete when the hydraulic feed is in the up position. When longer laterally unsupported sections of drill stem are necessary, braced casing or rigidly braced guides must be used to prevent lateral whip.

An accurate log of cores shall be kept and the cores shall be placed in a suitable wooden crate and properly marked showing the shaft depth at each interval of core recovery. The cores along with two (2) copies of the coring log shall be turned over to the Engineer for inspection and testing.

Construction shall not proceed above the drilled shaft until the quality of the concrete in the shaft, as represented by the core samples, is determined to be acceptable and notification to continue construction is given by the Engineer.

If the quality of the concrete in a drilled shaft is determined to be acceptable, or after shaft remedial repairs are complete and accepted by the Engineer, the Contractor shall grout the core hole with an approved prepackaged grout having a minimum compressive strength of 4000 psi.

Subsection 503.09 shall include the following:

Cross-Hole Sonic Logging, including but not limited to all preparation, materials, labor, equipment testing, analysis of results, and reporting will not be measured and paid for separately and shall be included in the work.

The unit price of drilled caissons shall be full compensation for making all excavations (within fifteen (15) DRILLING HOURS for Pier 2 caissons and ten (10) DRILLING HOURS for Pier 3 Caissons); hauling and disposal of excavated material; performing all necessary pumping; furnishing and placing required concrete and reinforcing steel, including reinforcement projecting above the tops of the caissons necessary for splicing; all backfilling; removing casings; and for furnishing all tools, labor, equipment, and incidentals necessary to complete the work.

The contract unit price per linear foot of drilled caissons shall be payment as described above up to the original plan quantity of drilled caisson.

Payment will be made under:

Pay Item	Pay Unit
Drilled Caisson (42 Inch)	Linear Foot

Additional drilled caisson lengths shall be compensated through risk pool as established in (b) below. Additional compensation will not be paid for the portions of a caisson that are extended due to the contractor's method of operation, as determined by the Engineer.

DRILLING HOURS, as referenced above, shall be defined as the time required to complete excavation of drilled caissons beginning with the initial auger penetration and completing when the shaft is acceptable for rebar placement. Drilling hours will include all necessary operations required for the drilling of the caisson with the exception of equipment breakdowns, lunch breaks or similar, and excessive standby time for materials.

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REVISION OF SECTION 503
DRILLED CAISSONS

Drilling hours shall be monitored jointly by the Contractor and Engineer's representative on the Drill Log Form (Attachment A). The Drill Log Form shall be agreed to and signed by both parties at the end of each working day.

(a) The following shared contingency risk pool has been established as compensation in the event the caisson excavation exceeds the base drilling hours as specified above. The basis for drilling hours shall be cumulative, such that additional compensation will not be required until the total drilling hours for all caissons, one hundred (100), have been exceeded.

Shared Contingency Risk Pool:

Cost/Drilling Hour	Total Additional Drilling Hours	Total Portion of Contingency Risk Pool	Contractor's Share	Owner's Share
$750.00	160 HR	$120,000.00	40%	60%

Additional drilling hours required as documented and agreed upon on the Drill Log Form will be paid at the hourly rate in the table above. Upon completion of all drilled shafts, the cost of remaining unused additional drilling hours will paid to the contractor at the Contractor's Share percentage as listed in the table above. If completion of the work requires additional drilling hours in excess of those established above, it will constitute a differing site condition to be paid under Force Account.

(b) In the event the actual length of drilled caisson exceeds the plan lengths, due to differing site conditions, additional Drilling Hours shall be compensated as defined under 503.09. The following item has been established as compensation for all work required to complete the additional length of caisson, exclusive of the work included within Drilling Hours as defined above.

Pay Item	**Pay Unit**
CAISSON (SPECIAL) (ADDITIONAL LENGTH)	LF

The actual measured length of caisson in excess of the original plan quantity will be compensated at the Cost/Additional Linear Foot above. Upon completion of all drilled shafts, the contractor will not be compensated for unused additional length remaining.

(c) Temporary steel casings are anticipated to be necessary to complete drilled shaft construction. In the event that a temporary steel casing cannot be removed with the Contractor's equipment, the following item has been established as compensation for one lost casing. The compensation will be for the material cost and labor to assemble the steel casing.

Pay Item	**Pay Unit**
CAISSON (SPECIAL) (CASING)	LF

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REVISION OF SECTION 503
DRILLED CAISSONS

The loss of one temporary casing will constitute a differing site condition and additional equipment will be mobilized to prevent the loss of another casing. Costs for additional equipment mobilization and operation for the use of casing extraction will be paid under the item. The contractor will not be compensated additionally if all casings can be removed as planned.

END OF SECTION REVISION

REVISION OF SECTION 506
RIPRAP

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

The first paragraph of Subsection 506.02 shall include the following:

Riprap for bridge slope paving shall be placed in accordance with plan details and as approved by the Engineer. The stone shall be of a color acceptable to the Engineer. The Contractor shall submit a 5 cubic foot sample to the Engineer for color approval prior to acceptance into the project.

Since quarry sources vary considerably, it is important that the source be selected early enough so that the quarry can guarantee that the required quantity can be produced as required. The Contractor must obtain the Engineer's approval of the sample and the source at least two weeks prior to its incorporation in to the project.

END OF SECTION REVISION

REVISION OF SECTION 522
DUPLEX COATING SYSTEM

Section 522 of the standard specifications is hereby added to the Standard Specifications for this project as follows:

DESCRIPTION

522.01 This work consists of hot dip galvanizing and duplex coating steel structures as shown in the Contract.

MATERIALS AND CONSTRUCTION REQUIREMENTS

522.02

(a) *General*. The Contractor shall provide, install, and repair if necessary, all steel items that are prepared and coated in conformance with this Section. All repair and replacement of the finished coating necessary for final acceptance shall be at the Contractor's expense.

Steel products to be galvanized and coated shall be cleaned of weld spatter and bevel finished at exposed corners, edges and points. Areas having welds, cuts, bores, notches, or grooves shall also be beveled unless otherwise noted in the Contract or directed by the Engineer. Bevel work shall produce a uniform, smooth finish for galvanizing. Bevel size to be used is based on steel thickness and other criteria as follows:

Steel Thickness/Type	Bevel Size (inches)
Less than ½" thick	1/32" to 1/16"
Over ½" thick	1/16" to 1/8"
Bores, notches & grooves	root face of 1/32" to 1/16"

Welds shall be cleaned and finished according to AWS standards.

All coating measurements shall be taken with a Type 2 fixed probe Dry Film Thickness (DFT) gauge. The gauge shall be calibrated, and measurements shall be taken, according to the Society for Protective Coatings (SSPC) Standard PA-2.

(b) *Galvanizing.* Galvanizing shall be done in accordance with the Contract requirements and AASHTO M 111 (ASTM A123) for the type of material being galvanized, except that items shall only be quenched with ambient air. The poles and arms for traffic signals and signs shall be hot dipped galvanized inside and outside. Chromate treatment of any type will not be permitted. Zinc-phosphate pretreatment or acrylic passivation pretreatments shall be as described in (d) below.

The Contractor shall submit a certificate of compliance (COC), conforming to subsection 106.12, confirming that all materials meet or exceed the galvanizing requirements described herein.

All galvanized surfaces shall be free from drips, slag or surface irregularities..

Spot areas not requiring galvanizing shall be marked and cleanly patched with material that prevents galvanization but does not weaken the adjacent spelter coating. Repair of patched areas shall be achieved by metallizing as described in (c) below.

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REVISION OF SECTION 522
DUPLEX COATING SYSTEM

Prior to galvanizing, the Contractor's galvanizer shall notify the Engineer in writing that the galvanized order is chromate free and air quenched. Products not certified chromate free by the Contractor's galvanizer shall be tested prior to galvanizing. The Contractor shall provide the Engineer with certification from an independent ASTM accredited laboratory listing all individual items that test chromate free. Testing shall comply with ASTM D-2092 Appendix X2. Test results shall be provided to the Engineer prior to galvanizing.

(c) *Repair of Galvanized Products.* Uncoated areas or damaged coating exceeding applicable specification limits shall be re-galvanized to meet the original specification requirements. Cuts made after galvanizing shall be ground, beveled, and smoothed before repair. Damaged galvanized areas shall be re-galvanized or metallized.

Re-galvanizing shall conform to ASTM A-780, Annex A1. Metalizing shall conform to ASTM A-780, Annex A3, except that minor repair areas shall be cleaned according to SSPC method SP-3. SSPC Method SP-2 may be used to clean difficult access areas. Thickness of the repair coat shall match adjacent galvanizing, as measured by a calibrated DFT gauge.

