

**THE CITY OF THORNTON  
9500 CIVIC CENTER DRIVE  
THORNTON, CO 80229-4326**

**Project Manual  
for  
Construction of**

**PHASE 4 TRAFFIC SIGNAL SYSTEM  
IMPROVEMENTS**

**THORNTON PROJECT NO. 13-421C  
CDOT PROJECT NO. AQC M286-043  
CDOT PROJECT CODE 2017-143**

**SEPTEMBER 2017**

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Bacon Act Wage Determination CO170016 updated 06/09/2017.

Addenda

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## **INVITATION FOR BID PROPOSALS**

**City of Thornton  
9500 Civic Center Drive  
Thornton, CO 80229-4326**

Sealed Bid Proposals for Construction of the Phase 4 Traffic Signal System Improvements, Thornton Project No. 13-421C, CDOT Project No. AQC M286-043, CDOT Project Code 2017-143 will be received in the Contract Administration Office at the Thornton City Hall (2nd floor), 9500 Civic Center Drive, until **2:00 p.m., October 27, 2017**. At that time, Bid Proposals will be publicly opened and read aloud.

Project Description: This Project consists of improvements to portions of Thornton's traffic signal system to incorporate new traffic signal controllers operating the integrated transuite traffic signal system operating software. The Work includes the removal of existing traffic signal controllers and other appurtenances from existing controller cabinets, replacement with new controllers and appurtenances, electrical conduit, fiber optic cable installation, traffic control, and miscellaneous items necessary to complete the Work. The Engineer's estimate for this Project is approximately four hundred thousand dollars (\$400,000). Colorado Department of Transportation (CDOT) has determined that Underutilized Disadvantaged Business Enterprises (UDBE's) will participate by contracting part of the Work for this Contract. The Contract goal for participation by certified UDBE's has been established at ten percent (10%). Davis Bacon Wages are required to be paid on this Project.

Contractors interested in submitting a Bid Proposal for this Project must, at a minimum, be pre-qualified with the CDOT. Copies of CDOT's pre-qualified Contractor list can be obtained at <http://www.dot.state.co.us/Bidding/listings.html>. Thornton will also post-qualify contractors.

Thornton utilizes the Rocky Mountain E-Purchasing System (RMEPS) at [www.RockyMountainBidSystem.com](http://www.RockyMountainBidSystem.com) to distribute official copies of the Drawings and Project Manual ("Bid Documents") for use in preparing Bid Proposals. Bidders will be required to register with the website to download the Bid Documents and Addenda. There is no charge by Rocky Mountain E-Purchasing for this service. If you experience problems with the RMEPS website, please call 1-800-835-4603 for assistance. Bidders are required to acknowledge all Addenda with their Bid Proposal and are encouraged to either register with the website or to view the Addenda posted on the Contract Administration bulletin board prior to submission of a Bid Proposal. Bidders that do not acknowledge all Addenda may be considered non-responsive. The Bid Documents, including Addenda, are also available for viewing at the Contract Administration office located on the 2<sup>nd</sup> floor of City Hall at 9500 Civic Center Drive, Thornton, CO. Bidders that do not have download and/or printing capability in-house, may contact a commercial blueprint company or other reprographics company for assistance with downloading and printing the Bid Documents.

An optional Pre-Bid Conference will be held in the City Hall Council Conference Room, at 9500 Civic Center Drive at **10:00 a.m., October 10, 2017**. All Prospective Bidders are encouraged to attend.

Each Bid Proposal shall be made on a form furnished by Thornton, and must be accompanied by a certified check, cashier's check, or bid bond in an amount of not less than five percent (5%) of the amount of the Bid Proposal and made payable to the City of Thornton, Colorado.

The successful Bidder will be required to furnish a Performance Bond and a Labor and Material Payment Bond, each in the amount of one hundred percent (100%) of the total contract amount, in conformity with the requirements of the Contract Documents.

The successful Bidder will be determined on the basis of the lowest responsive and responsible Bid Proposals. The apparent successful Bidder(s) will be post qualified. Thornton reserves the right to reject any or all Bid Proposals, to waive any informalities or irregularities in the Bid Proposals received, and to accept the Bid Proposal which in its judgment best serves the interests of Thornton. The apparent successful Bidder will be required to complete a Reference Authorization and Release Form.

All questions shall be directed in writing to Keith Griess, Contract Administrator, 9500 Civic Center Drive, Thornton, CO 80229-4326, fax – 303-538-7556 or e-mail – [keith.griess@cityofthornton.net](mailto:keith.griess@cityofthornton.net), 8:00 a.m. to 5:00 p.m., local time, Monday through Friday, excluding holidays.

First Advertisement: September 28, 2017, Northglenn-Thornton Sentinel

Second Advertisement: October 5, 2017, Northglenn-Thornton Sentinel

Last Advertisement: October 12, 2017, Northglenn-Thornton Sentinel

BY: \_\_\_\_\_  
Jerry D. Dye  
Support Services Director

## **INFORMATION FOR BIDDERS**

Thornton may consider non-conforming any Bid Proposal not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all Bid Proposals.

Bidder may, without prejudice, withdraw a Bid Proposal after it has been deposited with Thornton, provided the request for such withdrawal is received by Thornton, in writing, before the deadline set for submission of Bid Proposals. Telephonic communications withdrawing a Bid Proposal will not be accepted.

Any Bidder may modify its Bid Proposal in writing any time prior to the scheduled deadline for submission of Bid Proposals, provided such modification is received by Thornton prior to the Bid Proposal submission deadline. The modification shall not reveal the Bid Proposal price, but shall provide only the addition or subtraction or other modification so that the final prices or terms will not be known by Thornton until the original sealed Bid Proposal is opened.

Any Bid Proposal received after the time and date deadline specified will not be considered.

After opening of Bid Proposals, a Bid Proposal may not be withdrawn by the Bidder for a period of ninety (90) Calendar Days, or as otherwise required by law. Each Bid Proposal must be accompanied by either a certified check or a cashier's check made payable to the City of Thornton, or a Bid Bond duly executed by the Bidder as principal and having as Surety thereon a Surety company approved by Thornton, in the amount of five percent (5%) of the total Bid Proposal amount. Such checks or Bid Bonds of the three (3) lowest Bidders may be retained by Thornton for a period of ninety (90) Calendar Days after the Bid Proposal opening. Other Bidders' Bid Proposal security will be returned within seven (7) Calendar Days from Thornton's receipt of request.

Each Bid Proposal **must be submitted on the Bid Proposal form(s) provided by Thornton** and must be signed by the Bidder or its duly authorized agent. All blank spaces for Bid Proposal prices must be filled in, in ink or typewritten, **IN BOTH WORDS AND NUMERALS**, where called for in the Bid Proposal.

If there is a discrepancy between the total price in words and the total price in numbers, the total price in words will govern. If there is a discrepancy between the Unit or Lump Sum Prices multiplied by the respective quantities and the extended Bid Proposal Prices for individual Pay Items, the Unit Price or Lump sum Prices multiplied by the respective quantity shall be the governing number, and the extended price or prices and the resulting Total Price will be adjusted accordingly.

Conditional Bid Proposals will not be accepted.

Each Bid Proposal must also include the following CDOT Forms, which are included herewith as Appendix A:

- CDOT Form #606, Anti-Collusion Affidavit
- CDOT Form #1413, Bidders List
- CDOT Form #1414, Anticipated DBE Participation Plan
- CDOT Form #605, Contractor's Performance Capability Statement
- CDOT Form #621, Assignment of Antitrust Claims
- CDOT Form #1415, Commitment Confirmation
- CDOT Form #1416, Good Faith Effort Report

Each Bid Proposal must be submitted in a sealed envelope bearing on the outside the name of the Bidder, Bidder's address, and the name of the Project and the Project Number for which the Bid Proposal is submitted. If submitted by mail, package delivery, or courier service, a sealed envelope containing the Bid Proposal must be enclosed in a mailing envelope addressed to the Support Services Director, 9500 Civic Center Drive, 2<sup>nd</sup> Floor City Hall, Thornton, CO 80229-4326. Please be sure to note on the outside of the mailing envelope **“Bid Proposal Enclosed, Phase 4 Traffic Signal System Improvements, Thornton Project No. 13-421C, CDOT Project No. AQC M286-043, CDOT Project Code 2017-143.”**

Simultaneously with the delivery of the executed Contract, the Contractor shall furnish its IRS W-9 Taxpayer ID Form, the Affidavit if required, the required insurance certificate(s), required endorsements thereto, ACORD Form 101 if required, and Performance and Labor and Material Payment Bonds as security for faithful performance of the Contract and for the payment of all persons performing labor in connection with the Work covered under the Contract and furnishing materials in connection with the Contract, as specified in the Contract Documents. The Surety on such Bonds shall be a duly authorized Surety company satisfactory to Thornton. Attorneys-in-fact who sign Bid Bonds or Performance and Labor and Material Payment Bonds must file with each bond a certified and effectively dated copy of their Power of Attorney. The Surety or Sureties must be listed in Federal Circular 570 and must be approved by Thornton. In no case will Sureties with less than a Best's A rating be approved. Insurers, at a minimum, are required to be admitted in the State of Colorado and maintain an A.M. Best Financial Strength Rating of A or higher.

The successful Bidder, upon Bidder's failure or refusal to execute and deliver the required Contract, Bonds if required, insurance certificate(s), additional insured endorsements, ACORD Form 101 if required, the Affidavit if required, and or the W-9 Form within ten (10) Calendar Days from and including the date of Notice of Award, shall forfeit to Thornton the security deposited with its Bid Proposal. Notice of Thornton's intent to retain the bid security shall either be hand delivered by Thornton to the Bidder's address, as given on the Bid Proposal form, or mailed to such address, first class, United States mail, return receipt requested. Delivery or mailing of the notice to the address provided shall constitute the required notice without the requirement of an acknowledgment of receipt from the Bidder.

Each Bidder must inform itself fully of the conditions relating to the construction of the Work and the employment of labor thereon. Failure to do so will not relieve a successful Bidder of its obligation to furnish all Materials and Equipment and labor necessary to carry out the requirements of the Contract Documents. Insofar as possible, the Bidder, in carrying out its Work, must employ such methods or means as will not cause any interruption of or interference with the work of any other contractor.

The Bidder's attention is directed to the fact that all applicable state laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Work shall apply to the Contract throughout, and will be deemed to be included in the Contract the same as though herein written out in full.

No interpretation of the meaning of the Drawings, Specifications, Addenda, other Bid Documents, Contract Documents, or Pre-Bid Meeting Minutes will be made to any Bidder orally. If a Bidder who contemplates submitting a Bid Proposal is in doubt about the precise meaning of any part of the proposed Contract Documents, it may submit to Thornton a written request for an interpretation. Every request for such interpretation shall be in writing addressed to Keith Griess, Contract Administrator, at 9500 Civic Center Drive, Thornton, CO 80229-4326, fax – 303-538-7556, or e-mail – [keith.griess@cityofthornton.net](mailto:keith.griess@cityofthornton.net), and to be given consideration it must be received by 5:00 p.m. on the tenth (10th) Calendar Day prior to the date fixed for the submission of Bid Proposals. The Bidder submitting the request will be responsible for its prompt and actual delivery. Thornton will not be responsible for any other explanations or interpretations of the Contract Documents which anyone may make on behalf of Thornton. Any and all such interpretations and any supplemental instructions will be in the form of written Addenda to the Bid Documents or to the Contract Documents which, if issued, will be posted on Rocky Mountain E-Purchasing System's website at [www.RockyMountainBidSystem.com](http://www.RockyMountainBidSystem.com) and on the Contract Administration bulletin board no later than three (3) Calendar Days prior to the date fixed for submission of Bid Proposals. Failure of any Bidder to receive any such Addenda or interpretation shall not relieve such Bidder from any obligation under its Bid Proposal, as submitted. All Addenda so issued shall become part of the Contract Documents. It shall be the responsibility of each Bidder to verify that each Addendum has been received. A bulletin board will be maintained at the Contract Administration Office which will list the current Projects with Bid Proposal due dates and all Addenda, including the date of issue for each. It is recommended that all Bidders check this board for the status of the particular Project they are interested in bidding prior to submitting a Bid Proposal.

At the time of submission of a Bid Proposal, each Bidder shall have completed a thorough site inspection, including, but not limited to, the location, accessibility and general character of the site of the Work and all existing buildings and structures within and adjacent to the Project site, sufficient to satisfy itself as to the nature of the Work, the condition of existing buildings and structures, the conformation of the ground, the character, quality, and the nature of any Construction Equipment and any other facilities needed preliminary to and during construction of the Work, the general and local conditions, the construction hazards, and all other matters, including the labor situation, which might affect the Work. The Bidder also will have carefully examined and be

thoroughly familiar with the Contract Documents, including all Addenda, and satisfied itself as to the feasibility and correctness of the Contract Documents for the construction of the Work and that it accepts all terms, conditions, and stipulations contained in the Contract Documents, and is prepared to work in peace and harmony with other contractors performing work at the Project site. Bidders also shall have reviewed the insurance requirements contained in the Contract Documents. The failure or omission of any Bidder to examine any form, instrument, or document shall in no way relieve any Bidder from any obligation in respect to its Bid Proposal. The Bidder is to confirm the completeness of the Contract Documents on which its Bid Proposal is based. If the Bidder determines its Contract Documents are incomplete or irregular, it is the Bidder's responsibility to bring this fact to the attention of the Contract Administrator prior to submitting a Bid Proposal.

Thornton invites Bid Proposals on the form(s) included as part of this document to be submitted at such time and place as stated in the Invitation for Bid Proposals. All blanks in the Bid Proposal forms must be appropriately filled in with typewriter or ink. Bidders are instructed to submit the entire Bid Proposal form. **It is the sole responsibility of the Bidder to see that the Bid Proposal is received by Thornton before the scheduled deadline set for submission of Bid Proposals.** Any Bid Proposals received after the scheduled deadline for submission of Bid Proposals will be returned to the Bidder unopened.

The Bid Proposal must be signed in the name of the Bidder and must bear the signature in long hand of the person or persons duly authorized to sign the Bid Proposal. Changes in or additions to the Bid Proposal forms, recapitulations of the Work bid upon, alternative Bid Proposals not requested by Thornton, or any other modifications of the Bid Proposal which are not specifically called for in the Bid Documents, the Contract Documents, or an Addendum may be rejected by Thornton as not being responsive to the solicitation.