Coating imperfections such as burring, runs or drips, high spots, heavy dross, or ash inclusion shall be removed and cleaned at the Contractor's expense. Areas of re-work falling below zinc thickness limits shall be repaired at the Contractor's expense.

Printed Technical Data Sheets (PTDS) shall be provided to the Engineer for repair materials used.

(d) *Preparing Galvanized Surfaces for Coating.* Products shall be inspected for shipping and handling damage before surface preparation begins. Damage shall be reported to the Contractor's galvanizer and to the Engineer prior to repair. The Engineer will determine whether damaged items are to be repaired or replaced. Minor repair of galvanizing shall conform to (c) above, and shall be at the Contractor's expense.

The Contractor shall prepare each surface to be coated so that it has a slightly roughened profile without removing over 1.0 mil of the galvanized coating. Minimum ASTM zinc thickness specifications shall still apply after preparation.

Surfaces of fasteners to be coated shall be lightly brushed or sanded in a manner that will remove the least amount of zinc.

Surfaces that become soiled after pretreatment shall be cleaned prior to coating by low pressure, mild detergent wash and rinse. Stained or oiled surfaces may also be mildly scrubbed with a soft bristle nylon brush. Stubborn stains may be mildly scrubbed with a mix of 1 - 2 percent ammonia solution and thoroughly rinsed. Wash and rinse pressure shall not exceed 100 psi at 185° F temperature.

Surface preparation work shall be done according to one of the following methods:

1. *Zinc-Phosphate Pretreatment.* This treatment may be used only on new galvanizing less than 48 hours of age.

Items shall be immersed in a bath of acidic zinc-phosphate solution for 3 - 6 minutes, rinsed with clean water, and dried. The first epoxy coat shall be applied within 48 hours after immersion treatment.

If treated items are shipped to a different coating facility they shall be rewashed, rinsed and dried to remove surface soiling. The first epoxy coat must still be applied within 48 hours after immersion treatment.

2. *Acrylic Passivation Pretreatment.* This treatment may be used only on fresh hot galvanizing or new galvanizing less than 48 hours of age. Only chrome-free solutions shall be used, applied by a method that ensures complete coverage of all surfaces to be coated. The Contractor shall provide the Engineer with treatment dates for each item and the PTDS for the solutions used.

   The Contractor's galvanizer may apply solution to fresh hot galvanizing that is less than 6 hours of age, still clean, and dry and that has cooled to treatment application temperature guidelines.

   If newly galvanized items are shipped to another treatment facility they shall be washed, rinsed and dried to remove surface soiling. The solution shall then be applied and cured according to the supplier's instructions.

   Fully cured and treated items shall be rewashed, rinsed, and dried again just before coating. Items not coated within 100 days of treatment shall be abrasive blasted in conformance with subsection (d) 3.

3. *Abrasive Blasting.* This treatment may be used on galvanized items of any age if beveling requirements as listed in the third and fourth paragraphs of subsection (a) have been met.

   The Contractor shall notify the Engineer in writing at least five working days before blasting begins. Zinc thickness shall be measured and recorded immediately after blasting and provided to the Engineer within 48 hours of blasting. Thickness limits and measurement frequency shall comply with the original applicable ASTM specification. Blast operations shall reasonably conform to ASTM Standard Practice D-6386, Subsection 5.4.1 except for small areas falling below required zinc thickness. These areas shall be repaired in accordance with subsection (c). No single area shall exceed 2 inches at its largest width or 12 inches at its longest dimension. The total repair area shall not exceed 1 percent of the coatable surface of the item; if limits are exceeded or zinc thickness is below the specification requirement, the item shall be re-galvanized in conformance with the original specification.

   The Contractor shall measure and record the size, location and repair method used for all repairs. This information shall be included on the report of thickness measurements.

   The first epoxy coat shall be applied within 24 hours of abrasive blasting. Items shall be cleaned free of blast debris before coating. Compressed air used to clean items shall be free of oil, residue, oil and other harmful contaminants.

Thickness measurement is not required after surface preparation work has been completed.

(e) *Coating and Paint Systems.* Prepared items shall be coated with a two or three coat system described in this subsection. Alternative coating systems shall be pre-approved in writing by the Engineer. Manufacturer's PTDS for each coating type shall state test values for ASTM requirements of this subsection. Prior to product use the coating supplier shall provide the PTDS and certify to the Engineer in writing that all furnished coating materials meet applicable requirements of this subsection.

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REVISION OF SECTION 522
DUPLEX COATING SYSTEM

Faying surfaces shall not be painted unless written approval is given by the Engineer. All shop fabrication, including welds and attachments, shall be completed prior to coating unless otherwise specified in the Contract or directed in writing by the Engineer.

Inorganic zinc coatings shall not be used. Combined DFT of all coats applied over the galvanizing shall range from 6.5 to 10 mils with a topcoat DFT of 3 mils minimum. Dried color of the base coat and topcoat shall be visually contrasting. Finished color shall not vary more than 4 ΔE^*_{ab} units from the specified color determined in accordance with ASTM D 2244.

Volatile Organic Compound (VOC) levels shall not exceed 3.5 pounds per gallon for each applied coat. Dry films shall contain less than 1 percent lead and other toxic heavy metals. The zinc concentration of each epoxy coat shall not exceed 40 percent. Top coats shall have a semi-gloss value of 50-75.

All coatings shall be able to withstand temperatures up to 180° F without sag, blister, or peel damage. Topcoat formulation shall provide weathering, chemical, and ultraviolet (UV) resistance. All coatings shall meet the following ASTM requirements as amended:

(1) Corrosion Weathering. ASTM D-5894, minimum 6-cycles of exposure:
Corrosion rating of 8 or higher according to ASTM D-1654.
Blistering rating of 8 or higher according to ASTM D-714.

(2) Impact Resistance. ASTM D-2794, 30 day test:
Epoxies – Minimum 40 inch-pounds
All Topcoats – Minimum 90 inch-pounds

(3) Adhesion Testing. ASTM D-4541, 30 day test, Minimum 500 psi for either: Method B - flat surface or Method E - curved surface.

(4) Abrasion Resistance. ASTM D-4060, 30 day test: Maximum 90 mg loss after 1000 cycles with a CS10 or CS17 wheel.

(5) Flexibility. ASTM D-522, 30 day test - Method B: Epoxies shall pass a 180 degree bend over a ¾ inch mandrel. All Topcoats shall pass a 180 degree bend over a 3/8 inch mandrel.

Each coat shall be applied uniformly to provide an appearance free of laps, streaks, sags, drips, pinholes, and other discontinuities; all such defects shall be repaired prior to product shipment.

The Contractor's coater shall measure the DFT of each applied coat according to SSPC, Guide PA-2, except that measurements shall be taken with a calibrated Type 2 fixed probe gauge. Thickness records shall be provided to the Engineer prior to project shipment. The following two coating systems do not require pre-approval:

(1) Powder Coating. The Contractor's coater shall oven preheat the articles to abate out-gassing potential. The Contractor's coater shall use compatible materials and coating processes to obtain proper coat to coat adhesion.

The epoxy powder base coat shall measure 2 to 6 mils DFT and be applied by electrostatic or airstatic spray. The powder formulation shall be a non-hybrid epoxy of anti-gassing grade.

The powder topcoat shall be electrostatic or airstatic spray applied and measure 3 to 6 mils DFT. The powder formulation shall be a non-acrylic, high-build, aliphatic-based, enhanced polyester or urethane polyester of anti-gassing grade.

(2) Liquid Coating. The Contractor's coater shall apply coats by conventional or airless spray according to the supplier's guidelines. Minimal striping at difficult work areas is permissible. The Contractor's Coater shall use proper work methods and compatible materials to obtain proper coat adhesion. Thinning of paints shall be done according to the manufacturer's instructions so that thinned products conform to the solids content and VOC limits of this subsection.

The epoxy base coat shall measure 2 to 6 mils DFT. Paint shall be a low-blush epoxy polyamide, or a low-blush cycloaliphatic bisphenol-A polyamine. Minimum solids by weight of all epoxies used shall be 68 percent.

The topcoat shall measure 3 to 6 mils DFT. Paint shall be an aliphatic-based urethane polyester or aliphatic-based polyurea urethane. Specially formulated aliphatic-based polyaspartic polyureas may also be used over compatible epoxy bases.

(f) *Repair of Coated Products.* The Contractor shall repair damage from shipment, installation, field welding, or other activity during the construction. Damage shall be reported to the Engineer prior to repair. Repairs shall be as directed by the Engineer.

Significant repair procedures require written submittal of a proposed repair process from the Contractor. The Engineer shall approve the proposal in writing before repairs begin. Significant repairs are classified as:

(1) Any damaged area to the base coat material over 1 square inch
(2) Total repair areas exceeding 5 percent of the coating per item
(3) Any single topcoat repair area over 64 square inches

Minor and touchup repair of topcoats shall be done as follows:

A UV rated, aliphatic-based liquid topcoat paint shall be used. The paint shall be compatible with the existing topcoat material and closely match existing color. The paint shall meet the requirements of subsection (e). The paint supplier shall provide the Engineer with PTDS for the products used.

Single areas smaller than 8 square inches requiring repair shall be scuffed with 220 grit sandpaper or equivalent scuff material. Larger areas up to 64 square inches may be cleaned according to SSPC, Method SP-2. All border areas at the undamaged topcoat shall be scuffed with 220 grit material.

Cleaned, scuffed areas shall be bordered and coated by airless or conventional spray. Work areas shall be adequately shielded to contain errant spray. Fresh repair areas shall be protected as necessary during the initial cure. Repair thickness shall reasonably match the adjacent coating.

The repair coat shall provide an appearance free of sags, runs, streaks, drips, pinholes, or other discontinuities. Spray can paint repair shall not be used**.**

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REVISION OF SECTION 522
DUPLEX COATING SYSTEM

(g) *Conditions for Final Acceptance of Coating.* Within six weeks immediately prior to final project acceptance, the Engineer and a representative of CDOT's Staff Bridge Branch will conduct a final inspection of the coating. The Contractor's Superintendent shall also attend the inspection. Before final project acceptance, the Contractor shall repair the following defects found during the inspection:

a. Peeling on any portion of the coatings.
b. Blistering on any portion of the coatings.
c. Color fading below a 35 gloss rating, in accordance with ASTM D523.
d. Mottling defects that exceed 3 percent of the topcoat surface.
e. Visible cracking of the topcoat material.
f. Visible rusting discoloration on the coating.
g. Sag or other evidence of coating adhesion loss.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Duplex Coating System will not be measured and paid for separately, but shall be included in the work.

END OF SECTION REVISION

REVISION OF SECTION 601
PAINTING OF ALUMINUM ACCESS DOORS FOR CONCRETE STRUCTURES

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

Subsection 601.14(b)4 shall include the following:

Aluminum access doors shall receive a solvent cleaning to remove grease and oil (SSPC-SPI) followed by a brush blast.

The aluminum access doors shall receive one coat of vinyl wash primer conforming to Mil-P-15328. Following the application of this primer, the doors will be coated with Structural Concrete Coating conforming to Revision of Section 601 Structural Concrete Coating.

The manufacturer of the primer shall certify in writing, that the primer used is compatible with the cleaned aluminum access doors and the Structural Concrete Coating to be used on the Structural Concrete.

END OF SECTION REVISION

REVISION OF SECTION 613
LIGHTING

Replace Section 613.12 Basis of Payment with the following:

613.12 The accepted quantities 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**
Removal of Light Standard	Each
Removal of Road Closure Gate	Each
Road Closure Gate (Install Only)	Each
2 Inch Electrical Conduit (Plastic)	Linear Feet
3 Inch Electrical Conduit (Plastic)	Linear Feet
Wiring	Lump Sum
Luminaire (Special)	Each
Light Standard Metal (25 Foot)	Each
Concrete Foundation Pad	Each
Light Standard Foundation	Each
Lighting Control Center	Each

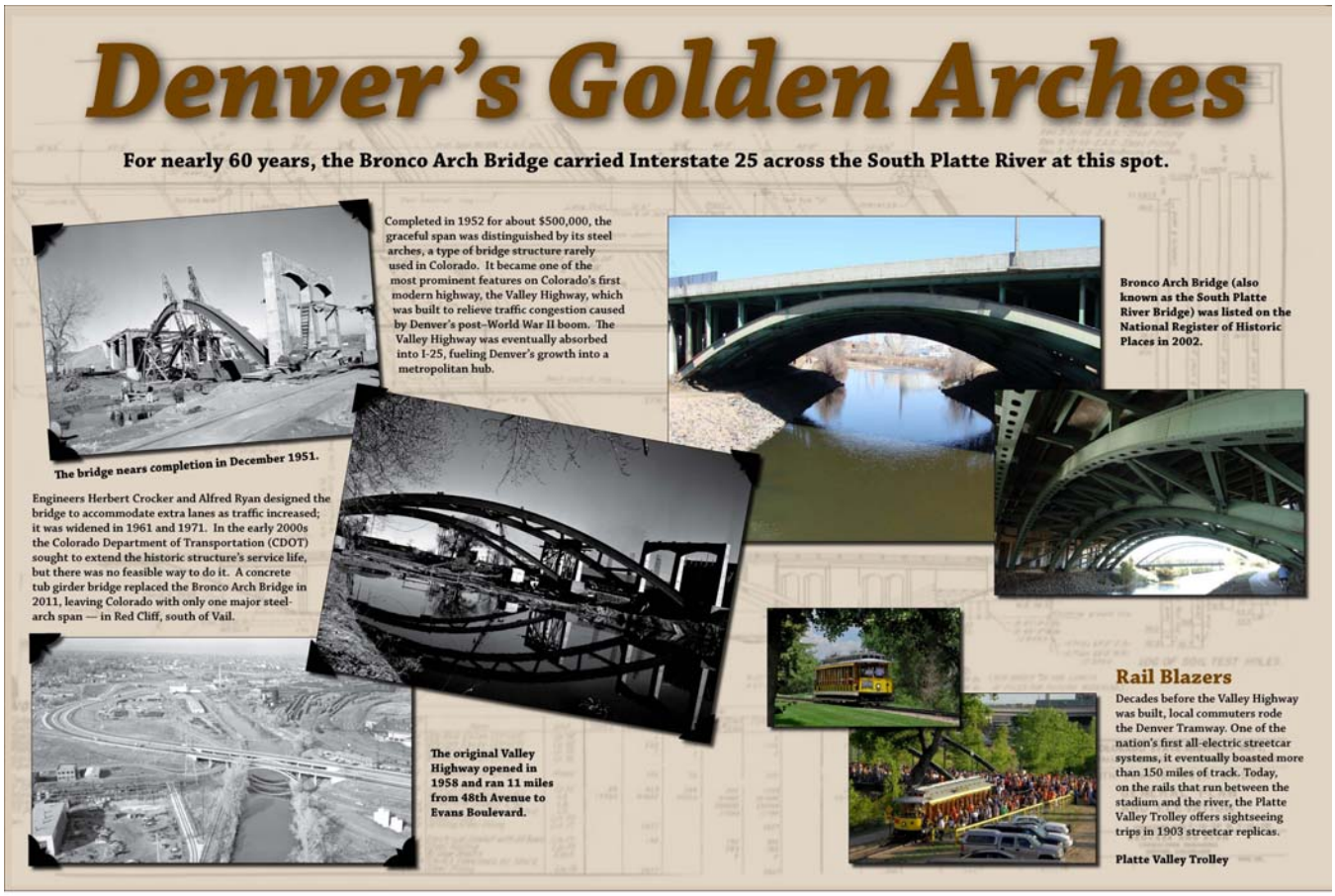
END OF SECTION REVISION

REVISION OF SECTION 614
SIGN PANEL (SPECIAL)

Section 614 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

This work shall consist of furnishing and installing an interpretive sign panel (as example below), a pedestal/support/stand, and all other required mounting hardware in accordance with the manufacturer's installation guidelines and in conformity with the details shown on the plans and in the specifications.



(The Contractor shall obtain this interpretive sign panel layout from the Engineer to provide to the manufacturer.)

MATERIALS

Interpretive sign panel material shall be fabricated on digital high-pressure laminate material (DHPL) and shall be at least ½ inch thick and 36 inches wide by 24 inches tall. The sign panel pedestal/support/stand shall be the standard, low-profile, in-ground exhibit type base. This base and all other necessary hardware to install the sign panel per the manufacturer's recommendations shall be obtained from the same manufacturer as the sign panel. The interpretive sign panel may be obtained from one of the following manufacturers, or an approved equal:

Rhino Panels	Fossil Industries	iZone
(303) 282-6695	(800) 244-9809 ext. 319	(254) 788-0722
www.rhinopanels.com	www.fossilgraphics.com	www.izoneimaging.com

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REVISION OF SECTION 614
SIGN PANEL (SPECIAL)

CONSTRUCTION REQUIREMENTS

The location of the interpretive sign panel shown in the plans is for general information. Before beginning installation, the Contractor shall confirm the sign location with the Engineer to verify exact placement. The Engineer will coordinate with the Denver Rail Heritage Society to determine the final location.

The sign panel shall be installed in accordance with the manufacturer's recommendations, the supporting foundation and/or structure design, ADA guidelines and as directed by the Engineer.

The Contractor shall submit a design for the sign panel foundation and/or supporting structure based on the selected materials. This design shall be completed by a licensed Colorado Professional Engineer and must be submitted to the Engineer and approved by the Engineer prior to fabrication of this item.