Bid Proposals shall be made in the name of the principal, and if a co-partnership, the names of all partners shall be given. Exact postal address shall be given in all cases. If Bid Proposals are submitted by an agent, satisfactory evidence of agency authority must accompany the Bid Proposal. Corporate Bidders to be eligible to enter into a Contract with Thornton shall be qualified to do business in the State of Colorado and Thornton. Bidders shall comply with applicable licensing requirements. Foreign corporations which have not domesticated or otherwise become licensed in Thornton shall obtain a permit to do business in Thornton pursuant to Thornton's requirements prior to submission of a Bid Proposal.

The Bid Proposal submitted must not contain erasures, corrections, or changes from the printed forms as completed in typewriter or ink, unless such erasures, corrections, or changes are authenticated by affixing in the margin immediately opposite the erasure, correction, or change, the initials of the person who signed the Bid Proposal or the initials of such other person as may be authorized by the Bidder to make erasures, corrections, or changes in the Bid Proposal, and such authorization must be evidenced by written confirmation, executed by the person authorized to sign the initial Bid Proposal, attached to the Bid Proposal at the time of submittal.

Bid Proposals may be considered non-conforming and may be rejected for any of the following reasons, unless otherwise provided by law:

1. If the Bid Proposal form(s) furnished to the Bidder by Thornton is not used or is altered;
2. If there are unauthorized additions or conditional Bid Proposals, or irregularities of any kind which may tend to make the Bid Proposal incomplete, indefinite, or ambiguous as to its meaning;
3. If the Bidder adds any provisions reserving the right to accept or reject any Contract award or to enter into a Contract pursuant to an award;
4. If the Unit Prices or Lump Sum Prices contained in the Bid Proposal are unbalanced either above or below reasonable cost analysis values as determined by Thornton;
5. If the Bid Proposal Pay Item price for Mobilization exceeds ten percent (10%) of the total Contract Price;
6. If the Bidder fails to insert a Price for every Bid Proposal Pay Item indicated;  
or;
7. If the Bidder fails to complete the Bid Proposal in any other particulars where information is requested so Bidder's Proposal may be properly evaluated.

Thornton reserves the right to reject any or all Bid Proposals and to waive irregularities or informalities as may be deemed in Thornton's best interest.

Thornton reserves the right to reject any Bid Proposal if investigation of such Bidder fails to satisfy Thornton that such Bidder is properly qualified to carry out the obligations and to complete the Work contemplated by the Contract Documents. Any or all Bid Proposals will be rejected if there is reason to believe that collusion exists among Bidders.

Thornton reserves the right to prequalify Bidders, to post-qualify Bidders, to reject all Bid Proposals, not to make an award, and/or to accept the Bid Proposal deemed most advantageous and in the best interest of Thornton. The Bidder must comply with all information and instructions for Bidders. The award of the Contract, if made by Thornton, will be made by written Notice of Award to a qualified, responsible, responsive, and trustworthy Bidder submitting the lowest and best Bid Proposal, but Thornton shall determine in its sole discretion whether a Bidder is responsible, responsive, qualified, and trustworthy to perform the Contract, whether by prequalification, post-qualification, or other methods, and which Bid Proposal is the lowest and best and whether it is in the best interest of Thornton to accept the Bid Proposal. Thornton reserves the right to request financial statements, together with a Bidder's Post Qualification Form which includes a statement of past experience, personnel resumes, Construction Equipment available to perform the Work, the Bidder's proposed Schedule of Work, and other qualification

information, from any Bidder considered for award of a Contract. Failure or refusal to furnish such qualification information, or failure to provide a satisfactory statement of financial responsibility, shall constitute a basis for disqualifying any Bidder. In evaluating whether the Bidder is responsible, Thornton, in its sole discretion, may consider such things as whether the Bidder is in arrears to Thornton under any obligation; has an unacceptable performance or claims history with Thornton or with other owners; is not trustworthy; has submitted false information in the past, or is currently involved in a dispute with Thornton. Thornton also reserves the right to require evidence of satisfactory operation of any Construction Equipment required to be used to perform the Work. Thornton will consider the Bid Proposals and reserves the right to reject any or all Bid Proposals, to pass upon the regularity, or waive any irregularity or informality, of the Bidders and the acceptability of the Surety offered.

Prior to bidding, requests to substitute Materials or Equipment from those specified shall be made in writing and shall identify the Material or Equipment, or the fabrication or installation method to be replaced, in each request and shall include related Specification sections and Drawing numbers. The Bidder shall provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:

1. Product Data, including Drawings and descriptions of products, fabrication and installation procedures;
2. Samples, where applicable or requested;
3. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements such as size, weight, durability, performance, and visual effect;
4. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Thornton and separate contractors, which will become necessary to accommodate the proposed substitution; and
5. Any additional information Thornton may request.

All requests for substitution shall be submitted in writing to the Contract Administrator, and all such requests shall be received by Thornton no later than 5:00 p.m. on the tenth (10th) Calendar Day prior to the Bid Proposal submittal date. If any additional Material or Equipment is approved, the information will be published in an Addendum prior to the Bid Proposal submittal date. All Bid Proposals shall be based only on approved or specified Materials and Equipment. Thornton is not obligated to approve substitutions, either before Bid Proposal submission or after Notice of Award, regardless of whether Material, Equipment, or process is considered equivalent.

The successful Bidder, upon award of a Contract, shall commence Work on the date specified in the Notice to Proceed and shall diligently prosecute the Work and shall substantially complete all Work within the Contract Time. Should the Contractor fail to substantially complete all Work in the allotted time period, Liquidated Damages may be assessed.

At the Pre-Construction Meeting or within fourteen (14) Calendar Days after Notice of Award, whichever occurs sooner, the successful Bidder shall submit to Thornton a preliminary schedule showing the order in which the Bidder proposes to carry out the Work to successfully construct all of the Work within the Contract Time. This schedule shall be in addition to any other schedule requirements contained in the Contract Documents. Such preliminary schedule shall show the dates on which the Bidder will start and complete the several parts of the Work and the order of construction and delivery dates of critical Materials and Equipment. The preliminary schedule shall be subject to acceptance by Thornton. The schedule shall be binding on the Bidder and shall be adhered to by the Bidder unless, for good cause shown, a modification of Schedule shall be requested in writing to Thornton and approved by Thornton in accordance with the General Conditions of the Contract.

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## **PROCEDURE FOR CONTRACT SIGNING**

1. Signed Notice of Award - One (1) Original of NOA retained by Contract Administration One (1) Copy of Executed NOA sent to Contractor.
2. After award, Contract Administrator sends five (5) copies of Contract (bound in Project Manual) to Contractor.
  - A. Contractor signs, and attests if applicable, all five (5) copies and returns all five (5) copies of Contract (bound in Project Manual) to Thornton's Contract Administrator.
  - B. The Contractor's representative signing the Contract shall be authorized to bind the company in a contract with Thornton.
  - C. If Contractor is a corporation, Contracts must be attested and attestation witness must be an officer of the corporation of at least a Secretary rank (not a notary). If Contractor is not a corporation, attestation is not required.
  - D. Print title of the Contract signer, and the attestation witness if applicable, in the spaces provided.
  - E. Do not date the Contract. The last City of Thornton signatory will date the Contract.
3. Include the following when returning executed Contracts to Thornton:
  - A. Five (5) copies of executed Performance Bond and Labor and Material Payment Bond, along with applicable Powers of Attorney, in one hundred percent (100%) of the Contract Price from a bonding company listed in the government approved list of bonding companies (Circular 570). Original signature, with witness signature or attestation if corporation, are required for all five (5) copies. Submit an executed Power of Attorney for each set of bonds.
  - B. Five (5) copies of the Certificate(s) of Insurance, the Additional Insured Endorsements, and ACORD Form 101 if required, showing all required insurance coverages and limits.

If the ACORD Certificate is used, we must have a signed (not stamped) certificate.

Thornton, its officers, employees, and agents are to be named as Additional Insureds. This language is to appear on the face of the certificate. Additional Insured Endorsements, indicating completed operations coverage where applicable, must also be submitted.

- C. W-9 Taxpayer ID Form.
  - D. Five (5) copies of the completed Affidavit if Contractor is a sole proprietor or individual. Contractor must appear before the Support Services staff at Thornton City Hall for identification verification and to allow a copy of the identification to be made for Thornton's file.
4. Return the Certificates of Insurance, Additional Insured Endorsements, ACORD Form 101 if required, Bond Forms with Power of Attorney, W-9 Taxpayer ID Form, the Affidavit if applicable, and signed (and attested if applicable) Contracts to the Contract Administrator within ten (10) Calendar Days from date of Notice of Award, unless noted otherwise in the Contract Documents.
  5. Thornton's Contract Administrator will bind the Certificate(s) of Insurance, Additional Insured Endorsements, ACORD Form 101 if applicable, executed Performance and Payment Bonds, and applicable Powers of Attorney, into the Project Manuals with the signed (and attested if applicable) Contracts and will route the Project Manuals for City of Thornton signatures. **The last City of Thornton signatory will date the Contract on the first page.** Two (2) fully executed originals will be returned to the Contractor, one (1) for the Contractor's file and one (1) for the Contractor's Surety.

# CONTRACT

THIS CONTRACT, made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ by and between the City of Thornton, CO (hereinafter called "Thornton"), and \_\_\_\_\_ (hereinafter called the "Contractor"), or jointly known as the "Parties".

WITNESSETH:

That for and in consideration of the payments, covenants, and agreements stated herein, the Contractor and Thornton agree as follows:

1. The Contractor shall perform and complete in a Good and Workmanlike Manner all Work required in connection with **Phase 4 Traffic Signal System Improvements, Thornton Project No. 13-421C, CDOT Project No. AQC M286-043, CDOT Project Code 2017-143**, all in strict accordance with the Contract Documents, including any and all Addenda prepared by all in strict accordance with the Contract Documents, including any and all Addenda prepared by Thornton's Contracts Manager, the Drawings and Specifications, and the Contractor's Bid Proposal.

2. Payments will be made to the Contractor by Thornton in accordance with and subject to the provisions embodied in the Contract Documents, or as prescribed by law.

3. Work under this Contract shall commence on the date specified in the written Notice to Proceed from Thornton to the Contractor. Upon receipt of the Notice to Proceed, the Contractor shall diligently and continuously perform and substantially complete all Work under this Contract within one hundred forty-five (145) Calendar Days (the "Contract Time"). The Contractor shall also meet all Milestone Dates or other interim performance dates specified in the Contract Documents.

4. This Contract consists of the following component parts, listed in no particular order of precedence, herein defined as the Contract Documents, all of which are as full a part of this Contract as if herein set out verbatim, or if not attached, as if hereto attached:

Invitation for Bid Proposals	Information for Bidders
Addenda	Contract (This Instrument)
Special Conditions	General Conditions
Project Special Provisions	Bid Proposal Form
Drawings	Appendices (if any)
Labor and Material Payment Bond	Performance Bond
Notice of Award	Notice to Proceed
Contract Change Orders	FHWA Form 1273
CDOT Standard Special Provisions	

The above named documents are essential parts of the Contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete Work product.

In case of discrepancy, the order of precedence is as follows:

1. Contract Change Orders
2. Addenda
3. Contract (This Agreement)
4. Drawings
5. Special Conditions
6. General Conditions (All References to "Warranties" in this section do not apply to FHWA funded projects)
7. Project Special Provisions
8. CDOT Standard Special Provisions
9. Information for Bidders
10. Appendices (if any)
11. Bid Proposal

In the event there is a conflict between any of the above listed documents, the provision of the document with the lower numerical value shall govern over those documents with a higher numerical value.

The Contractor shall not take advantage of any apparent error or omission in the Drawings or Specifications. In the event the Contractor discovers such an error or omission, he shall immediately notify Thornton. Thornton will then make such corrections and interpretations as may be deemed necessary for fulfilling the intent of the Drawings and Specifications.

5. The Parties agree that this Contract shall be executed in quintuplicate, one (1) original being delivered to the Contractor, one (1) original for the Contractor's Surety, one (1) original for CDOT and two (2) originals to be retained by Thornton.

APPROVED AS TO LEGAL FORM:  
Luis A. Corchado, City Attorney

CITY OF THORNTON, COLORADO:

By: \_\_\_\_\_  
Senior Assistant City Attorney

\_\_\_\_\_  
Maria Ostrom, Finance Director

ATTEST:

CITY OF THORNTON, COLORADO:

\_\_\_\_\_  
Kristen N. Rosenbaum, City Clerk

\_\_\_\_\_  
Jerry D. Dye, Support Services Director

<b>ATTEST FOR FIRM SIGNATURE:</b> (if corporation)	<b>INSERT FIRM NAME (ALL CAPS):</b>
_____ Signature	_____ Signature
_____ Print Name	_____ Print Name
_____ Title	_____ Title

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## **PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS: That \_\_\_\_\_  
(full name and address or legal title of Contractor)

\_\_\_\_\_ as Principal (hereinafter called Contractor), and \_\_\_\_\_  
(full name and address or legal title of Surety)

\_\_\_\_\_ as Surety (hereinafter called Surety), are held and firmly bound unto the City of Thornton as Obligees (hereinafter called Thornton), in the amount of \_\_\_\_\_  
(a sum equal to at least the contract price)

Dollars (\$ \_\_\_\_\_) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has been awarded a Contract by Notice of Award dated \_\_\_\_\_, 20\_\_\_\_, by Thornton for the Phase 4 Traffic Signal System Improvements, Thornton Project No. 13-421C, CDOT Project No. AQC M286-043, CDOT Project Code 2017-143 in accordance with Drawings and Specifications prepared by Apex Design PC, 1675 Larimer Street, Suite 480, Denver, CO 80202, which Contract will by reference be made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

The Surety hereby waives notice of any alteration of the Contract or extension of time made by Thornton.