In addition, prior to fabrication of this item, the proposed interpretive sign panel mounting height and orientation, pedestal/support/stand and all other necessary hardware required shall be reviewed by the Engineer.

METHOD OF MEASUREMENT

Sign Panel (Special) shall include the interpretive sign panel, pedestal/support/stand, all other hardware, labor, design efforts, and base preparation required to complete the work.

BASIS OF PAYMENT

Payment for Sign Panel (Special) at the contract unit price shall be full compensation for the work described above, specified in the plans and complete in place.

Payment will be made under:

Pay Item	Pay Unit
Sign Panel (Special)	Each

END OF SECTION REVISION

REVISION OF SECTION 618
PRESTRESSED CONCRETE

Section 618 of the Standard Specification is hereby revised as follows:

Delete subsection 618.16 and replace with the following:

618.16 Prestressed units will be measured by one of the following methods as indicated in the Contract.

(1) Prestressed girders will be measured by the linear foot from end to end or by the square foot, based on the plan length multiplied by the plan width, whichever is specified on the plans.

(2) Prestressed concrete box girders and prestressed concrete slabs will be measured by the square foot based on the plan length multiplied by the plan width.

(3) When measured by component materials, concrete and reinforcing steel will be measured and paid for in accordance with Sections 601 and 602 respectively.

The quantities of prestressing steel will not be measured but shall be the quantities shown on the plans, completed and accepted. MKFT equals the jacking force, in thousands of KIPS, times the length in feet.

Precast concrete deck panels that are required by the plans will be measured by the square yard. The quantity will not be remeasured, but will be the quantity shown on the plans, except when a plan change is ordered or when it is determined that there are discrepancies in an amount of plus or minus two percent of the plan quantity.

Delete subsection 618.17 and replace with the following:

618.17 The accepted quantities of prestressed units and prestressing steel will be paid for at the contract unit price per unit of measurement for each of the pay items listed below that is included in the bid schedule. Precast panel deck forms required by the plans will be paid for at the contract unit price for the area shown on the plans.

Payment will be made under:

Pay Item	**Pay Unit**
Prestressing Steel Bar	Pound or MKFT
Prestressing Steel Strand	Pound or MKFT
Prestressed Concrete ___ (___)	Linear Foot or Square Foot
Prestressed Concrete Box (___)	Square Foot
Prestressed Concrete Slab (Depth _____)	Square Foot

Payment will be full compensation for all work necessary to complete the designated pay item.

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REVISION OF SECTION 618
PRESTRESSED CONCRETE

Prestressing steel bar and prestressing steel strand shall include but not be limited to all anchorage devices, prestressing steel, ducts, grout, and miscellaneous hardware. Elastomeric leveling pads, and galvanized steel diaphragms and connectors will not be paid for separately, but shall be included in the work. Concrete and reinforcing steel not shown on the plans but required by the Contractor's alternative will not be paid for separately but shall be included in the work. All required testing will not be paid separately but shall be included in the work.

Concrete quantities will not be reduced for the volume occupied by the ducts, prestressing steel, anchorages, blockouts for tensioning, etc., and will not include web flares, projections, warts, etc., required to accommodate the prestressing system used.

All costs associated with the preparation and implementation of the Erection Plan will not be paid for separately, but shall be included in the work.

Concrete, reinforcing steel, and prestressing steel for precast concrete deck panel will not be measured and paid for separately, but shall be included in the work.

END OF SECTION REVISION

REVISION OF SECTION 620
FIELD LABORATORY (CLASS 2) & FIELD OFFICE (CLASS 2)

Section 620 of the Standard Specification is hereby revised for this project as follows:

Subsection 620.02(3) shall include the following:

Contractor shall install a high-speed or DSL connection if available.

END OF SECTION REVISION

REVISION OF SECTION 621
DETOUR PAVEMENT

Section 621 is hereby added to the Standard Specifications for this project and shall include the following:

DESCRIPTION

This work consists of constructing and removing detours and temporary pavement as shown in the plans, or as approved by the Project Engineer, and restoring detour areas to their original condition when detouring is finished.

MATERIALS

The Contractor shall be responsible for quality control for all materials and processes required to assure adequate quality of the detour.

CONSTRUCTION REQUIREMENTS

Proposed detour locations and dimensions shall be as shown in the plans and any other locations shall be approved by the Engineer. The Hot Mix Asphalt (HMA) design or Portland Cement Concrete Pavement (PCCP) design shall be provided by the Contractor. These designs shall be submitted to the Engineer and approved prior to starting construction of detours. The Contractor will allow 10 working days for review and acceptance prior to starting work. Review and acceptance does not constitute acceptance of the designs. Acceptance will be based solely on providing and maintaining detours in a satisfactory condition. If the material and thickness furnished result in an inadequate detour structure, the Contractor will provide additional thickness, materials, or other measures necessary to provide a satisfactory pavement for the life of the detour. These additional improvements shall be furnished at no additional cost. All necessary signs, pavement markings, and other traffic control devices shall be provided in accordance with the traffic control plan.

Excavation and embankment necessary for construction of Detour pavement shall be part of the item Detour. If embankment used for construction of Detour is to become part of the final embankment on the project, it shall be constructed in accordance with all applicable specifications, or it shall be removed and replaced.

MAINTENANCE OF DETOUR

The Contractor shall maintain detours for the entire period that they are open to traffic. Any distress which affects the ride, safety, or serviceability of the detour roadway shall be corrected to the satisfaction of the Engineer at the expense of the Contractor.

REMOVAL OF DETOUR

The Contractor shall remove detours when they are no longer needed to maintain traffic. This shall include all items necessary to remove the detours and restore areas to their original condition.

Removal of Detour pavement adjacent to new pavement which is to remain in place shall be accomplished by saw cutting at the removal line to produce a straight edge with no raveling.

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REVISION OF SECTION 621
DETOUR PAVEMENT

BASIS OF PAYMENT

Detours shall be paid for at the Lump Sum price bid for the item. Payment will be made under:

Pay Item	**Pay Unit**
Detour	Square Yard

Payment will be full compensation for all work and materials required to construct and remove detours. This includes, but not limited to, items such as stripping, borrow, unclassified excavation, aggregate base course, embankment material, compaction, compaction of bases of cuts and fills, wetting, HMA or PCCP pavement, drainage structures, maintenance, removal and disposal of embankment material and pavement surface material, drainage structures and restoring detour areas to their original condition, including reshaping, blading material for shouldering, seeding, and mulching.

Excess material removed from detours and not usable on the project shall become the property of the Contractor, and shall be disposed of off the project site.

Ten percent (10%) of the cost of Detour will be withheld until the detour has been removed and the area restored to its original condition, to the satisfaction of the Engineer.

END OF SECTION REVISION

REVISION OF SECTION 624
DRAINAGE PIPE

Subsection 624.05 shall include the following:

Pay Item	Pay Unit
12 Inch Drainage Pipe (Class 0) (Complete In Place)	Linear Foot
18 Inch Drainage Pipe (Class 0) (Complete In Place)	Linear Foot
18 Inch Drainage Pipe (Class 7) (Complete In Place)	Linear Foot
36 Inch Drainage Pipe (Class 7) (Complete In Place)	Linear Foot

Structure excavation and structure backfill for Drainage Pipe (Complete in Place) will not be measured and paid for separately, but shall be included in the work.

END OF SECTION REVISION

REVISION OF SECTION 626
PUBLIC INFORMATION SERVICES

Section 626 of the Standard Specifications is hereby revised for this project as follows:

Subsection 626.01 shall include the following:

The Contractor shall provide the following public information services on an ongoing basis throughout the duration of the project:

At the preconstruction conference the Contractor shall introduce the Public Information Manager (PIM) for the project and present a public information plan and strategies or methods for communicating project activities. The Contractor shall prepare and submit a preliminary list of stakeholder groups and specific stakeholders that need to receive ongoing communication about the project.

The Contractor's PIM shall be a professional, having graduated from an accredited college or university with a bachelor's degree in Public Relations, Communications, or a closely related field of study. In addition, the PIM shall have two years experience in community outreach and partnership development or a comparable field. Related work experience may be substitute for the type of degree. The Engineer, after consulting with the Region Public Relations Manager, will approve the Contractor's PIM prior to the preconstruction conference. The identity of the PIM and the PIM'S qualifications shall be submitted to the Engineer five days in advance of the preconstruction conference.

The PIM shall be available on every working day, accessible and on call by cell phone or pager at all times and available upon the request of the Engineer at other than normal working hours. The PIM shall communicate with the Engineer daily.

The Contractor shall establish a Public Information Office (PIO) equipped with a telephone and an answering machine or answering device with the capability to record a message from the caller. This may be a cell phone, but must be a local number. The PIO shall be equipped with a computer and an e-mail account. The PIO may or may not be located within the Contractor's regular office provided that the telephone has a local call number. The PIM shall record a friendly greeting on the project's published phone line each week, updating the message throughout the week, as necessary, depending on changes in work schedule, activities and traffic impacts. The recording shall include each week's forthcoming activities including work days, hours and expected traffic delays, posted detours, project completion date, and office hours. The PIM shall check the answering machine at least twice every calendar day, including weekends. The PIM shall respond to callers and e-mail inquiries as soon as possible, but at least within 24 hours. The PIM shall keep a logbook of all calls including the contact name, date of contact, date responded, the contact's comments, and the action the PIM took. A copy of this log shall be submitted to the Engineer every two weeks or more frequently, as requested by the Engineer.

The PIM shall maintain communications with businesses and individual residences, commuters, local government entities and all other stakeholders that are directly adjacent to and affected by the project. Using a communications method or strategy approved by the Engineer, the Contractor shall notify stakeholders about the project two weeks prior to beginning any lane restrictions or project activities. Depending upon project impacts, contact with stakeholders may be required daily, weekly, monthly or periodically throughout the duration of the project. Communications tools will include hand flyers and e-mail distribution lists. All public information correspondence and subsequent updates must be approved by the Engineer and the CDOT's Regional PR Manager 48 hours before distribution. A quarter page advertisement will be purchased by the Contractor documenting the project status as detailed below in the local news papers (Vail Daily and Eagle Valley Enterprise). The advertisement shall run one month before construction begins and during every week of construction activities.

REVISION OF SECTION 626
PUBLIC INFORMATION SERVICES

Each communication tool shall include contact information, PIM's name, office phone, CDOT Web-site address with CDOT logo (provided by CDOT Regional PR Manager). Cell phone numbers and e-mail addresses shall be provided where service is available. The communication shall include the description of work, lane restrictions, a detour map if warranted, the anticipated start and completion dates, hours of operation and work schedule, and a Slow for the Cone Zone message (contact Regional PR Manager for template, samples.)

The Contractor shall erect construction traffic signs with the dates the Contractor expects to initiate and complete construction and with the Contractor's public information office's or PIM's phone number at each major approach to the project. The signs shall conform to the requirements of Section 630 and shall be erected at least one week prior to the beginning of construction.

PIM will draft news release for review and distribution by CDOT Regional PR Manager (template provided); CDOT Regional PR Manager will handle all media relations and outreach in coordination with Contractor PIM.

The Contractor superintendent or PIM shall submit weekly lane closure reports using the template provided by the Engineer for transmittal to the CDOT PR Region Manager, the CDOT PR Web-site Manager, and the CDOT Traffic Operations Center

The Public Information Services Contact Sheet shall include the following:

Owners:

Colorado Department of Transportation Project Engineer
Name: TBD
Address:
Phone: Fax:
Cell: Email:

Colorado Department of Transportation, Region Public Relations Manager
Name: Ashley Mohr
Address: 4201 E. Arkansas Ave., Denver, CO. 80222
Phone: 303-757-9437 Email: Ashley.Mohr@dot.state.co.us

Colorado Department of Transportation, Colorado Traffic Management Center
425-C Corporate Circle, Golden, CO 80401
Phone: (303) 512-5830 Fax: (303) 274-9394

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REVISION OF SECTION 626
PUBLIC INFORMATION SERVICES

Other Contacts:

Emergency Notification:

Gypsum Fire Protection District
511 Second Street /PO Box 243
Gypsum, CO 81637

970-524-7101 ext. 15
970-524-9880 Fax

Colorado State Patrol, District 2
Phone: (719)288-2650
Email: hal.butts@cdps.state.co.us
Dispatch: (719)544-2424

Fax: (719)288-2652

Subsection 626.02 shall include the following:

The Engineer will monitor the PIM and all public information services. When the Contractor provides acceptable public information services in accordance with these specifications, partial payments for the pay item Public Information Services will be made as the work progresses. These partial payments will be made as follows:

When 5 percent of the original Contract amount is earned, 25 percent of the amount bid for this item will be paid.

When 10 percent of the original Contract amount is earned, 40 percent of the amount bid for this item, less all previous payments, will be paid.

When 25 percent of the original Contract amount is earned, 50 percent of the amount bid for this item, less all previous payments, will be paid.

When 75 percent of the original Contract amount is earned, 75 percent of the amount bid for this item, less all previous payments, will be paid.

When 100 percent of the original Contract amount is earned, 100 percent of the amount bid for this item, less all previous payments, will be paid.

Failure to provide acceptable public information services will result in withholding of progress payment for this item. Continued failure to provide the services required will result in non-payment of the corresponding percentage of the original bid item and may result in suspension of the work in those areas affected until acceptable public information services are provided by the Contractor.

For the purpose of public information services, the term “original Contract amount” as used above, shall mean the amount bid for the construction items on this Contract, not including the amounts bid for Public Information Services and Mobilization.

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REVISION OF SECTION 626
PUBLIC INFORMATION SERVICES

Payment for Public Information Services will be full compensation for all fliers, public information office, telephone lines, and all other labor and materials required to complete the item, except signs. Signs will be measured and paid for in accordance with Section 630.

Payment will be made under:

Pay Item	**Pay Unit**
Public Information Services	Lump Sum

END OF SECTION REVISION

REVISION OF SECTION 630
PORTABLE MESSAGE SIGN PANEL

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

Subsection 630.01 shall include the following:

This work includes furnishing, operating, and maintaining a portable message sign panel.

Add subsection 630.031 immediately following subsection 630.03 as follows:

630.031 Portable Message Sign Panel. Portable message sign panel shall be furnished as a device fully self contained on a portable trailer, capable of being licensed for normal highway travel, and shall include leveling and stabilization jacks. The panel shall display a minimum of three - eight character lines. The panel shall be a dot-matrix type with an LED legend on a flat black background. LED signs shall have a pre-default message that activates before a power failure. The sign shall be solar powered with independent back-up battery power. The sign shall be capable of 360 degrees rotation and shall be able to be elevated to a height of at least five feet above the ground measured at the bottom of the sign. The sign shall be visible from one-half mile under both day and night conditions. The message shall be legible from a minimum of 750 feet. The sign shall automatically adjust its light source to meet the legibility requirements during the hours of darkness. The sign enclosure shall be weather tight and provide a clear polycarbonate front cover.

Solar powered message signs shall be capable of operating continuously for 10 days without any sun. All instrumentation and controls shall be contained in a lockable enclosure. The sign shall be capable of changing and displaying sign messages and other sign features such as flash rates, moving arrows, etc.

Each sign shall also conform to the following:

(1) In addition to the onboard solar power operation with battery back-up, each sign shall be capable of operating on a hard wire, 100-110 VAC, external power source.

(2) All electrical wiring, including connectors and switch controls necessary to enable all required sign functions shall be provided with each sign.

(3) Each sign shall be furnished with an operating and parts manual, wiring diagrams, and trouble-shooting guide.

(4) The portable message sign shall be capable of maintaining all required operations under Colorado mountain-winter weather conditions.

(5) Each sign shall be furnished with an attached license plate and mounting bracket.

(6) Each sign shall be wired with a 7-prong male electric plug for the brake light wiring system.

Subsection 630.13 shall include the following:

The portable message sign panel shall be on the project site at least 7 Calendar days prior to the start of active roadway construction. Maintenance, storage, operation, relocation to different sites during the project, and all repairs of portable message sign panels shall be the responsibility of the Contractor.

Subsection 630.15 shall include the following:

Portable message sign panels will be measured one of the two following ways:

(1) By the actual number of days each portable message sign is used on the project as approved by the Engineer.

(2) By the maximum number of approved units in use on the project at any one time.

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REVISION OF SECTION 630
PORTABLE MESSAGE SIGN PANEL

Subsection 630.16 shall include the following:

Pay Item	**Pay Unit**
Portable Message Sign Panel	Day

END OF SECTION REVISION

REVISION OF SECTION 715
LIGHTING AND ELECTRICAL MATERIALS

Section 715.04 Luminaires and Lamps shall be amended to include the following:

(a) General (2) Optical Chamber. DELETE "The luminaire distribution shall be an IESNA full-cutoff, type III reflector system for lamps over 3200 lumens."

Delete Section 715.04 (b) through (e) and replace it with:

(b) Roadway Luminaires.
Roadway luminaires shall be LED type with integral driver, flat glass lens, cast aluminum housing, and be UL Listed and suitable for use in wet locations.