Whenever Contractor shall be, and declared by Thornton to be in default under the Contract, Thornton having performed Thornton's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

1. Complete the Contract in accordance with its terms and conditions; or
2. Obtain a Bid or Bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible Bidder, or, if Thornton elects, upon determination by Thornton and the Surety jointly of the lowest responsible Bidder, arrange for a Contract between such Bidder and Thornton, and make available as Work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract Price, but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract Price" as used in this paragraph, shall mean the total amount payable by Thornton to Contractor under the Contract and any Contract Change Orders thereto, less the amount properly paid by Thornton to Contractor. Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than Thornton.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_

Witness

\_\_\_\_\_

Principal

\_\_\_\_\_

Title

\_\_\_\_\_

Title

\_\_\_\_\_

Witness

\_\_\_\_\_

Surety

\_\_\_\_\_

Title

\_\_\_\_\_

Title

**LABOR AND MATERIAL PAYMENT BOND**

THIS BOND IS ISSUED SIMULTANEOUSLY WITH PERFORMANCE BOND IN FAVOR OF THORNTON CONDITIONED ON THE FULL AND FAITHFUL PERFORMANCE OF THE CONTRACT.

KNOW ALL MEN BY THESE PRESENTS: That \_\_\_\_\_  
(full name and address or legal title of Contractor)

as Principal (hereinafter called Principal), and \_\_\_\_\_  
(full name and address or legal title of Surety)

as Surety (hereinafter called Surety), are held and firmly bound unto the City of Thornton as Obligee (hereinafter called Thornton), for the use and benefit of claimants as herein below defined, in the amount of \_\_\_\_\_  
(a sum equal to at least the contract price)

Dollars (\$\_\_\_\_\_), for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these present.

WHEREAS, Principal has been awarded a Contract by Notice of Award dated \_\_\_\_\_, 20\_\_\_, by Thornton for the Phase 4 Traffic Signal System Improvements, Thornton Project No. 13-421C, CDOT Project No. AQC M286-043, CDOT Project Code 2017-143 in accordance with Drawings and Specifications prepared by Apex Design, PC, 1675 Larimer Street, Suite 480, Denver, CO 80202, which Contract will by reference be made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void, otherwise it shall remain in full force and effect; subject however, to the following conditions:

1. A claimant is defined as one having a direct Contract with the Principal or with a Subcontractor of the Principal for labor, material or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental of equipment directly applicable to the Contract.
2. The above-named Principal and Surety hereby jointly and severally agree with Thornton that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) Calendar Days after the date on which the last of such claimant's Work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. Thornton shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:
  - a. Unless claimant, other than one having a direct Contract with the Principal, shall have given written notice to any two (2) of the following: the Principal, Thornton, or the Surety above named, within ninety (90) Calendar Days after such claimant did or performed the last of the Work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy, the amount claimed and the name of the party to whom the materials were furnished, or for whom the Work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Thornton, or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid Project is located, save that such service need not be made by a public officer.
  - b. After the expiration of six (6) months following the date on which Principal ceased Work on said Contract, it being understood; however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
  - c. Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the Project, or any part thereof is situated, or in the United States District Court for the District in which the Project, or any part thereof, is situated, and not elsewhere.
4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens or claims which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Surety

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

## ***BID PROPOSAL***

**To: City of Thornton**  
**Attention: Contract Administration**  
**9500 Civic Center Drive**  
**Thornton, CO 80229**

The undersigned Bidder, having examined the Specifications, Drawings, and all other documents contained in the Contract Documents, and having examined the Project site where the Work is to be performed, and having familiarized itself with all local conditions affecting the Work and having knowledge of the cost of Work, hereby proposes to execute and perform the Contract set forth in these Contract Documents, of which this Bid Proposal forms a part, and shall do the Work therein described in accordance with the terms and conditions therein set forth, and shall furnish all required labor, Materials, Equipment, tools, Construction Equipment, transportation and services for said Work, and shall pay all applicable fees, permits, taxes, and other incidental costs, all in strict conformity with the Contract Documents, for an amount computed upon the basis of the quantity of Work actually performed at the Bid Proposal prices provided below.

It is understood that any listed quantities of Work to be performed at Unit Prices, except those items specified to be paid at plan quantity, are approximate only and are intended principally to serve as a guide in evaluating Bid Proposals, and the Work will be paid by measuring actual quantities and multiplying the actual quantity by the agreed upon Unit Price. Listed quantities of Work specified to be paid at plan quantity are given as a convenience to assist the Bidder during the bid process and are approximate only, and both Bidder and Thornton agree that regardless of the actual final in place quantity the items of Work specified to be paid at plan quantities will not be measured for payment, and payment will be made based on the plan quantity specified multiplied by the agreed upon Unit Price.

It is further agreed that any quantities of Work to be performed and Material to be furnished at Unit Prices may be increased or decreased as may be considered necessary, in the opinion of Thornton, to complete the Work fully as planned and contemplated and that all quantities of Work or Materials, whether increased or decreased, are to be performed at the Unit Prices set forth in the Bid Proposal, except as provided for in the General Conditions.

It is further agreed that any Lump Sum Prices may be increased to cover Changed or Extra Work ordered by Thornton, but not shown on the Drawings or required by the Specifications, in accordance with the provisions of the General Conditions. Similarly, they may be decreased to cover deletion of Work so ordered.

It is further agreed that any combination of Unit Prices and Lump Sum Prices contained in the Bid Proposal, as applicable, may be used by Thornton to price Changed or Extra Work regardless of the scope or quantity of the change, except as may be otherwise provided for in the General Conditions.

By submitting this Bid Proposal, the Bidder acknowledges its understanding that the Bid process is solely intended to serve the public interest, in achieving the highest quality of services and goods at the lowest price and that no right, interest, or expectation shall vest or inure to the benefit of a Bidder as a result of any reliance or participation in the process. In submitting this Bid Proposal, it is understood that the right is reserved by Thornton to reject any or all Bid Proposals and waive informalities or irregularities in Bid Proposals.

The undersigned further agrees, if awarded the Contract for the Work included in this Bid Proposal, to begin and to complete the Work contemplated in accordance with all the conditions set forth in the Contract Documents.

The undersigned has carefully checked the Unit Prices, Lump Sum Prices, and Extended Prices inserted by it and understands that they are the Bidder's sole responsibility and that Thornton will not be responsible for any errors or omissions on the part of the undersigned Bidder in preparing this Bid Proposal.

The undersigned certifies that this Bid Proposal is genuine, not collusive, or made in the interest or behalf of any person not named as provided in the Instruction to Bidders and that the undersigned has not, directly or indirectly, induced or solicited any other Bidder, or induced any other person, firm or corporation to refrain from submitting a Bid Proposal, and the undersigned has not in any manner sought by collusion to secure for itself an advantage over any other Bidder.

The undersigned has attached a certified check without endorsement or conditions, payable to the City of Thornton, in the sum of five percent (5%) of the Bid Proposal, drawn on a bank which is a member of Federal Reserve System or which is a member of the Federal Deposit Insurance Corporation, or attach a cashier's check for five percent (5%) of the total Bid Proposal amount, or attach a Bid Bond written by a surety company approved by Thornton and listed in the most recent Federal Register Circular 570 or having a current Best's rating of A or better for five percent (5%) of the total Bid Proposal amount.

It is expressly understood that the check or bond is given as security and as a guarantee that the Bidder will, if awarded the Contract, timely execute the Contract, furnish an acceptable Performance Bond and Labor and Material Payment Bond on the forms included in the Contract Documents if required, furnish the required insurance, and furnish the other documents required by the Contract. The undersigned expressly acknowledges that the amount thereof represents the agreed damages that Thornton will sustain if the Bidder fails or refuses to execute and deliver within ten (10) Calendar Days from and including the date of the Notice of Award, the Contract, the required Performance Bond and Labor and Material Payment Bond, the required insurance, and the other documents required by the Contract, in which event said check or bond shall be immediately payable to and retained by Thornton.

The Bidder grants Thornton the right to hold the lowest three (3) Bid Proposals received, together with the accompanying Bid Proposal securities, for a period of ninety (90) Calendar Days after the date of submission of the Bid Proposals and to delay Notice of Award until the end of such time period.

The undersigned Bidder further grants Thornton the right to award this Contract on the basis of any possible combinations of base Bid Proposal and add or deduct alternate(s), if any, that best suits Thornton's needs.

The undersigned Bidder further agrees to furnish to Thornton all such information and data deemed by Thornton to be necessary to determine the ability of Bidder to perform the Work, and within two (2) Business Days of Bid Proposal submission, shall provide Thornton a completed Reference Authorization and Release Form, a copy of which is included herein.

The undersigned Bidder further agrees to comply with Colorado's statutes. Pursuant to Colorado Law, if Bidder's form of business is a sole proprietor or individual, Bidder hereby agrees that upon receipt of Notice of Award, Bidder will complete and file with Thornton a sworn Affidavit, the form of which will be provided by Thornton, affirming that Bidder is lawfully present in the United States and to provide acceptable identification as described in the Affidavit. Furthermore, if Bidder's Work involves provision of a service and not provision of a specific end product, Bidder, upon being awarded the Work, hereby certifies the following:

1. Bidder, as of the date of Notice of Award, shall not knowingly employ or contract with an illegal alien who will perform Work under this Contract.
2. Bidder shall participate in either the Employment Verification Program (E-Verify Program) created in Public Law 104-208, as amended and expanded in Public Law 108-156, as amended, and jointly administered by the United States Department of Homeland Security and the Social Security Administration, or its successor program, or the Department Program, which is the employment verification program established by the Colorado Department of Labor and Employment (the "Department") pursuant to C.R.S. §§ 8-17.5-102(5)(c) in order to confirm the employment eligibility of all employees who are newly hired for employment to perform Work under the Agreement.
3. Bidder has confirmed the employment eligibility of all employees who are newly hired for employment to perform Work under the Contract through participation in either the E-Verify Program or the Department Program.
4. Bidder shall not enter into a contract with a Subcontractor that fails to certify to Bidder that the Subcontractor shall not knowingly employ or contract with an illegal alien to perform Work under this Contract.
5. Bidder shall not use either the E-Verify Program or the Department Program procedures to undertake pre-employment screening of job applicants while this Contract is being performed.

6. If Bidder obtains actual knowledge that a Subcontractor performing Work under this Contract employs or contracts with an illegal alien, Bidder shall:
  - a. Notify the Subcontractor and Thornton within three (3) Calendar Days that Bidder has actual knowledge that the Subcontractor is employing or contracting with an illegal alien; and
  - b. Terminate the subcontract with the Subcontractor if within three (3) Calendar Days of receiving the notice required pursuant to this subparagraph, the Subcontractor does not stop employing or contracting with the illegal alien; except that Bidder shall not terminate the subcontract with the Subcontractor if during such three (3) Calendar Days the Subcontractor provides information to establish that the Subcontractor has not knowingly employed or contracted with an illegal alien.
  
7. Bidder shall comply with any reasonable request by the Colorado Department of Labor and Employment made in the course of an investigation that the Department is undertaking pursuant to the authority established by C.R.S. § 8-17.5-102(5).
  
8. If Bidder violates any provision of this certification, Thornton may terminate this Contract for breach of Contract. If this Contract is so terminated, Contractor shall be liable for actual and consequential damages suffered by Thornton.

The Bidder's attention is directed to the fact that all applicable state and federal laws, county and city ordinances, licenses and regulations of all authorities having jurisdiction over the Project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though herein written out in full.

The undersigned Bidder acknowledges that the City of Thornton Charter Section 7.4 prohibits Thornton from making Contracts with firms which employ certain relatives of Thornton employees unless the City Council determines that the making of such a Contract is in Thornton's best interest. For the purposes of this Charter Section, relative shall include domestic partners. The undersigned Bidder attests to the following:

No City Council Member, member of a board or commission, Municipal Judge, City Manager, City Attorney, Utilities Attorney, Utilities Director, or employee of the City of Thornton or any such person's family member, domestic partner, or person assuming a relationship being the substantial equivalent of the above, has an existing or pending, direct or indirect, financial, pecuniary or personal interest in the Bidder or with this Invitation for Bid Proposals, except as follows (list, if none state "None"): \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

The undersigned Bidder acknowledges the following Addenda (if none, so state):

Addendum #	Dated	Initial
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

The undersigned Bidder expressly agrees to the following provisions:

- A. That the Bid Proposal stated shall include the utilization of the Subcontractor(s) and Supplier(s) listed in the List of Subcontractors/Suppliers below.
- B. That the Subcontractor(s) and Supplier(s) listed below shall not be changed by the Bidder unless the Subcontractor(s) or Supplier(s) are unable to perform due to bankruptcy, labor strikes, or termination of business by the Subcontractor(s) or Supplier(s).
- C. That any Subcontractor(s) and Supplier(s) shall be subject to Thornton’s approval.

List below any Subcontractor(s) and Supplier(s) whose contract(s) exceeds ten thousand dollars (\$10,000).

SUBCONTRACTOR/SUPPLIER	TYPE OF WORK
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____

- 10. \_\_\_\_\_
- 11. \_\_\_\_\_
- 12. \_\_\_\_\_
- 13. \_\_\_\_\_
- 14. \_\_\_\_\_
- 15. \_\_\_\_\_

Attach additional sheet if more space is needed.

## SCHEDULE OF CONTRACT PAY ITEMS AND PRICES

**Phase 4 Traffic Signal System Improvements, Thornton Project No. 13-421C, CDOT  
PROJECT NO. AQC M286-043, CDOT PROJECT CODE 2017-143**

**SCHEDULE OF CONTRACT PAY ITEMS AND PRICES  
THORNTON PHASE 4 SIGNAL IMPROVEMENT PROJECT  
THORNTON PROJECT NO. 13-421,  
CDOT AQC M286-043, CDOT PROJECT CODE 21729**

ITEM NO.	REF NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	EXTENSION
1	202	Removal of Sidewalk	20	SY		
2	202	Removal of Pull Box	1	EA		
3	202	Removal of Traffic Signal Controller Cabinet	5	EA		
4	203	Potholing	10	HR		
5	208	Erosion Log (12 Inch)	100	LF		
6	208	Aggregate Bag	100	LF		
7	208	Concrete Washout Structure	1	EA		
8	208	Storm Drain Inlet Protection (Type 1)	40	LF		
9	208	Storm Drain Inlet Protection (Type 2)	40	LF		
10	208	Removal and Disposal of Sediment (Labor)	20	HR		
11	208	Removal and Disposal of Sediment (Equipment)	20	HR		
12	208	Sweeping (Sediment Removal)	20	HR		
13	208	Erosion Control Supervisor	20	HR		
14	212	Seeding (Native)	0.1	ACRE		
15	212	Soil Conditioning	0.1	ACRE		
16	213	Mulching (Weed Free)	0.1	ACRE		
17	213	Mulch Tackifier	20	LB		
18	216	Soil Retention Blanket (Excelsior) (Biodegradable Class 1)	100	SY		
19	607	Fence (Plastic)	300	LF		
20	608	Concrete Sidewalk	20	SY		
21	613	4 Inch Electrical Conduit (Plastic)	50	LF		
22	613	Pull Box (30"x48"x24")	1	EA		
23	614	Traffic Signal Controller Cabinet	5	EA		
24	614	Uninterrupted Power Supply	5	EA		
25	614	Ethernet Switch	4	EA		
26	614	Ethernet Radio	22	EA		
27	614	Conflict Monitor	22	EA		
28	626	Mobilization	1	LS		
29	630	Traffic Control	1	LS		
30	700	F/A Minor Contract Revisions	1	FA		\$ 20,000.00
31	700	F/A Partnering	1	FA		\$ 1,000.00
32	700	F/A Fuel Cost Adjustment	1	FA		\$ 500.00
33	700	F/A Landscaping	1	FA		\$ 5,000.00
34	700	F/A Erosion Control	1	FA		\$ 1,000.00

# SCHEDULE OF CONTRACT PAY ITEMS AND PRICES CONT.

## SCHEDULE OF CONTRACT ITEMS AND PRICES

Total Bid Proposal \_\_\_\_\_ Dollars

\_\_\_\_\_ (Words) Cents

\$ \_\_\_\_\_  
(Numerals)

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

Firm Name: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Bidder's Legal Status: \_\_\_\_\_

State of Incorporation: \_\_\_\_\_

Firm's Address: \_\_\_\_\_

\_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

Witness: (Attest and Seal if Bid Proposal is by Corporation)

\_\_\_\_\_

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## ***BIDDER'S POST QUALIFICATIONS***

Must be submitted by the apparent successful Bidder within two (2) Business Days of notification by Thornton. Failure to do so may be cause for Thornton to determine that the apparent successful Bidder is non-responsive and may subject the apparent successful Bidder to forfeiture of its Bid Bond.

Submit to: City of Thornton, Contract Administration  
Address: 9500 Civic Center Drive, Thornton, CO 80229  
Attention: Keith Griess, Contract Administrator  
E-mail: [keith.griess@cityofthornton.net](mailto:keith.griess@cityofthornton.net)  
Fax: 303-538-7556

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# REFERENCE AUTHORIZATION AND RELEASE FORM

To: leave blank

\_\_\_\_\_ , A Corporation  
(Bidder) , A Partnership whose address is \_\_\_\_\_  
An Individual

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has submitted a Bid to the City of Thornton ("Thornton") for Phase 4 Traffic Signal System Improvements, Thornton Project No. 13-421C, CDOT Project No. AQC M286-043, CDOT Project Code 2017-143.

Bidder hereby authorizes Thornton to perform such investigation of Bidder as Thornton deems necessary to establish the qualifications, responsibility, including financial ability, responsiveness, and trustworthiness of Bidder. By its signature hereon, Bidder authorizes Thornton to obtain reference information concerning Bidder and releases the party providing such information named above and Thornton from any and all liability to Bidder as a result of any such reference information provided.

Bidder further waives any right to receive copies of reference information provided to Thornton. A copy of this executed Reference Authorization and Release Form may be used with the same effectiveness as an original.

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

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# POST-QUALIFICATION QUESTIONNAIRE

Contractor Name and Contact Information: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

1. How many years has your organization been in business as a General Contractor under the present firm's name? \_\_\_\_\_

2. How many years has your organization been in business under other business name(s)? \_\_\_\_\_ List other names: \_\_\_\_\_  
\_\_\_\_\_

3. If a corporation, answer the following:  
Date of incorporation: \_\_\_\_\_  
State of incorporation: \_\_\_\_\_  
President: \_\_\_\_\_  
Vice-President(s): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Secretary: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Treasurer: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. If a partnership, answer the following:  
Date of organization: \_\_\_\_\_  
Type of partnership: \_\_\_\_\_  
(General/Limited/Assoc)  
Name and address \_\_\_\_\_  
of all partners: \_\_\_\_\_  
\_\_\_\_\_

5. If other than a corporation or partnership, describe the organization form and provide the name and address of all principals:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. List the trades and percent of the total contract you normally perform with your own forces:

_____	_____ %
_____	_____ %
_____	_____ %
_____	_____ %
_____	_____ %

Percent of total contract by dollar amount typically self-performed: \_\_\_\_\_ %

7. Have you ever failed to complete any work awarded to you? \_\_\_\_\_ If so, indicate when, where, and why below. Have you ever been declared in default on a contract? \_\_\_\_\_ If "yes", indicate when, where, and why below.

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8. Has any director, officer, or partner of your firm ever been a director, officer, or partner of another organization that failed to complete a construction contract? \_\_\_\_\_ If "yes", state circumstances below.

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9. Has your firm ever failed to be awarded a contract on which your firm was low bidder? \_\_\_\_\_ If "yes", state when, where, and why below.

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10. Has your firm in the past two (2) years, or is your firm at the present time, late in the completion of any projects for a government agency? \_\_\_\_\_ If "yes", list all applicable projects and state when, where, and why below.

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11. Liquidated Damages and/or disputes: List all government or agency projects in the last two (2) years where Liquidated Damages were or may be assessed, and where substantial disputes on projects occurred or are currently occurring. Attach a detailed explanation, using an additional sheet if necessary.

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12. Has your firm's bonding company been contacted in the past two (2) years concerning either the late completion of a project or the non-payment of subcontractors or suppliers? \_\_\_\_\_ If "yes", explain the circumstances in detail.

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13. List all major construction projects your firm currently has under contract in Colorado on this date:

Project Name \_\_\_\_\_

Owner \_\_\_\_\_ Phone Number \_\_\_\_\_

Architect/Engineer \_\_\_\_\_ Phone Number \_\_\_\_\_

Contract Amount \_\_\_\_\_ Contract Date \_\_\_\_\_

Percent Complete \_\_\_\_\_ Original Scheduled Completion Date \_\_\_\_\_

Change Order Amount to Date \_\_\_\_\_ Current Scheduled Completion Date \_\_\_\_\_

Project Name \_\_\_\_\_  
Owner \_\_\_\_\_ Phone Number \_\_\_\_\_  
Architect/Engineer \_\_\_\_\_ Phone Number \_\_\_\_\_  
Contract Amount \_\_\_\_\_ Contract Date \_\_\_\_\_  
Percent Complete \_\_\_\_\_ Original Scheduled Completion Date \_\_\_\_\_  
Change Order Amount to Date \_\_\_\_\_ Current Scheduled Completion Date \_\_\_\_\_

Project Name \_\_\_\_\_  
Owner \_\_\_\_\_ Phone Number \_\_\_\_\_  
Architect/Engineer \_\_\_\_\_ Phone Number \_\_\_\_\_  
Contract Amount \_\_\_\_\_ Contract Date \_\_\_\_\_  
Percent Complete \_\_\_\_\_ Original Scheduled Completion Date \_\_\_\_\_  
Change Order Amount to Date \_\_\_\_\_ Current Scheduled Completion Date \_\_\_\_\_

Project Name \_\_\_\_\_  
Owner \_\_\_\_\_ Phone Number \_\_\_\_\_  
Architect/Engineer \_\_\_\_\_ Phone Number \_\_\_\_\_  
Contract Amount \_\_\_\_\_ Contract Date \_\_\_\_\_  
Percent Complete \_\_\_\_\_ Original Scheduled Completion Date \_\_\_\_\_  
Change Order Amount to Date \_\_\_\_\_ Current Scheduled Completion Date \_\_\_\_\_

Project Name \_\_\_\_\_  
Owner \_\_\_\_\_ Phone Number \_\_\_\_\_  
Architect/Engineer \_\_\_\_\_ Phone Number \_\_\_\_\_  
Contract Amount \_\_\_\_\_ Contract Date \_\_\_\_\_  
Percent Complete \_\_\_\_\_ Original Scheduled Completion Date \_\_\_\_\_  
Change Order Amount to Date \_\_\_\_\_ Current Scheduled Completion Date \_\_\_\_\_

(Attach additional sheet if necessary.)

14. List major construction projects similar to this Project that your firm has completed in Colorado in the past three (3) years. Bidder must have significant, recent, similar, experience to be considered qualified.

Project Name \_\_\_\_\_  
Owner \_\_\_\_\_ Phone Number \_\_\_\_\_  
Architect/Engineer \_\_\_\_\_ Phone Number \_\_\_\_\_  
Original Contract Amount \_\_\_\_\_ Final Contract Amount \_\_\_\_\_  
No. of Change Orders \_\_\_\_\_ Contract Date \_\_\_\_\_  
Original Completion Date \_\_\_\_\_ Actual Completion Date \_\_\_\_\_

Project Name \_\_\_\_\_  
Owner \_\_\_\_\_ Phone Number \_\_\_\_\_  
Architect/Engineer \_\_\_\_\_ Phone Number \_\_\_\_\_  
Original Contract Amount \_\_\_\_\_ Final Contract Amount \_\_\_\_\_  
No. of Change Orders \_\_\_\_\_ Contract Date \_\_\_\_\_  
Original Completion Date \_\_\_\_\_ Actual Completion Date \_\_\_\_\_

Project Name \_\_\_\_\_  
Owner \_\_\_\_\_ Phone Number \_\_\_\_\_  
Architect/Engineer \_\_\_\_\_ Phone Number \_\_\_\_\_  
Original Contract Amount \_\_\_\_\_ Final Contract Amount \_\_\_\_\_  
No. of Change Orders \_\_\_\_\_ Contract Date \_\_\_\_\_  
Original Completion Date \_\_\_\_\_ Actual Completion Date \_\_\_\_\_

Project Name \_\_\_\_\_  
Owner \_\_\_\_\_ Phone Number \_\_\_\_\_  
Architect/Engineer \_\_\_\_\_ Phone Number \_\_\_\_\_  
Original Contract Amount \_\_\_\_\_ Final Contract Amount \_\_\_\_\_  
No. of Change Orders \_\_\_\_\_ Contract Date \_\_\_\_\_  
Original Completion Date \_\_\_\_\_ Actual Completion Date \_\_\_\_\_

Project Name \_\_\_\_\_  
Owner \_\_\_\_\_ Phone Number \_\_\_\_\_  
Architect/Engineer \_\_\_\_\_ Phone Number \_\_\_\_\_  
Original Contract Amount \_\_\_\_\_ Final Contract Amount \_\_\_\_\_  
No. of Change Orders \_\_\_\_\_ Contract Date \_\_\_\_\_  
Original Completion Date \_\_\_\_\_ Actual Completion Date \_\_\_\_\_

(Attach additional sheet if necessary.)

15. List the years of construction experience of all the principal individuals in your organization located in Colorado. Identify those individuals that will be assigned to this Project by indicating the percent of their time to be dedicated to this Project.

<u>Name</u>	<u>Position</u>	<u>Yrs. Experience</u>	<u>% Time</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

16. Provide resumes of your proposed Project Manager and Superintendent and include references for each from owners and consulting engineers or architects for their last three (3) projects. Of the similar completed projects listed previously, indicate which were worked on by your proposed Project Manager and Superintendent.

17. Include a proposed project organization chart showing key staff, their area of responsibility, and the date they will be available to begin Work on the Project.

18. List major equipment available for this Project:

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

19. Indicate the firm's resources available for cost estimating, scheduling, project management (document and issue tracking), procurement, and cost tracking, including software utilized and the staff member(s) assigned to this Project that have expertise in its use.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



22. Safety Record:

- a. Provide the firm's Incidence rate of non-fatal occupational injuries and illnesses per one hundred (100) full time workers (Total Recordable Cases or TRC rate) as defined by the Bureau of Labor Statistics Table 1 over the prior three (3) year period. Refer to <http://www.bls.gov/iif/oshsum.htm>, Yr. 1\_\_\_\_, Yr. 2\_\_\_\_, Yr. 3\_\_\_\_\_.
- b. Provide the Incidence rate of non-fatal occupational injuries and illnesses per one hundred (100) full time workers (Total Recordable Cases or TRC rate) as defined by the Bureau of Labor Statistics Table 1 over the prior three (3) year period for the projects on which the proposed Superintendent or Project Manager worked (depending on who is assigned site safety responsibility in the Contractor's organization). Yr. 1\_\_\_\_, Yr. 2\_\_\_\_, Yr. 3\_\_\_\_\_.
- c. Provide the firm's Workers' Compensation Experience Modification Rate Factor (EMRF) for the prior three (3) years from the National Council on Compensation Insurance, Inc. (NCCI, [www.ncci.com](http://www.ncci.com)). \_\_\_\_\_  
\_\_\_\_\_
- d. Indicate the number of fatal accidents that occurred on any of your firm's projects in the last three (3) year period. \_\_\_\_\_. Describe circumstances and whether any corrective action was required or if any fines were levied by OSHA or other governmental agency.

A TRC rate in excess of the national average in any given year for the applicable industry or an EMRF in excess of 1.2 in any given year may be cause for disqualification.

23. Describe any experience by the firm or key staff with partnering, both formal and informal. Highlight the partnering experience by key staff proposed for this Project. Indicate if the firm plans to conduct any partnering sessions on this Project.

\_\_\_\_\_  
\_\_\_\_\_  
(Use additional sheet if necessary.)

24. List states and categories in which the firm is legally qualified or licensed to do business.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

25. Bank References:

- a. Provide the contact name, bank name and address, and telephone number of the firm's banking references.

_____	_____	_____
_____	_____	_____
_____	_____	_____

- b. Provide a letter of reference from the firm's primary operating bank.

26. Trade References - Provide the contact name, company name and address, and telephone number of subcontractors and suppliers frequently used by your firm:

_____	_____	_____
_____	_____	_____
_____	_____	_____

27. Bonding Company:

- a. Provide the name, address, and telephone number of the firm's bonding agent.

\_\_\_\_\_

\_\_\_\_\_

- b. Provide a letter from the bonding agent indicating the firm's bonding capacity and that it is adequate to undertake this Work. Indicate what portion remains of this bonding capacity at the time of Post-qualification submittal.