(1) Listing: The luminaire and all components shall be UL/ETL listed for Wet Location and shall have minimum Ingress Protection Rating of IP66.
(2) Lamp: The luminaire shall be 105 watts consisting of 79 LEDs, 4000K CCT and 8100 lumens minimum.
(3) Optics: The luminaire shall have an asymmetrical, Type II distribution.
(4) Mounting: The luminaire and pole shall have a base plate with (4) anchor bolts for installation on concrete light standard foundation. Assembly shall include a 10'-0" arm.
(5) Materials: The luminaire housing shall be constructed of die-cast aluminum alloy.
(6) Power Supply: The luminaire shall be furnished with 240 volt Class 2 power supply (driver), total harmonic distortion of 20% or less, power factor of 0.9 or greater.
(7) Color: Powdercoat finish in GREY.
(8) Testing: Luminaire shall be tested in accordance with IESNA LM79 and LM80 certifying photometric performance and rated life, respectively.
(9) BUG Rating: Roadway luminaire shall have a Backlight rating of B2, an Uplight rating of U0, and a Glare rating of G2.

(c) Lamps. Lamps shall be installed and operated only in luminaires designed to accommodate the specific lamp. Lamps shall be compatible with ballasts and power generators supplied with the luminaires in which they are to be installed. All lamps of a similar type shall be provided by the same manufacturer.

LED lamp systems shall meet or exceed the following requirements:

(1) Binning – All LEDs shall be matched to satisfy the CCT, CRI, and Luminous Flux requirements as described herein.
   a. Correlated Color Temperature (CCT) – All LED lamps shall emit white light and have a (CCT) specified in the plans +/- 100° Kelvin.
   b. Color Rendering Index (CRI) – LED lamps shall have a minimum Color Rendering Index (CRI) of 70.
   c. Luminous Flux – LED lamps shall not exceed the junction temperature recommended by the LED manufacturer. Luminous flux differences between LEDs shall not exceed 10%.

(2) Rated Lamp Life - LEDs shall have a minimum rated life of 70,000 hours. The lumen output shall be maintained at 70% of initial rated lumens or greater at the rated life of the luminaire.

(3) Quality Control – Luminaires with LEDs that have a perceptible and significant brightness or color differences shall be replaced by the Manufacturer at no cost to the Project.

(4) Environmental Conditions – LEDs shall be temperature rated for operation and storage within the range of -40°C to +50°C, and shall withstand low and high frequency vibration over the rated life of the lamp.

Section 715.05 Ballasts, LED Drivers, and Induction Lamp Power Generators shall be amended to include the following:

(c) LED power supplies: LED power supplies shall have an input voltage of 240VAC/60Hz and the output voltage shall be per LED manufacturer's specifications. The output voltage shall be regulated automatically and continuously by an integral electronic voltage regulator to maintain the LED voltage within a tolerance of +/- 5%. The output current shall be regulated automatically and continuously by an integral electronic current regulator to maintain the current within a tolerance of +/- 5%. All electronics of the power supply and the LEDs shall be protected from all electrical surges, including but not limited to lightning strikes and stray current in rebar and concrete. Surge protection shall be integral to the LED power supply.

END OF SECTION REVISION

FORCE ACCOUNT ITEMS

DESCRIPTION

This special provision contains the Department'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	Estimated Quantity	Amount
F/A Minor Contract Revisions	F.A.	$ 250,000*
F/A Partnering	F.A.	$ 4,000
F/A Asphalt Pavement Incentive	F.A.	$ 9,500
F/A Fuel Cost Adjustment	F.A.	$ 50,000
F/A Roadway Smoothness Incentive	F.A.	$ 16,200
F/A Asphalt Cement Cost Adjustment	F.A.	$ 75,000
F/A On the Job Trainee	F.A.	$ 2,560
F/A Furnish and Install Electrical Service	F.A.	$ 5,000
F/A Erosion Control	F.A.	$ 5,000*
F/A Wetland Monitoring	F.A.	$ 5,000
F/A Hazardous Waste Disposal	F.A.	$ 5,000
F/A CMGC Overrun Pool	F.A.	$ 136,867*
F/A CMGC Shared Risk Contingency Pool	F.A.	$ 209,827*

Force Account Descriptions

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.

Partnering – This work is described in Standard Special Provision – Partnering Program.

Asphalt Pavement Incentive – This is for incentive payments in accordance with the Revision of Sections 105 and 106 for materials.

Fuel Cost Adjustment – Contract price adjustments will be made in accordance with Revision of Section 109 – Fuel Cost Adjustment of the Standard Special Provisions.

Roadway Smoothness Incentive – This is for incentive payments in accordance with the Revision of Sections 105

Asphalt Cement Cost Adjustment – Contract price adjustments will be made in accordance with Revision of Section109 – Asphalt Cement Cost Adjustment of the Standard Special Provisions.

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FORCE ACCOUNT ITEMS

OJT Colorado Training Program – This consists of the maximum reimbursement amount for training to be provided on the project in accordance with the Standard Special Provision – On the Job Training.

Furnish and Install Electrical Service – This is for Service to the new lighting for the roundabout

Erosion Control – This is for additional erosion control items not included in the original plan that have been approved by the Engineer.

Wetland Monitoring – This is for Contractors Wetland Biologist as required per the plans.

Hazardous Waist Disposal – This is for the hauling and disposal fees of lead based paint chips collected during the removal of the existing structure.

CMGC Overrun Pool – As defined under Project Special Provision 109

CMGC Shared Contingency Risk Pool – As defined under Project Special Provision 109

SPECIAL CONSTRUCTION REQUIREMENTS
FIRE PROTECTION PLAN

REQUIREMENTS OF FIRE PROTECTION PLAN

The Contractor will be required to abide by all of the requirements of the Fire Protection Plan which is included in this project. This will include all tools, equipment and costs listed as responsibilities of the Department of Transportation.

The Contractor will appoint and designate a Project Fire Control Coordinator, who will be responsible for the enforcement of the requirements of the Fire Protection Plan, and is responsible for and will direct all fire activities on the project area, until relieved by an appropriate Officer.

All costs incidental to the foregoing will be included in the original contract prices for this project.

FIRE PROTECTION PLAN

This plan outlines the responsibility for the fire prevention and suppression activities on this project, and sets up an attack procedure in the event of a fire within the project area. The project area is defined as that area within the National Forest and within 500 yards of the project right-of-ways, work areas, and all roads used for construction purposes.

I. RESPONSIBILITIES

A. The Contractor for the Department of Transportation - State of Colorado

1. Is responsible for and will direct all fire activities on the project area until relieved by an appropriate Officer.

2. Will make certain that prevention and suppression actions are in accordance with contract requirements including the fire plan.

3. Will appoint and designate a Project Fire Control Coordinator who will be responsible for the enforcement of the requirements of this Fire Protection Plan.

4. The Project Fire Control Coordinator will delegate the next highest in authority on the job to be responsible for the above activities when absent from the project.

5. The project Fire Control Coordinator will accompany the Liaison Officer or his representative on fire inspections and notify the Contractor to take corrective measures when fire requirements are not followed.

B. Greater Eagle Fire Protection District:

1. Is responsible for all fires in the District.

2. He or his representative will discuss the fire plan with the Project Fire Control Coordinator, Department of Transportation - State of Colorado, and will discuss with him/ her the equipment and manpower action to be taken when a fire occurs.

3. With the Project Fire Control Coordinator will periodically inspect the project area for compliance with fire requirements.

II. DEPARTMENT OF TRANSPORTATION - STATE OF COLORADO RESPONSIBILITY WHEN A FIRE OCCURS WITHIN THE PROJECT AREA.

A. The Fire Control Coordinator or his/ hers Contractor representative shall immediately send the nearest project crew with tools and equipment to the fire and take initial attack action.

B. Call in the following order to report a fire:

Gypsum Fire Protection District 511 Second Street /PO Box 243 Gypsum, CO 81637	970-524-7101 970-524-9880 Fax
Eagle County Sheriff	(970) 328-8500

When reporting a fire:

1. Exact location of fire and best route to the fire.

2. Size of fire and material (fuel) in which burning.

3. Character of fire: smoldering, creeping, running, growing.

4. Number of men and pieces of equipment at fire.

5. Name a person in charge of fire.

6. Estimate of additional manpower and equipment needed

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SPECIAL CONSTRUCTION REQUIREMENTS
FIRE PROTECTION PLAN

III. TOOLS AND EQUIPMENT.

A. At all times during the period of project operations a supply of the fire fighting tools shall be furnished and maintained by the Contractor. These tools shall be so located as to be readily accessible for fire use. These tools shall be reserved and used of fires and not used in construction operations. Fire boxes shall contain sufficient tools to adequately equip the men employed by the Contractor during any given eight-hour shift. One fire box shall be provided for each 10 men and will normally contain:

5 round - pointed shovels,
2 double - bitted axes
3 pulaskis or mattocks.
2 backpack pumps

B. Chain saw crews working anywhere on the project shall be immediately available for fire control within the project area.