28. Insurance Company:

- a. Provide the name, address, and telephone number of the firm's insurance agent(s) and the names and ratings of the insurance companies.

Worker's Comp: \_\_\_\_\_

General Liability: \_\_\_\_\_

Builder's Risk and/or Installation Floater: \_\_\_\_\_

Auto Liability: \_\_\_\_\_

Other: \_\_\_\_\_

- b. Provide certificate(s) of insurance outlining coverage and policy limits.

- c. Indicate if any of the coverages can be increased, and whether there are any current claims that will affect coverage limits available to Thornton for this Project.

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29. In a separate sealed envelope labeled with the Project name and number, the firm's name, the date submitted, and marked "CONFIDENTIAL – CLAIM AND LITIGATION RECORD", provide the following:

- a. A list of the construction projects, along with address and telephone number of the owner, to which the firm or any of the firm's directors, partners, or officers were party in their role as director, partner, or officer of the firm, during the previous ten (10) years if such projects were the subject of formal arbitration or litigation of any type. If the dispute resulted in a confidential settlement agreement, the names of the parties involved may be redacted, but the project must be listed.
- b. Indicate if any judgments have been entered within the last five (5) years against your firm or against any of the firm's directors, partners, or officers related to their role in the performance of construction projects with the firm or with prior construction firms. If so, provide a list of Judgment Creditors, where docketed and date, and amount for each. Indicate if any of the judgments included an award of attorneys' fees as a sanction. If yes, explain why.
- c. A list of current lawsuits that are pending at this time against the firm, or against any of the directors, partners, or officers of the firm related to their role in the performance of construction projects with the firm. Indicate the parties and summarize the nature of the dispute.

30. Was the firm or any of its directors, partners, or officers ever suspended, debarred, or determined to be ineligible from entering into Contracts with any federal, state, or local governmental entity? \_\_\_\_\_ If "yes", give details:

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31. Criminal Convictions: Indicate if the firm, or any of its officers, employees, subsidiary companies, or affiliates has pled guilty, nolo contendere, or been convicted of any crimes, including petty offenses, misdemeanors, or felonies, in any jurisdiction in the United States, related to perjury, bidding, labor, taxes, wages, safety, environmental, or performance of construction contracts within the past five (5) year period.

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32. Financial Capacity:

By submission of the Post-Qualification Affidavit, the bank letter of reference, and the bonding company letter required herein, the Bidder certifies that it has adequate financial capacity to perform the Work in accordance with the Contract Documents.

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# **SPECIAL CONDITIONS**

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## **1. ACCESS BY PRIVATE PROPERTY OWNERS**

Contractor shall insure that property owners' access from the street to their property is not restricted except during limited times during Contractor's normal working hours. When access to a private property cannot be continuously maintained during normal working hours, the Contractor must personally provide written and verbal notice to the affected property owners a minimum of twenty-four (24) hours in advance of the closure. Emergency vehicle access shall not be blocked at any time for any reason.

## **2. ACCESS TO PUBLIC FACILITIES**

The Contractor shall assure that safe access to public facilities including, but not limited to, parking lots, picnic shelters, playgrounds, and pedestrian ways, is provided. Any disruption to the public's normal use of such facilities shall not occur without the express written permission of Thornton.

## **3. APPROPRIATIONS**

Pursuant to C.R.S. § 24-91-103.6, as may be amended from time to time, the amount of money appropriated by Thornton for this Contract is equal to or in excess of the original Contract Price. No Change Order or other form of order or directive by Thornton requiring additional compensable Work to be performed, which Work causes the aggregate amount payable under the Contract to exceed the amount appropriated for the original Contract, shall be issued unless the Contractor is given written assurance by Thornton that lawful appropriations to cover the cost of the additional Work has been made or unless such Work is covered under the remedy-granting provision of this Contract. Award will be made only if/when Appropriation is made.

In the event that the Thornton City Council reduces the appropriation or fails to appropriate additional funds should they be needed for the continuation of this Contract, Thornton may, upon prior written notice as provided for herein, terminate this Contract without penalty and thereupon be released of further obligations pursuant thereto.

## **4. CLEANUP**

The Contractor shall make every effort to contain its operations to the smallest area possible. All areas which have been disturbed shall be returned to their original grade and condition, or better. Contractor shall clean all streets and sidewalks affected by its construction in accordance with Thornton's Standards and Specifications for the Design and Construction of Public Improvements, Latest Edition. Contractor shall have Construction Equipment available on the Project site, including sweepers, hoses and other items, as necessary, to clean up at least on a daily basis during construction, or as required or otherwise directed by Thornton.

## 5. CONCRETE SPECIFICATIONS

This specification represents Thornton's minimum standards in regards to installation, movement, cracking, finish, replacement requirements, and overall appearance of concrete flatwork. This specification is not a complete specification, but is intended to supplement Project specific specifications. In the event of a conflict between this specification and any other project or nationally recognized specification including, but not limited to, ADA, AASTHO, COT standards, and CDOT standards, the more stringent specification shall apply.

This specification is applicable for exterior flatwork including, but not limited to, sidewalk, curb and gutter, cross pans, handicap ramps, and general exterior flatwork such as plazas. This specification is not applicable to bus pads, railroad crossings, or road pavements.

The following minimum standards shall apply to all Work performed. Any concrete not within these minimum standards shall be replaced or, in Thornton's sole discretion, ground smooth. The Contractor shall perform all repair or replacement Work at no cost to Thornton.

### A. Deviation from Design Slope

Deviation from design slope in any direction shall not exceed plus or minus 0.25%. Notwithstanding the foregoing, in no case shall deviation from design slope cause water to pond.

### B. Surface Tolerance within Design Slope

#### 1. Deviation of Pavement in Longitudinal Direction:

Except at curb and gutter transitions to inlets, the gap below a ten foot (10') straightedge resting longitudinally on high spots shall not exceed one-quarter inch ( $\frac{1}{4}$ "). On tangent roadway alignments and curves with greater than one thousand feet (1,000'), and on sharp vertical curves and horizontal curves with radius of one thousand feet (1,000') or less. The total maximum allowable deflection shall be 0.25 inch from the edge of the straightedge with allowance made for curve deflection. Should the length of the longitudinal segment or segments being measured not accommodate a ten foot (10') straightedge, a shorter straightedge shall be used and the allowable gap shall be proportioned accordingly.

#### 2. Deviation of Pavement in Transverse Direction:

The gap below a ten foot (10') straightedge resting on high spots shall not exceed one-quarter inch ( $\frac{1}{4}$ "). Should the width of the transverse direction being measured not accommodate a ten foot

(10') straightedge, a shorter straightedge shall be used and the allowable gap shall be proportioned accordingly.

3. Deviation in Surface Tolerance of Ramps, Sidewalks, Curb and Gutter, and Intersection Cross Pans:

In any direction, the gap below a ten foot (10') straightedge resting on high spots shall not exceed one-quarter inch ( $\frac{1}{4}$ "). Should the length of the direction being measured not accommodate a ten foot (10') straightedge, a shorter straightedge shall be used and the allowable gap shall be proportioned accordingly.

C. Movement of ramps, sidewalks, curb and gutter, and intersection crosspan occurring after placement, but before the end of the Warranty Period:

1. Lateral, (horizontal) movement shall not exceed one-quarter inch ( $\frac{1}{4}$ ") from original approved lines.
2. Differential settlement or heaving, in any direction, within a monolithic segment or between adjacent segments separated by a control joint, expansion joint, or construction joint, shall not exceed one-quarter inch ( $\frac{1}{4}$ ") in any ten foot (10') length.

Any concrete not within the one-quarter inch ( $\frac{1}{4}$ ") tolerance shall be replaced or ground smooth at Thornton's sole option, by the Contractor at no cost to Thornton. Notwithstanding the above, any settlement or heaving that causes water to pond shall be cause to remove and replace, or with Thornton's approval to grind the concrete, to restore proper drainage.

D. Cracks

All concrete shall be installed with tooled or saw cut control joints meeting requirements of the Project specifications and/or Thornton standards. Joints at construction joints shall be tooled. Joints shall be tooled or cut while concrete is still green and prior to the appearance of any shrinkage cracks and shall be made to a depth of at least one-quarter inch ( $\frac{1}{4}$ ") of the total thickness of the concrete. Cracks of any size, width, or length that does not fall within the width of the tooled or saw cut control joint are not acceptable. All concrete panels or segments with cracks not within the tooled or saw cut joints shall be replaced by the Contractor at no cost to Thornton.

E. Damaged Concrete

All chipped, scratched, grooved, spalled, pitted, honeycombed, vandalized, or concrete damaged in any way shall be replaced by the Contractor at no additional cost to Thornton.

F. Surface Finish

1. The Contractor shall screed, float, and trowel smooth all concrete prior to final finish. The surface finish of all concrete shall be uniform, even, level, and esthetically pleasing as shall be determined by Thornton. The quality of the surface finish shall be equivalent to that routinely achievable by a highly competent concrete finisher comparable to a journeyman skill level.
2. All concrete flatwork shall have light broom finish unless otherwise specified. The broom grooves shall be straight to a tolerance of one-half inch (1/2") maximum lateral deviation (one-quarter inch [1/4"] either side of a straight edge) in any five foot (5') length and not more than one sixteenth inch (1/16") in depth. The Contractor shall clean the broom between each pass so that broom finish is clean, consistent, and esthetically pleasing. If concrete finish becomes rough, uneven, deeply grooved, or in any way visually unpleasing in the sole opinion of Thornton, the Contractor shall replace the affected panels at no cost to Thornton.

G. Replacement of all Defective Concrete

All replaced concrete shall be uniformly tied into the existing concrete on each side of the replaced concrete section and shall adhere to all specifications and tolerances. Removal of concrete for replacement shall be to the nearest existing control joint, construction joint, or expansion joint in either direction, or if prior approval is obtained from Thornton to a new saw cut joint; provided however, no resulting sidewalk or curb and gutter segments shall be less than five feet (5') from control joint to control joint in length. All edges shall be saw cut cleanly with no chips or spalling in existing concrete to remain. Saw cut edges shall be parallel and perpendicular to the existing work. Saw cut joints shall not over cut into existing material to remain. Should any concrete become chipped, cracked, or damaged in any way during removal, the Contractor shall remove and replace this damaged concrete back to the next control joint at no additional cost to Thornton. Curb and gutter replacement and segments shall be tied to existing curb and gutter on each side of the replaced segment with two (2) dowels (#4 rebar x two foot [2'] long), one (1) placed under the gutter section and one (1) placed under the curb section of the repair. These dowels will be epoxy anchored into the existing curb and gutter by means of drilling horizontally a one foot (1')

long hole with a diameter as recommended by the epoxy manufacturer for #4 rebar and anchoring the dowels in the hole using Hilti HY-150 or approved equal epoxy adhesive. The remaining one foot (1') of the dowel will be embedded in the replacement curb and gutter section. The dowels will be evenly spaced in the pan section of the curb and gutter so as to provide a minimum of two and one-half inches (2 ½") of concrete cover on all sides.

#### H. Curing and Weather Protection

All concrete shall be cured and protected from the weather per Project specifications or per Thornton Standard Specifications sections 607 and 608, whichever is more stringent.

### 6. CONTINUATION OF UTILITY SERVICE

Utility service shall be maintained to all areas at all times during construction of the Work, except when it is necessary to shut down a line to make a connection with a new line. Residents shall be given twenty-four (24) hours written and verbal notice by the Contractor when it is known that their service will be interrupted. The appropriate Fire Rescue Authority shall be kept advised of the status of all fire hydrants affected by any Work.

### 7. CONTRACT SIGNATURE

The Contractor shall return all signed Contracts with W-9 Forms, all appropriate Bonds, Insurance Certificates, and Additional Insured Endorsements **within ten (10) Calendar Days of receipt of Notice of Award.**

### 8. CONTRACTOR'S DAILY SITE REPORTS

The Contractor shall submit a Daily Site Report to Thornton by 8:00 a.m. each Work day for the previous Work day. If the Contractor fails to comply with this requirement, Thornton may reject any pending Applications for Payment until the Contractor submits all reports that are due. The report shall, at a minimum, describe:

- A. Type(s), location(s), quantity(s), and progress of Work performed consistent with the Schedule of Contract Items and Prices as defined by the Contract Documents;
- B. On-site labor for craftsman by craft, Subcontractor, supervision, and office personnel, with activities performed, number of personnel and hours worked on each activity;
- C. Construction Equipment (number, type, and hours) utilized on-site and for which activities;

- D. Type(s) and quantity(s) of Material and Equipment incorporated into the Work;
- E. Unanticipated problems encountered;
- F. Climatic data (temperature, precipitation, wind) for morning and afternoon;
- G. Accidents;
- H. Damage to in-place Work;
- I. Materials or Equipment received at the Project site;
- J. Results of any testing;
- K. Any unforeseen conditions or any Work which Contractor believes may be eligible for additional compensation or extra time. If Contractor notes any Work which it believes may be eligible for additional compensation or extra time, Contractor shall obtain Thornton's Representative's initials and date on the relevant section of the Daily Site Report prior to submission to Thornton and shall immediately follow the procedures described in the Contract under Changed or Extra Work, Claims for Extra Costs, and/or Requests for an Extension of the Contract Time. Thornton's Representative's initials on the Daily Site Report shall not constitute approval of any claim for extra cost or time, but shall merely indicate the date the Contractor knew or should have known of a potential claim; and
- L. Other notable events.

## **9. CONTRACTOR'S SCHEDULE OF WORK**

The Contractor shall submit for review by Thornton, within fourteen (14) Calendar Days from Notice of Award, its baseline Schedule of Work in graphic bar chart form ("Schedule of Work"). This Schedule of Work shall be the Contractor's working schedule and shall be used to plan, organize, and execute the Work, record and report the progress of the Work, and forecast remaining Work. The Contractor shall be responsible for assuring that all Subcontractor Work and acquisition and delivery of Materials and Equipment, as well as its own Work, are included in the Schedule of Work and that the Schedule of Work represents a coordinated plan of Work. The Schedule of Work shall be periodically updated as required herein.

The Schedule of Work shall clearly show all intermediate Milestone Dates, Substantial Completion of the Work, procurement, fabrication, and construction activities, activity descriptions and durations, activity start and finish dates, specified phasing and sequencing requirements, and the proposed sequence of activities required for the orderly performance and completion of all elements of the

Work. The selection and number of activities shown on the Schedule of Work shall be subject to Thornton's review and acceptance. Activity durations shall be in Calendar Days, and in general, shall not be less than one (1) Calendar Day nor exceed fourteen (14) Calendar Days. Seasonal weather conditions, holidays, long lead time procurements, and other contingencies shall be considered in the planning and scheduling of the Work. The Contractor, at its option, may provide a Critical Path Method (CPM) schedule. The Contractor's attention is called to the General Conditions section titled Extension of Contract Time, which requires a CPM schedule analysis to substantiate a Request for Extension of Contract Time, even if the Contractor does not provide a CPM schedule for all of the Work.

Acceptance of the Schedule of Work by Thornton shall be a Condition Precedent to the making of any progress payments to the Contractor. Acceptance of the Schedule of Work by Thornton; however, shall not relieve the Contractor of its sole responsibility for the accuracy or feasibility of the Schedule of Work, or of its sole responsibility to complete the Work in accordance with the Contract Documents, nor does such acceptance by Thornton warrant, acknowledge or admit the reasonableness of durations, sequence, or logic of the Schedule of Work.

The Schedule of Work shall be monitored on a weekly basis and up-dated on a bi-weekly basis to incorporate actual start and finish dates, to record actual progress achieved during the reporting period, and to provide a more accurate schedule of the next period's Work. A copy of the then current up-dated Schedule of Work shall be submitted to Thornton with the Contractor's Application for Payment (as defined by Special Conditions - Measurement for Payment and General Conditions - Progress Payments). The then current Schedule of Work shall be accompanied by a written narrative, which shall address the status of major activities, the impact of Change Orders, the impact of delaying events, if any, activities that are behind schedule, and actions that are being taken to improve progress and attain compliance with the Contract Time for completion of the Work.

If at any time the Contractor's progress is determined by Thornton to be inadequate to meet Milestone Dates, achieve the Substantial Completion Date or otherwise comply with the Contract Documents, Thornton may notify the Contractor. Upon receipt of such notice, the Contractor shall immediately take all steps necessary to improve the progress of the Work so that it will meet the Milestone Dates and the Substantial Completion Date and otherwise comply with the Contract Documents. Thornton reserves the right to require the Contractor to prepare a well-defined recovery schedule in order to insure that Substantial Completion and/or any Milestone Dates are met.

If, within a reasonable period of time after notice is given as outlined above, Thornton determines that the Contractor has not sufficiently improved progress, Thornton may require the Contractor to, at the Contractor's expense and at no additional cost to Thornton, increase the Contractor's work force, work additional hours per day or days per week, increase the number of shifts per day, or increase the amount of Construction Equipment. Neither such notice by Thornton nor

Thornton's failure to issue such notice shall relieve the Contractor of its obligation to achieve the quality of Work and rate of progress required by the Contract Documents. The Contractor shall not be entitled to any additional compensation for acceleration or other costs it may incur.

#### **10. COORDINATION WITH OTHER ENTITIES**

The Contractor is advised that completion of this Contract may require coordination and cooperation with other trades, other contractors under separate contracts with Thornton involved in the Project or an adjacent project, or with other entities with an interest in the Project. Special efforts will be made by the Contractor not to interfere with or delay other trades or other contractors. The Contractor shall coordinate and cooperate with the following other contractors, trades, and entities at a minimum.

#### **11. DAVIS-BACON WAGE ACT/EQUAL OPPORTUNITY (When Required)**

The Contractor is required to comply with the Davis-Bacon Wage Act and Equal Opportunity Clause.

#### **12. DUMP/DISPOSAL SITES**

The Contractor shall be responsible for locating disposal and dump sites and making arrangements for disposal of all material removed from the Project site. This includes concrete, asphalt, unsuitable or unstable trench material, and any other trash, rubbish, or debris generated as a result of the construction of the Work. Asbestos or other hazardous materials will be disposed of in accordance with any and all applicable laws and regulations. The Contractor shall promptly submit copies of the disposal manifests to Thornton to demonstrate proper disposal of all materials.

#### **13. EMERGENCY PROTECTION**

- A. After the Notice to Proceed has been issued and continuing through Initial Acceptance, the Contractor shall be solely responsible for protection and safety of the public and the Contractor's/Subcontractor's workers – twenty-four (24) hours a day, seven (7) days a week. Contractor shall also be solely responsible after Initial Acceptance when the Contractor is on the Project site performing any Warranty Work.
- B. Whenever, in the opinion of Thornton, the Contractor has not taken sufficient precaution for the safety of the public or the protection of the Work, or of adjacent structures or property, and whenever, in the opinion of Thornton, an emergency has arisen and immediate action is considered necessary, then Thornton, with or without notice to the Contractor, may provide suitable protection by causing Work to be done and Materials and Equipment to be furnished and placed. The cost of such Work and

Materials and Equipment shall be borne by the Contractor, and if not paid on presentation of the bills, such costs will be deducted from any amounts due or that become due the Contractor. The performance of such emergency Work shall not relieve the Contractor of responsibility for any damage which may occur.

**14. EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES, FACILITIES, AND EASEMENT LOCATIONS**

- A. Contractor shall timely notify the "Notification Association" as may be required by Section 9-1.5-101, C.R.S., et. seq. regarding location of utilities and utility easements. Contractor shall request a written record of any information from all owners or operators, other than Thornton, of underground facilities (as defined in the statute) regarding the location of the specific underground facilities. Contractor shall comply with all requirements of Article 1.5 of Title 9, C.R.S. as it pertains to the "excavator".
- B. Contractor shall ascertain and notate the following on the Contractor's record drawings regarding all utilities, facilities, and utility easements:
  - 1. Shown correctly on Contract Documents (marked correctly in field, marked incorrectly in field);
  - 2. Shown within a range on Contract Documents (marked correctly in field, marked incorrectly in field);
  - 3. Shown incorrectly on Contract Documents (marked correctly in field, marked incorrectly in field);
  - 4. Not shown at all on Contract Documents, but marked in field; and
  - 5. Not shown on Contract Documents and not marked in field.
- C. Thornton shall not be responsible for the accuracy or completeness of any information provided by third-party owners or operators of underground utilities and facilities, whether shown on the Contract Documents and/or located in the field. Contractor shall be responsible to determine the location of all underground utilities and facilities. Thornton will reimburse the Contractor for such underground investigations, such as potholing, as defined in the Schedule of Contract Items and Prices.
- D. The center-line locations of underground utilities and facilities which are owned or operated by Thornton are shown in the Contract Documents. As part of the Work, Contractor shall, on behalf of Thornton, mark the actual location of such utilities and facilities on the Contractor's record documents to the extent the actual location varies from the location shown in the Contract Documents.

- E. In the event that the Contract Documents indicate that the location of any underground utilities or facilities are "unknown," "uncertain", or within a "range," the Contract Price shall include, and Contractor shall have full responsibility for, determining the exact location of such underground utilities and facilities by "potholing," "handwork," or such other means as may be necessary to determine the precise location without damaging them. The precise location of such underground utilities and facilities shall be incorporated into the record drawings maintained by the Contractor.
- F. Contractor shall notify Thornton immediately and request further direction if a utility or facility shown in the Contract Documents or marked in the field cannot be found by potholing or handwork within eighteen inches (18") horizontally from the exterior edges of the expected utility location.
- G. The cost of all of the following will be included in the Contract Price, and Contractor shall have sole responsibility for:
1. Reviewing and checking all information and data provided by all owners or operators of underground utilities and facilities;
  2. Locating all underground utilities and facilities within eighteen inches (18") horizontally from the exterior edges of the expected utility location shown or indicated in the Contract Documents or marked in the field;
  3. Coordination of the Work with the owners and operators of all underground utilities and facilities during construction; and
  4. The safety and protection of all such underground utilities and facilities and repairing any damage thereto resulting from the Work.
- H. If an underground utility or facility is uncovered or revealed, whether by field locates or by construction activities at or contiguous to the Project site, which was not shown or indicated in the Contract Documents, the Contractor shall promptly after becoming aware thereof and before further disturbing conditions effected thereby or performing any Work in conjunction therewith (except in emergency situations), identify the owner of such underground utility or facility and give written notice of the discovery to that owner, the "Notification Association," and Thornton. The location of all such underground utilities and facilities shall be incorporated into the record drawings maintained by Contractor. Thornton will promptly review the underground utility or facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of its existence. During such time, Contractor shall be solely responsible for the safety and protection of such underground utility or facility.

- I. Contractor shall be allowed an adjustment in the Contract Price, Contract Time, or both, to the extent that it is necessitated by the existence of any underground utility or facility that is not shown in the Contract Documents or is not field located within eighteen inches (18") horizontally from the exterior edges of the expected location, and that the Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated; provided, however, that the Contractor is performing the Work in the correct location, including both horizontal alignment and elevation, and in accordance with the Contract Documents, and has adequately performed required potholing or hand excavation in advance of construction. If Thornton and Contractor are unable to agree on entitlement to or the amount or length of any adjustment in the Contract Price or Contract Time, Contractor may make a claim in accordance with the claim procedures set forth in the Contract Documents. In no event shall Thornton be liable to Contractor for any claims, costs, losses, lost profits or damages incurred or sustained by Contractor on or in connection with any other project or anticipated project of Contractor.

## 15. FIELD INSPECTIONS AND QUALITY ASSURANCE TESTING SCHEDULING

Contractor must provide a minimum of two (2) Business Day's notice to Thornton and Thornton's Representative to schedule any required field inspections or tests. Failure to give two (2) Business Day's notice may result in a delay in the required inspection or testing. If two (2) Business Day's notice is not provided, the Contractor will not be entitled to a claim for additional Contract Time and will not be relieved of required acceptance inspections or tests of any finishing, Materials or Equipment.

## 16. GRADES AND ALIGNMENT

- A. Horizontal and vertical grades and alignment shall typically be determined by the existing top of curb and the existing top of sidewalk which generally define the width of the Work limits. The Contractor shall complete grading in accordance with the Drawings and in relation to existing curb and sidewalk grades and alignment. **If additional grade or alignment control is determined to be necessary, which is not otherwise the responsibility of the Contractor under the Contract Documents, then upon request by the Contractor, Thornton may establish control points to install the Work to the proper lines, grades, and dimensions indicted in the Drawings.** Although the best information available regarding existing utility alignments and grades is shown on the Drawings, the Contractor shall be responsible for verifying and determining exact locations dimensions, depths, and existing materials prior to construction. The Contractor shall verify locations of all existing underground utilities far enough in advance of new Work installation to allow for possible grade, depth, alignment, or Materials changes necessary to avoid conflicts.

- B. All horizontal and vertical control points established to control construction of the Work shall be carefully preserved by the Contractor and in case of their destruction or obliteration, such control points will be replaced at the Contractor's expense without reimbursement by Thornton.

**17. INSURANCE**

- A. The Contractor agrees to procure and maintain in force during the term of this Contract, at its own cost, the following coverages:

- 1. Workers' Compensation Insurance as required by the Labor Code of the State of Colorado and Employer's Liability Insurance. Evidence of qualified self-insured status may be substituted.
- 2. Commercial General Liability Insurance **(MINIMUM LIMITS)**
  - (a) Each Occurrence \$2,000,000.00
  - (b) Products/Completed Operations Aggregate \$2,000,000.00
  - (c) Personal and Advertising Injury \$2,000,000.00
  - (d) General Aggregate \$5,000,000.00

The policy shall include coverage protecting against bodily injury, property damage, and personal injury claims arising from the exposures of (1) premises-operations; (2) products and completed operations including materials designed, furnished and/or modified in any way by Contractor; (3) independent subcontractors; (4) contractual liability risk covering the indemnity obligations set forth in this Contract; and (5) where applicable, liability resulting from explosion, collapse, or underground exposures.

If the above insurance is written on a claims-made form, it shall continue for three (3) years following termination or completion of the Contract. The insurance shall provide for a retroactive date of placement prior to or coinciding with the effective date of the Contract.

- 3. Automobile Liability Insurance with minimum combined single limits for bodily injury and property damage of not less than one million dollars (\$1,000,000) for any one (1) occurrence. This insurance will insure against bodily injury and/or property damage arising out of the Contractor's operation, maintenance, use, loading or unloading of any auto including owned, non-owned, hired and employee autos.

4. Other insurance, with varying limits, which from time to time, may reasonably be required by the mutual agreement of Thornton and Contractor against other insurable hazards relating to the Work to be done, shall be provided.
- B. Contractor shall procure and maintain the minimum insurance coverages listed herein. Such coverages shall be procured and maintained with forms and insurers acceptable to Thornton. All coverages shall be continuously maintained to cover all liability, claims, demands, and other obligations assumed by the Contractor. If the above insurance is written on a claims-made form, it shall continue for three (3) years following termination or completion of the Contract. The insurance shall provide for a retroactive date of placement prior to or coinciding with the effective date of the Contract.
  - C. Contractor shall cause any Subcontractor to procure and maintain adequate levels of insurance coverage for Workers' Compensation, Commercial General Liability, Automobile Liability, and other coverages Contractor may require. Contractor shall prepare a schedule of required coverages for each of its Subcontractors and shall submit such schedule to Thornton prior to any Subcontractor commencing any Work under the Contract. Such coverages for any Subcontractors shall be procured and maintained with forms and insurers acceptable to Thornton. All coverages shall be continuously maintained to cover all liability, claims, demands, and other obligations assumed by the Contractor.
  - D. The Contractor shall name Thornton, its officer, agents, and employees as additional insureds for completed operations with respect to the Commercial General Liability and Auto Liability coverages above. A Certificate of Insurance shall be completed and forwarded, along with the Additional Insured Endorsements, to Thornton by the Contractor's Insurance Agent(s) as evidence that policies providing the required coverages, conditions, and minimum limits are in full force and effect and shall be subject to review and approval by Thornton **prior to commencement of any Work under this Contract**. The initial completed Certificate(s) of Insurance and Additional Insured Endorsement(s) shall include the Contractor's e-mail address for future inquiries and updates, and shall be sent to:

City of Thornton  
Keith Griess, Contract Administrator  
9500 Civic Center Drive  
Thornton, CO 80229-4326

Subsequent Certificates of Insurance indicating renewal of coverage(s) shall be sent to Thornton's Risk Manager at [certificatesofinsurance@cityofthornton.net](mailto:certificatesofinsurance@cityofthornton.net) no later than thirty (30) Calendar Days prior to the expiration date. Indicate "Renewal COI" in the e-mail subject line.