IV. GENERAL PROVISIONS.

A. Fire Prevention.

1. Fire Precautionary Period.

The fire precautionary period will begin May 15 and run through November 15 of each year, provided, however, the beginning and ending dates may be changed in writing if extremely dry weather conditions exist.

2. Fire Prevention.

The fire prevention provisions listed will be in effect through the fire precautionary period unless otherwise stated.

a. Explosives and Blasting.

1. Only electric blasting caps and/ or Primacord may be used unless approved by the Engineer.
2. Explosives shall be stored in a locked box plainly marked "Explosives" at all times.
3. Electric blasting caps shall be stored and kept in a locked heavy metal box at all times.

During the precautionary period, a watchman shall be on duty for one hour after blasting has ceased. He shall be equipped with a NO. 0 or larger round-pointed shovel and shall patrol the blasting area for fires.

All federal, state, and local laws concerning the use and storage of explosives shall be complied with. The Contractor shall furnish and erect special signs to warn the public of blasting operations. Such signs shall be placed at appropriate points within the project area, shall be maintained so as to be clearly evident to the public during all critical periods of blasting operations, and shall include a warning statement to have radio transmitters turned off.

b. Welding.

Welding shall be accomplished in construction camp service areas when possible. If welding at field locations is required, the welding shall be done at location where all flammable material has been cleared away for a distance of 16 feet around the area. One filled backpack pump, a shovel and ax shall be maintained at welding site when welding.

3. Spark Arrestors.

All diesel and gasoline powered engines, both mobile and stationary, shall be equipped with approved serviceable spark arrestors. A list of approved arrestors is on file at the District Ranger's office. Exhaust driven turbo chargers qualify as very efficient spark arrestors.

4. Lunch and Warming Fires.

The building of lunch and warming fires will not be permitted.

5. Smoking.

During the normal precautionary period smoking will be permitted in safe places only, such as along roads, in truck cabs, or in designated areas where all flammable material has been cleared away. Smoking shall not be permitted in buildings containing gasoline, diesel fuel, oil or explosives and such buildings shall be posted with "NO SMOKING" signs.

6. Power Saws.

Each gasoline power saw shall be provided with a spark screen and a muffler in good condition. One chemical-pressurized fire extinguisher of not less than 0.55lb by weight and one size 0 or larger round-point, long-handled shovel shall be with each saw operator. Spill-proof metal safety cans shall be used for refueling.

7. Storage and Parking Areas.

Plant area, equipment service areas, parking areas, gas and oil drum storage areas, and explosive storage areas shall be cleared of all flammable materials for a distance of 50 feet. Small stationary engine sites shall be cleared of all flammable material for distance of 17 feet. Flammable and explosive storage areas shall be labeled as such and "NO SMOKING" signs shall be erected.

B. Burning Prescriptions.

No burning will be allowed on the project unless authorized by the Engineer in writing.

C. Fire Suppression Costs.

1. It is understood and agreed that the Contractor will do all that is possible to prevent and suppress fires within the project area, as stipulated in the contract. The Contractor shall take immediate, independent, or cooperative action to control and extinguish any fire regardless of cause on such area or in its vicinity with the manpower and facilities which the permittee or Contractor have at their immediate disposal in the area.

a. Department of Transportation - State of Colorado

The Contractor will pay for all fire suppression costs and damages of fires resulting from the project contract operations.

V. DURATION OF THIS PLAN.

This fire plan will apply to the Department of Transportation - State of Colorado and all Contractors and their employees. The Department of Transportation - State of Colorado will be responsible to see that all Contractors and Subcontractors and their employees are made aware of the contents of this fire plan.

This plan will be in force for the duration of the contract.

This Fire Plan shall in no way be construed to relieve the Department of Transportation - State of Colorado or their Contractors of any requirements or obligations in any other permits or contracts pertaining to this construction project.

All costs associated with the foregoing requirements, exclusive of any fire suppression costs on fires not resulting from the project contract operation as outlined above, will not be paid for separately, but shall be included in the cost of doing the work.

TRAFFIC CONTROL PLAN – GENERAL

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

The Contractor will furnish with the MHT, precise references to other documents such as the 2009 MUTCD, CDOT Standard Plans, etc., for any devices incorporated into the MHT which are not included in the Traffic Control Plans provided in this contract.

The minimum components of the Traffic Control Plan (TCP) for this project are included in the following:

1. Subsection 104.04 and Section 630 of the Specifications
2. Standard Plan S-630-1, Traffic Controls for Highway Construction
3. Standard Plan S-630-2, Barricades, Drums, Concrete Barriers (Temp) and Vertical Panels
4. Tabulation of Traffic Engineering Items
5. Schedule of Construction Traffic Control Devices
6. Final Signing and Pavement Marking Plans
7. Detour Plans
8. Traffic Control Plans

Traffic Control shall be provided as required by, in descending order of precedence, 2009 MUTCD, the plans and special provisions for this project, Colorado Department of Transportation Standard Specifications, and Colorado Department of Transportation M and S Standards.

Unless otherwise approved by the Engineer, the Contractor’s equipment shall follow normal and legal traffic movements. The Contractor’s ingress and egress of the work area shall be accomplished with as little disruption to traffic as possible. Traffic control devices shall be removed by picking up the devices in a reverse sequence to that used for installation. This may require moving backwards through the work zone. When located behind barrier or at other locations shown on approved traffic control plans, equipment may operate in a direction opposite to adjacent traffic.

CDOT may have entered into operating agreements with one or more law enforcement organizations for cooperative activities. Under such agreements, at the sole discretion of CDOT, law enforcement personnel may enter the work zone for enforcement purposes and may participate in the Contractor’s traffic control activities. The responsibility under the Contract for all traffic control resides with the Contractor and any such participation by law enforcement personnel in Contractor traffic control activities will be referenced in either the Special Provisions or General Notes of the plans depending on whether the Contractor is to hire local law enforcement or if CDOT is contracting with Colorado State Patrol for uniformed traffic control. Nothing in this Contract is intended to create an entitlement, on the part of the Contractor, to the services or participation of the law enforcement organization.

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

At least one week prior to starting construction, the Contractor shall notify the Project Engineer of the date the Contractor intends to start construction.

The truck parking facility at the west end of the project is part of an I-70 Traffic Incident Management Plan. In the event that this plan is implemented, the Contractor shall have TCS on site and coordinate traffic control with CDOT and Local Authorities to facilitate the plan and closely monitor existing and detour pavement.

During the construction of this project, traffic shall use the present traveled roadway unless identified on the plans or approved by the Engineer.

The contractor must maintain two lanes of traffic at all times during non-working hours.

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TRAFFIC CONTROL PLAN – GENERAL

During the resurfacing work, only one lane may be closed to traffic at any time. Traffic shall not be delayed for more than 10 minutes or as allowed by the Engineer.

The Contractor shall maintain access to all roadways, driveways, and field accesses at all times unless closed by the traffic control plan or approved by the Engineer.

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

The Contractor and subcontractors shall equip their construction vehicles with flashing amber lights. Flashing amber lights on vehicles and equipment shall be visible from all directions.

All personal/employee vehicle and construction equipment parking is prohibited when it conflicts with safety, access, or the flow of traffic.

All traffic operations, detours, and associated MHTs shall be submitted to the Engineer for review and approval. The Contractor shall schedule and coordinate all traffic closures and MHTs at least seven days prior to the closure or MHT taking effect.

All lane closures are subject to the approval of the Engineer. An MHT shall be approved by the Engineer prior to any request for a lane closure. A written request for each lane closure shall be made at least 24 hours in advance of the time the lane closure is to be implemented. Lane closures will not be allowed to remain unless they are continuously utilized for the intended purpose for which they were approved.

The MHT shall address maintenance of access to the Engineer's field facilities and access to other areas of work. Access to all work areas will be limited to that which can be safely accomplished without hazard to traffic and which does not interfere with traffic during the times specified. Access will not be allowed to any work areas where such access requires the implementation of traffic control measures that interfere with the flow of traffic.

During all non-working hours, the traveled roadway shall be restored to safe travel conditions for the free flow of traffic. All maintenance required to restore the roadways to this condition, including pavement patching and grading shall be done before opening the areas to traffic or completing work for the day.

During non-construction periods, all work shall be adequately protected to ensure the safety of vehicular and pedestrian traffic, as detailed in the Contractor’s MHT. Excavations or holes shall be filled in or fenced when unattended.

The Contractor shall remove and reset or cover all existing signs which conflict with the MHT before performing any work under the MHT. All signs damaged due to Contractor operations shall be replaced in kind or repaired by the Contractor at no cost to the project. An inventory of existing signs shall be made by the Contractor and the Engineer prior to starting work.

This project requires full compliance pavement marking at the end of each day, including lane lines, edge lines, and channelizing lines. Whenever the Contractor removes, obliterates, or overlays any pavement markings, the Contractor shall replace them on a daily basis prior to opening the affected areas to traffic. All temporary pavement markings shall be full compliance in accordance with the Standard Specifications and Special Provisions.

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TRAFFIC CONTROL PLAN – GENERAL

The contractor shall remove pavement markings and striping where it conflicts with the construction traffic zone striping. Existing pavement markings shall be removed before marking the same location with a different color, both for temporary markings and final pavement markings.

The contractor shall re-stripe the work zone to allow for maintenance of traffic after the work zone is dismantled in any area.

The removal of pavement markings from new concrete or asphalt paved sections, or temporary markings placed on an existing roadway that is not to be overlaid or reconstructed shall be accomplished by a non-grinding method that minimizes scarring. Acceptable methods, provided they are accomplished properly, include sand blasting, high pressure water, and chemical removal that is environmentally compatible. Other methods may be acceptable provided that they are non-scarring and will not interfere with normal traffic operations, as approved by the Engineer prior to the start of work. Any method that produces scarring found unacceptable to the Engineer shall be discontinued immediately and until such time the problem is corrected or another acceptable method is approved.

Construction operations and detours shall be planned and laid out to provide continuous and full accommodation of WB-67 vehicles as a minimum.

The Contractor shall provide a Traffic Control Supervisor (TCS) with at least one (1) year experience after certification. A copy of the TCS's certification, resume, and experience, and a valid current driver's license shall be provided to the Engineer at least two days before project preconstruction for approval.

A TCS shall be available at all times during flagging operations.

The Contractor's Superintendent and TCS shall carry mobile phones at all times.

The Contractor shall videotape all detour and access routes prior to utilization and provide the Engineer with a copy of all tapes. Any damage shall be repaired to its original, or better, condition.

Steel drum channelizing devices shall not be used for traffic control.

The Contractor shall install construction traffic control devices in locations where they do not block or impede other existing traffic control devices.

All flagging stations used at night shall be adequately illuminated in accordance with the 2009 MUTCD. Adequate illumination of flagging stations shall include the use of light plants whenever other sources of adequate lighting are not available. Lights shall be placed in such a manner as to not directly shine into oncoming traffic.

All Construction zone Traffic Control Devices shall be continuously maintained in accordance with Section 630 of the Standard Specifications. The TCS shall establish a set maintenance and cleaning schedule.

All costs incidental to the foregoing requirements shall be included in the original contract prices for the project.

UTILITIES

Known utilities within the limits of this project are:

COLORADO DEPT. OF TRANSPORTATION (Ramp Lighting)	DON OLMSTEAD	Cell: 970-379-0539
CENTURYLINK	BARB DAVIS	970-328-8288
HOLY CROSS ENERGY	KEITH HERNANDEZ	970-947-5439
TWO RIVERS METRO DISTRICT (Water & Sanitary)	ROCKY BLAKE	970-777-7303

The work described in these plans and specifications requires full cooperation between the Contractor and the utility owners in accordance with subsection 105.11 in conducting their respective operations so the utility work can be completed with minimum delay to all parties concerned.

The Contractor shall be required to meet with each utility owner impacted by the work a minimum of thirty (30) days in advance of any construction operations to coordinate required utility work with the construction activity. Coordination with utility owners includes, but is not limited to, providing and periodically updating an accurate construction schedule that includes all utility work elements. Surveying and/or staking of utility relocations to be performed by the owner shall be the responsibility of the owner.

The Contractor shall conduct coordination meetings a minimum of weekly for the purpose of coordinating construction activities with the utility owners. Frequency of the utility coordination meetings may be revised with the prior written consent of the Engineer.

The Contractor shall provide traffic control for any utility work expected to be coordinated with construction operations as directed by the Engineer. However, traffic control for utility work outside of typical project work hours or outside of project limits shall be the responsibility of the utility owner. The Contractor shall be compensated for traffic control as per the bid items for traffic control as established on this project.

FOR EACH UTILITY OWNER SHOWN BELOW, THE WORK LISTED UNDER "CONTRACTOR RESPONSIBILITIES" SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS, OR AS DIRECTED BY THE ENGINEER. EACH UTILITY OWNER, OR THEIR AGENTS, WILL PERFORM THE WORK LISTED UNDER "UTILITY COMPANY RESPONSIBILITIES".

The Contractor shall keep each utility owner advised of any work being done to its facility so that each utility owner can coordinate its inspections for final acceptance of the work with the Engineer.

NOTE: The contractor shall provide written notice to each utility owner, with a copy to the Engineer, immediately prior to each utility work element expected to be coordinated with construction, and shall allow the expected number of working days for utilities to complete necessary work. The number of day's prior notice is noted for each utility owner.

COLORADO DEPT. OF TRANSPORTATION (Ramp Lighting) – Prior Notice 3 working days

Contractor Responsibilities –

Contractor is responsible for coordinating as necessary with Don Olmstead with the CDOT Region 3 Traffic Section during the installation of a new feeder line, light and road closure gate on the I-70 WB On-Ramp as indicated on the Lighting Plans. The ramp lighting and closure gates are to be on their own meter with CDOT responsible for the monthly billings. The All other lighting facilities will be on a separate meter with the monthly billings going to Eagle County.

Utility Company Responsibilities –

The CDOT Region 3 Traffic Section will provide locates and coordinate as necessary with the Contractor during the course of the project.

UTILITIES

CENTURYLINK – Prior Notice 10 working days

Contractor Responsibilities –

Contractor is responsible for protecting all existing utilities from damage due to the Contractor's operations. CenturyLink or their agents will be responsible for the relocation and/or adjust of their lines as indicated below. This work will need to be coordinated with the Contractor's operations.

Utility Company Responsibilities –

CenturyLink has facilities in a common trench with Holy Cross Energy's lines that run along the east side of the Colorado River Road. Between Stations 73+50 and 75+00 these lines will have less than the required 4 foot minimum bury depth for utilities within the CDOT Right of Way. CenturyLink proposes to expose these lines and put a concrete cap on them while the contractor has this area opened up. CenturyLink may desire to negotiate with the Contractor to do this work for them.

CenturyLink has another line with less than minimum cover that runs along the Colorado River Road parallel to the line referenced above and about 40 to 50 feet west. CenturyLink thinks this line may be out of service and can be abandoned. Prior to construction they will verify the status of this line. If this line is still in service they propose to place another conduit with the lines referenced above prior to placing the concrete cap and relocating into the trench with the fiber and electric lines.

CenturyLink has an existing telephone pedestal on Cotton Lane at I-70 Frontage Road Station 31+93, 86' Lt. that will be relocated out of the construction area.

HOLY CROSS ENERGY – Prior Notice 10 working days

Contractor Responsibilities –

Contractor is responsible for protecting all existing utilities from damage due to the Contractor's operations. Holy Cross Energy or their agents will be responsible for the relocation and/or adjust of their lines as indicated below. This work will need to be coordinated with the Contractor's operations.

Utility Company Responsibilities –

Holy Cross Energy has facilities in a common trench with CenturyLink's lines that run along the east side of the Colorado River Road. Between Stations 73+50 and 75+00 these lines will have less than the required 4 foot minimum bury depth for utilities within the CDOT Right of Way. Holy Cross Energy proposes to expose these lines and put a concrete cap on them while the contractor has this area opened up. Holy Cross Energy may desire to negotiate with the Contractor to do this work for them.

TWO RIVERS METRO DISTRICT (Water & Sanitary) – Prior Notice 5 working days

Contractor Responsibilities –

Two Rivers Metro District has facilities that run along the east side of the Colorado River Road and along the north side of the existing I-70 Frontage Road as shown on the Utility Plans. There are no anticipated conflicts with these facilities. However, the Contractor is responsible for protecting these facilities from damage due to their construction operations.

Utility Company Responsibilities –

Two Rivers Metro District will provide locates and coordinate with the Contractor as necessary during the course of the project.

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UTILITIES

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 NOTICE OR THE DAY OF EXCAVATION) prior to commencing such operations. Contact the Utility Notification Center of Colorado (UNCC) at 811 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. For CDOT owned utility facilities the Contractor shall call the Region 3 Traffic Section at 970-683-6271 to request locates. CDOT is not contacted when locates are requested through the UNCC. Utility service laterals shall also be located prior to beginning ANY excavation or grading.

The locations of utility facilities as shown on the plan and profile sheets, and/or herein described, were obtained from the best available information.

All costs incidental to the foregoing requirements will not be paid for separately but shall be included in the work.