- E. Failure on the part of the Contractor or a Subcontractor to procure or maintain policies providing the required coverages, terms, conditions, and minimum limits shall constitute a material breach of Contract upon which Thornton may immediately terminate the Contract. At its discretion, Thornton may procure or renew any such policy or any extended reporting period and may pay any and all premiums in connection therewith, and all monies paid by Thornton shall be repaid by Contractor to Thornton upon demand, or Thornton may offset the cost of the premiums against any monies due or to become due to Contractor from Thornton. In addition to the foregoing, in the event any coverage required by the Contract expires or is cancelled during the term of the Contract, the Contractor shall be required, without further notice from Thornton, to suspend the Work at 12:00 A.M. on the date of insurance expiration or cancellation, and may not resume Work until the required insurance coverage is obtained and evidence of such coverage is submitted to and approved in writing by Thornton. The Contractor shall not be entitled to any compensation therefor, including compensation for delay. The Contract Time shall continue to run during such suspension period and the Contractor shall remain fully responsible for any liquidated damages that are assessed as a result of late performance. During such suspension of Work the Contractor remains responsible for all safety and protection of persons and property under the Contract.
- F. Thornton reserves the right to request and receive a certified copy of any policy and any endorsement thereto. Contractor agrees to execute any and all documents necessary to allow Thornton access to any and all insurance policies and endorsements pertaining to the Work.
- G. Every policy required above shall be primary insurance, and any insurance carried by Thornton, its agents, officers, or employees shall be excess and not contributory insurance to that provided by the Contractor. The Contractor shall be solely responsible for any deductible losses under the required policies and such deductible losses shall not be billed to Thornton.
- H. The Contractor shall not be relieved of any liability, claims, demands or other obligations assumed pursuant to the Contract by reason of its failure to procure and maintain insurance, or by reason of its failure to procure or maintain insurance in sufficient amounts, durations or types.

- I. The Parties understand and agree that Thornton, its agents, officers, and employees, are relying on, and do not waive or intend to waive by any provision of this Contract, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, C.R.S. 24-10-101 et seq., as may be amended, or otherwise available to Thornton, its agents, officers, or employees.
- J. The Contractor shall provide Products and Completed Operations Liability Insurance and name Thornton as an additional insured for a minimum of one (1) year after the date of Final Acceptance. The Contractor shall continue to provide evidence of such coverage by submission of a Certificate of Insurance to Thornton no later than thirty (30) Calendar Days prior to the scheduled expiration of such coverage. Additional Insured endorsements shall indicate applicable Products and Completed Operations coverage.
- K. All policies shall include a provision that the coverages afforded under the policies shall not be canceled, terminated, or materially changed prior to the natural termination date until at least thirty (30) Calendar Days prior written notice has been sent to Thornton. The Certificate(s) shall indicate the form used, if any, under which this provision is included.

## **18. LICENSES AND PERMITS**

- A. The Contractor shall be required to obtain, at its expense, all appropriate licenses from Thornton and/or other governing jurisdictions before the start of construction. A Master Plumber's License is required to perform Work on water and sanitary sewer mains in Thornton. Costs associated with obtaining a Master Plumber's License are the responsibility of the Contractor.
- B. Unless otherwise specified or indicated, all permits necessary for construction of the Work, including federal, state, county, and local permits shall be obtained by and paid for by the Contractor.
- C. If required, the Contractor shall obtain a Building Permit and/or a Traffic Control Permit prior to commencing any construction. The Contractor shall obtain a Construction Permit prior to any construction.
- D. Building Permits are obtained from the City of Thornton City Development Building Inspection Division located at 9500 Civic Center Drive, Thornton, CO 80229. Construction Permits are obtained from the City of Thornton City Development Planning Division located at 9500 Civic Center Drive, Thornton, CO 80229. Traffic Control permits are obtained from the City of Thornton Infrastructure Department Traffic Division, located at 12450 Washington Street, Thornton, CO 80241. There is no charge to the Contractor for these permits.

## 19. LOCATION OF PROJECT

The Work is located in the City of Thornton, Colorado.

## 20. MEASUREMENT FOR PAYMENT

- A. Thornton shall determine all quantities, amounts of Work done, and percentages complete under the Contract. To assist Thornton in determining quantities, the Contractor shall first measure and quantify all Work. At the time quantity measurements are made by the Contractor, Thornton's Representative may be present to verify and agree to such measurements. If Thornton or Thornton's Representative disagrees with Contractor's measurements, Thornton may, at its option, independently measure quantities and adjust payments in accordance with its measurements. The Contractor shall fully cooperate with Thornton in any such endeavor at no additional cost to Thornton.

From quantity figures agreed to by the Parties, it will be the Contractor's responsibility to prepare a monthly Application for Payment for the Work accomplished to date. If the Parties cannot agree on the quantities and the resulting amount of payment, Thornton may, but shall not be obligated to, prepare an Application for Payment on the Contractor's behalf.

Applications for Payment shall be submitted each month, or on another schedule as the Parties may agree upon, on the date designated by Thornton. Failure of the Contractor to timely submit a complete, correct, and certified Application for Payment (accompanied by an updated Schedule of Work) may cause a delay in payment.

By submitting the signed Application for Payment, the Contractor certifies that to the best of the Contractor's knowledge, information, and belief the Work covered by the Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor to its Subcontractors and suppliers for Work for which previous Certificates for Payment were issued and for which payments were received from Thornton, and that the current payment shown in the Application for Payment is now due.

- B. The Contractor shall, along with its monthly Application for Payment for Work completed, submit an estimate of the Work which will be completed during the following month.
- C. When items are specified to be paid for by the ton, the following system will be used:

1. Duplicate tally tickets shall be prepared to accompany each truckload of Material delivered. The tickets shall bear at least the following information:
  - a. Truck number;
  - b. Quantity delivered in tons, cubic yards, or other measurement as applicable;
  - c. Driver's name and date;
  - d. Type of Material; and
  - e. Location of delivery by street and stationing on each street.
  
2. It is the Contractor's responsibility to see that a ticket is given to Thornton's Representative on the day the delivery occurs for each truckload of Material delivered. Pay quantities will be prepared and approved on the basis of such tally tickets.
  
3. When the Bid item stipulates quantities by weight, they shall be weighed on scales that are in accordance with the requirements of the State of Colorado for similar use. Certified weight bills shall be furnished by the Contractor to Thornton's Representative at the time of each delivery.

**21. MOBILIZATION**

- A. The Pay Item price for mobilization shall also include any "start up" or incidental costs necessary to begin the Work, including any necessary Construction Equipment, offices, buildings, Materials or Equipment, personnel that are to be located at the Project site in preparation for the Work, Bonds, Insurance, permits, and any other incidental expenses that cannot otherwise be attributed directly to the other Bid Proposal Pay Items.
  
- B. Payments for mobilization shall be made on a monthly basis in accordance with the following formula:

Contract Amount Completed	=	Mobilization Paid
5%	=	25%
10%	=	50%
25%	=	60%
50%	=	100%

- C. The overall Pay Item price for mobilization should not exceed ten percent (10%) of the original Contract Price. If the overall Pay Item price for mobilization exceeds ten percent (10%), and if Thornton does not reject the Bid, Thornton shall have the option of withholding payment of the amount exceeding ten percent (10%) of the Contract Price until the date of Final Payment.

## 22. PRODUCT SUBSTITUTIONS

- A. This section specifies administrative and procedural requirements for handling requests for substitutions made after Notice of Award. Requests for changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after Notice of Award are considered requests for “substitutions”. The following are not considered substitutions:
1. Substitutions requested by Bidders as required by the Bid Documents and accepted by written addendum prior to submittal of a Bid Proposal are considered as included in the Contract Documents and are not subject to requirements specified in this section;
  2. Revisions to Contract Documents requested by Thornton;
  3. Specified options of products and construction methods included in the Contract Documents; and
  4. The Contractor’s determination of and compliance with governing regulations and orders issued by authorities with jurisdiction over the Work.
- B. Substitution Request Submittal: Requests for substitution will be considered if received within sixty (60) Calendar Days after commencement of the Work. Requests received more than sixty (60) Calendar Days after commencement of the Work may be considered or rejected at the sole discretion of Thornton.

Contractor shall submit three (3) copies of each request for substitution to Thornton for consideration. Such requests shall be submitted in the form and in accordance with procedures required for Change Order Proposals.

Contractor shall identify the product or the fabrication or installation method to be replaced in each request and include related Specification sections and Drawing numbers. Contractor shall provide complete documentation showing compliance with the requirements for substitutions and the following information, as appropriate:

1. Product data, including Drawings and descriptions of products, fabrication, and installation procedures;
2. Samples, where applicable or requested;

3. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements such as size, weight, durability, performance, and visual effect;
4. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Thornton and separate contractors that will become necessary to accommodate the proposed substitution;
5. The substitution's effect on the Schedule of Work compared to the Schedule of Work without approval of the substitution. Indicate the effect of the proposed substitution on the overall Contract Time;
6. Cost information, including a proposal of the net change, if any, in the Contract Price; and/or
7. Certification by the Contractor that the substitution proposed is equal-to or better in every significant respect to that required by the Contract Documents and that it will perform adequately in the application indicated. Include the Contractor's waiver of rights to additional compensation or time that may subsequently become necessary because of the failure of the substitution to perform adequately.

Thornton's Action: Within seven (7) Calendar Days of receipt of the request for substitution, Thornton shall request any additional information or documentation necessary for evaluation of the request. Within fourteen (14) Calendar Days of receipt of the request, or seven (7) Calendar Days of receipt of the additional information or documentation, whichever occurs later, Thornton will notify the Contractor of acceptance or rejection of the proposed substitution. If a decision on use of a proposed substitute cannot be made or obtained within the time allocated, the Contractor shall use the product specified. Acceptance will be in the form of a Change Order.

- C. Conditions: The Contractor's substitution request will be received and considered by Thornton when the following conditions are satisfied, as determined by Thornton; otherwise requests will be returned without action except to record noncompliance with these requirements:
1. Extensive or costly revisions to the Contract Documents are not required;
  2. Proposed changes are in keeping with the general intent of Contract Documents;

3. The request is timely, fully documented and properly submitted;
  4. The request is directly related to a “similar products” clause or similar language in the Contract Documents;
  5. The specified product or method of construction cannot be provided within the Contract Time. The request will not be considered if the product or method cannot be provided as a result of the Contractor’s failure to pursue the Work promptly or coordinate activities properly;
  6. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved; and
  7. A substantial advantage is offered Thornton, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities Thornton may be required to bear. Additional responsibilities for Thornton may include additional compensation to the Architect or Engineer for redesign and evaluation services, increased cost of other construction by Thornton or separate contractors, and similar considerations.
- D. The Contractor’s submittal and Thornton’s acceptance of Shop Drawings, product data, or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval. Any deviations from the Drawings and Specifications shall clearly reference the approved substitution request and shall comply with all submittal requirements in the Contract Documents.

## **23. PROJECT MEETINGS**

- A. Meetings shall be held between Thornton, Contractor, and other applicable entities at a standard time and place, established during the Preconstruction Meeting. Meetings are to be typically held on at least a weekly basis unless otherwise mutually agreed to by the Parties. Thornton shall require the attendance of Contractor’s Superintendent and any other person(s) deemed necessary, including Subcontractors and or suppliers, at these meetings. The meetings shall be conducted by the Contractor for the following purposes:
1. Review the overall progress of the Work and the current status of the Schedule of Work;
  2. Identification and resolution of problems which are or may be impeding the planned progress of the Work;

3. Coordination of the efforts of concerned Parties so that the Work progresses per the Schedule of Work; and
  4. Maintenance of lines of communication, including sound working relationships between Thornton and Contractor, and a mutual understanding of requirements of the Contract Documents.
- B. Contractor shall be responsible for the preparation and distribution of written minutes of these meetings to all attendees and other concerned or impacted parties, as designated by Thornton. Contractor shall distribute meeting minutes within two (2) Business Days of the meeting. Within five (5) Calendar Days of receipt of the meeting minutes, Thornton shall review the content for completeness and accuracy, and note modifications and/or corrections. Contractor shall incorporate modifications and/or corrections into the meeting minutes as deemed appropriate by Thornton, and the revised meeting minutes will be re-distributed to all attendees by Contractor. If Thornton does not note any revisions to the meeting minutes during the five (5) Calendar Day period, then Thornton accepts the meeting minutes as an accurate and complete record of the meeting.

#### **24. PROTECTION OF PUBLIC AND PRIVATE PROPERTY**

- A. The Contractor shall make every effort to avoid damage to all public and private property, including, but not limited to, dikes, ditches, roadways, sidewalks, fences, trees, landscaping, structures, and utilities. Thornton assumes no responsibility whatsoever for any damage resulting from the Contractor's operations, whether such damage occurs on public or private property. The Contractor shall defend, indemnify, and hold harmless Thornton from all claims for damage resulting from its operations. Any and all damages due to a disruption of utility service attributed to the Contractor's operations shall be the sole responsibility of the Contractor.
- B. The Contractor shall contact any property owners verbally and in writing where additional access is needed to the Project site. Any damage to such property by the Contractor will be the responsibility of the Contractor. All claims must be settled before issuance of Final Payment.

#### **25. QUALITY ASSURANCE INSPECTION AND TESTING**

- A. Quality Assurance inspections and tests such as, but not limited to, fill control (compaction), asphalt density, rebar inspection, and concrete testing, shall be performed by a commercial testing laboratory of Thornton's choosing and at Thornton's expense. The Contractor may observe all such Quality Assurance inspections and tests.

- B. Thornton's Quality Assurance inspections and tests are for Thornton's benefit. Thornton's Quality Assurance inspections and tests are not a substitute for the Contractor's Quality Control responsibilities or its testing and inspection program. The Contractor is solely responsible for performing and paying for all necessary Quality Control Tests.
- C. In the event a Quality Assurance inspection or test fails to meet the criteria established by the Specifications, another inspection or test will be performed after the necessary corrective Work has been completed by the Contractor. The Contractor shall bear the expense of all the re-inspections and/or re-tests required. Thornton shall have the right to back charge the Contractor for re-inspections and re-tests and to deduct the cost of re-inspections and re-tests from payments due or that become due to the Contractor.
- D. Contractor shall perform excavation Work necessary for compaction testing, as requested by Thornton, at no additional cost to Thornton.

## **26. RECORDKEEPING AND AUDITS**

- A. Contractor shall keep full and detailed records and accounts relating to its performance of the Contract as may be necessary for proper management of the Work. All financial information shall be maintained in accordance with generally accepted accounting principles. Contractor's records and accounts shall include, but not be limited to, all estimating and bid preparation documents (EPD); correspondence; internal office correspondence; internal memos; conversation memorandums; policies and procedures; subcontract files; Change Order files; backcharge logs and supporting documentation; scheduling files; job cost and man-hour records; invoices; delivery tickets; bills of sale; all documentation relating to disputes or claims; safety reports; accident reports; photographs; videos; accounting records; daily reports; and any other supporting evidence deemed necessary by Thornton to substantiate charges, expenses, or costs related to the Contract.
- B. Contractor's records and accounts shall be open to inspection and subject to audit and/or reproduction in any tangible form, including computer readable data by Thornton, to permit full and complete evaluation and verification of any:
  - 1. Requests or claims by Contractor, its Subcontractors, or its suppliers for any additional compensation related to the Contract;
  - 2. Contractor representations, warranties and/or guarantees under the Contract; or

3. Legal action by Contractor, its Subcontractors, or its suppliers involving Thornton and related to the Contract.
- C. Such inspections and audits may require copying from time to time at reasonable times and places of any and all information, materials and data of every kind and character, including without limitation: records; books; papers; documents; subscriptions; recordings; agreements; Purchase Orders; leases; contracts; subcontracts; commitments; arrangements; notes; daily diaries; supervisory reports; drawings; sketches; receipts, vouchers; memoranda; and any and all other agreements, sources of information and matters that may in Thornton's judgment have any bearing on or pertain to any matters, rights, duties, or obligations under or covered by the Contract Documents. Such records subject to inspection and audit shall also include, but not be limited to, those records necessary to evaluate and verify direct and indirect costs (including overhead allocations) as they may apply to costs associated with the Contract or to a Claim for additional compensation or time.
  - D. Thornton shall be afforded access to all of the Contractor's records and shall be allowed to interview any of the Contractor's employees (including contract labor), pursuant to the provisions of this section throughout the term of the Contract and for a period of three (3) years after Initial Acceptance of the Work, or longer if required by law.
  - E. Contractor shall require all Subcontractors, sub-subcontractors and suppliers to comply with the provisions of this section by insertion of the requirements in its written agreements with those parties. Contractor shall cooperate fully and shall cause all related parties, including Contractor's Subcontractors entering into subcontracts, to cooperate fully in furnishing or in making available to Thornton from time to time whenever requested in an expeditious manner any and all such information, materials and data.
  - F. Thornton shall have access to the Contractor's facilities, shall have access to all necessary records, and shall be provided adequate and appropriate work space in order to conduct inspections and audits in compliance with this section.

## **27. SALVAGEABLE MATERIALS**

- A. Salvageable Material designated on the Drawings or in the Specifications to be salvaged or turned over to Thornton shall be removed from the Project site and delivered to a storage location as directed by Thornton, where it shall be unloaded by the Contractor.

- B. All non-designated Salvageable Material shall become the property of the Contractor. All such material shall be removed from the Project site in a reasonable time following salvage at the Contractor's cost. Its disposition shall be in accordance with all applicable federal, state, and local laws.

## **28. STAGING AREA**

The Contractor is solely responsible for acquisition and payment of any staging area to be used during construction over and above any staging area(s) which may be shown on the Drawings. This area shall be secure to prevent loss of Materials and Equipment. Any replacement of lost or damaged Materials and/or Equipment shall be the responsibility of the Contractor at no cost to Thornton.

## **29. STOCKPILING MATERIAL OR EQUIPMENT**

The Contractor shall not stockpile Materials or Equipment in the public streets or ROW, except for that which is expected to be used that day unless permanent traffic control is allowed and the stockpile is approved in advance by Thornton. If material is stockpiled for use that day, the Contractor shall utilize proper traffic control and necessary barricades. At all times, the Contractor shall provide access to the individual residents/users adjacent to the Work, as well as necessary services they may require (e.g. mail service, trash collection, etc.).

## **30. STORM WATER MANAGEMENT**

The Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Division (WQCD), through the Municipal Separate Storm Sewer System (MS4) permit issued to Thornton, requires Thornton to control and reduce the discharge of pollutants to protect stormwater quality and to satisfy the appropriate water quality requirements of the Colorado Water Quality Control Act and the Colorado Discharge Permit Regulations (Colorado Regulation 61). The MS4 permit requires the implementation of a program to reduce the discharge from public and private construction sites.

Pursuant to Thornton's program, the Contractor shall ensure stormwater quality Best Management Practices (BMP) are implemented to prevent sediment or dust discharges and control erosion resulting from land disturbing activities. The Contractor is responsible for obtaining a CDPS General Permit for Stormwater Discharges Associated with Construction Activity from CDPHE at least ten (10) Calendar Days prior to the commencement of construction activities for any earth disturbance of one (1) or greater than one (1) acre. The Contractor shall provide Thornton with a copy of the permit prior to receiving a Grading or Construction Permit. The Contractor is responsible for all fees associated with the permit.

If the Contractor transfers responsibility for stormwater discharges to another entity, a Notice of Transfer and Acceptance of Terms Form shall be submitted to CDPHE, with a copy to Thornton, prior to the transfer taking effect. If the

Contractor no longer has control of a specific portion of a permitted site and wishes to transfer coverage of that portion of the site to another entity, the Contractor shall submit a Notice of Reassignment of Permit Coverage Form to the CDPHE, with a copy to Thornton. The Contractor is responsible for submitting an Inactivation Notice Form to CDPHE when the site reaches final stabilization in accordance with the permit requirements. A copy of the Inactivation Notice shall also be submitted to Thornton, and is required prior to Thornton's issuance of Final Acceptance.

If the earth disturbance is less than one (1) acre, the Contractor is required to provide temporary sediment and erosion controls to control construction stormwater. Additional controls may need to be installed as indicated on the drawings, in the specifications, or as directed by Thornton at no additional cost.

**The Contractor shall provide a Stormwater Management Plan (SWMP) included with the sediment and erosion control drawings. The SWMP shall contain all items specified in section C. STORMWATER MANAGEMENT PLAN (SWMP) of the CDPS General Permit for Stormwater Discharges Associated with Construction Activity and as described in Appendix A at the end of this Section. This permit can be found at: <http://www.cdphe.state.co.us/wq/PermitsUnit/construction.html>.**

The SWMP shall show a minimum of two (2) phases. Phase I shall show the existing conditions of the site with the initial BMPs required for construction. Phase II shall show the proposed conditions of the site with the BMPs required for stabilization. For complex projects, additional phases may be added for proper stormwater management control.

The Contractor is responsible for implementing the requirements of the SWMP and the associated drawings. The construction site shall be routinely checked by the site Contractor's SWMP Administrator for proper BMP installation and continuing function in accordance with the approved SWMP narrative and drawings. Any loss of integrity, loss of function, or breaches identified shall be repaired immediately to reduce the potential for stormwater to transport sediment and other pollutants into storm drains or waters of the state. Similarly, in areas where off-site stormwater may flow onto and through the project site, perimeter control BMPs should be implemented to route off-site stormwater around the site rather than through the site. Prior to any site disturbance, the Contractor shall install all BMPs identified by the construction phase SWMP and contact Thornton's Representative for a stormwater inspection before commencing construction activities. Notice of scheduled inspections shall be given to all participants at least three (3) working days in advance. The Contractor is responsible for BMP maintenance until final stabilization or upon providing Thornton proof of Inactivation Notice approved by the state for the CDPS Construction Activity Permit.

**Thornton Inspections** (See Appendix A at the end of this section)

Thornton's Representative typically makes unannounced site visits; however, Thornton's Representatives may make courtesy calls to notify Contractor that they will be on-site. Thornton's inspections and subsequent reports are not intended to exhaustively identify every violation or deficiency, which may exist on a site. Similarly, photo logs, which may accompany Inspection Reports, are not intended to document every issue, every instance of every issue of concern, or every violation identified or existing on a site. Thornton Inspection Reports do not fulfill the requirement for self-inspections required by the Contractor's state permit.

**Thornton Inspection Escalation Process** (See Appendix B at the end of this Section)

The Thornton Representative may provide the Contractor's SWMP Administrator a copy of the City Stormwater Construction Site Inspection Report, if deficiencies exist.

The report will identify one (1) of the following four (4) situations:

1. Passing inspection: Only minor deficiencies need to be addressed or no action is required. The Thornton Representative will notify the Contractor's SWMP Administrator in writing. The written communication may be a copy of the Thornton Representative's report. The Contractor must address any noted deficiencies immediately.
2. Notice of non-compliance: Numerous deficiencies are noted. A Notice of non-compliance is issued to the Contractor's SWMP Administrator in written form. The written communication may be a copy of the inspection report or a formal notice issued by the Thornton Representative. The Contractor must address the noted deficiencies immediately.
3. Notice of Violation (NOV): Indicates a site with site-wide or systemic BMP issues and/or repeated non-compliance items which must be addressed immediately. Site-wide or systemic violations include, but are not limited to, illicit discharges and BMP condition with an imminent potential for failure. A Notice of Violation is issued to the Contractor's SWMP Administrator in written form. The written communication may be a copy of the Inspection Report or a formal notice issued by the Thornton Representative.
  - a. Violations requiring maintenance may include observations noted where it has been determined that the condition of the BMP is such that there is significant potential for pollutants to be conveyed to the MS4. It is possible that several observations of the same violation could escalate the finding into a significant violation. If the Thornton Representative notes a violation requiring maintenance after four (4) inspections, this may be noted as a significant

violation at Thornton's sole discretion. The written communication will be issued by the Thornton Representative.

- b. For the resolution of an NOV, all non-compliant areas of concern and violations must be adequately addressed immediately. Larger action items such as pond installation, temporary or permanent landscaping installations will be noted separately, and will need to be completed within forty-eight (48) hours of receipt of the notice. If an action item, other than typical temporary BMP maintenance, requires more than forty-eight (48) hours to complete, a remediation action plan must be submitted to Thornton within the forty-eight (48) hour time period, and the corrective action must be completed within seven (7) Calendar Days. NOVs remain open and unresolved until an on-site inspection is conducted by a Thornton Representative to verify that all of the issues and concerns have been addressed, the site is free of violations, and the Contractor has received written notification from Thornton that the NOV has been resolved and closed.
  - c. It is possible that the observed violations may escalate to a level where Thornton may issue a Stop Work Order.
4. Stop Work Order (SWO): A SWO is a written notification given to the Contractor to cease all on-site construction activities for flagrant violations or repeated unresolved NOVs. SWOs require the Contractor to immediately stop all construction activities, but continue to remediate all violations.

SWOs remain in force until an on-site inspection is conducted by a Thornton Representative to verify that all issues and concerns have been properly addressed, and the site is violation free. The SWO is removed by Thornton when the Contractor receives written notification from Thornton that the SWO has been rescinded.

## Appendix A

### Storm Water Management Plan (SWMP) Erosion and Sediment Control Notes

In compliance with Colorado Discharge Permit System (CDPS) General Permit No. COR-090000 and the City of Thornton's authority through Ordinance No. 2935, the following information is to be provided on the Storm Water Management Plan (SWMP) included with the Sediment and Erosion Drawings. The SWMP shall follow all applicable requirements defined in CDPS General Permit for Stormwater Discharges Associated with Construction Activity (Permit No. COR-030000) from the Colorado Department of Public Health and Environment (CDPHE).

#### General Notes

1. BMPs shall be installed before any earth disturbing activities commence.
2. Stormwater discharges from construction activities shall not cause, have the reasonable potential to cause, or measurably contribute to an exceedance of any water quality standard.
3. Construction shall be phased in a manner to limit earth disturbing activities (i.e., the entire Project site should not be disturbed if construction will only be occurring in one particular section).
4. Sediment caused by accelerated soil erosion shall be removed from runoff water before it leaves the construction site.
5. Bulk storage structures for petroleum products and any other chemicals shall have secondary containment or equivalent protection to contain all spills and prevent any spilled material from entering state waters.
6. A copy of the SWMP and site maps must be available at all times on the construction site unless otherwise approved by CDPHE or Thornton.
7. The SWMP and site maps shall be continuously updated to reflect new or revised Best Management Practices (BMPs) due to changes in design, construction, operation, or maintenance of the construction site. Updates must be made within seventy-two (72) hours following the change in BMPs.
8. The Contractor shall inspect the construction site (including all BMPs, storage containers, and construction equipment) a minimum of every fourteen (**14**) **Calendar Days** and within twenty-four (24) hours after a precipitation event or snow melt that causes surface erosion. Inspections shall continue until an Inactivation Notice is filed with CDPHE.
9. The Contractor shall keep a record of all inspections on site and available for review by CDPHE or Thornton staff. Inspection reports must identify any incidents of non-compliance with the terms and conditions of the Permit.
10. BMPs requiring maintenance or adjustment shall be addressed immediately after observation of the failing BMP.
11. For all instances of non-compliance based on environmental hazards and chemical spills and releases, all needed information must be provided orally to CDPHE spill reporting line (24-hour number for environmental hazards and chemical spills and releases: 1-877-518-5608) within twenty-four (**24**) **hours** from the time the Contractor first becomes aware of the spill or release.

12. Straw bales **shall not** be used for primary erosion or sediment control (i.e., straw bales may be used for reinforcement behind another BMP, such as silt fence).
13. BMPs intended for sheet flow sediment runoff shall be placed parallel to the slope contours.
14. All BMPs shall be cleaned when sediment levels accumulate to half the design of the BMP unless otherwise specified in the SWMP.
15. A Vehicle Tracking Pad (VTP) shall be placed at all exits from the site to prevent track-out onto streets or roads. If track-out does occur, the Contractor shall immediately sweep the street of debris. Recycled crushed concrete or asphalt shall not be used for vehicle tracking pads.
16. All sediment collected in BMPs shall be removed prior to Thornton's issuance of Initial Acceptance.
17. Permanent erosion control measures for slopes, channels, ditches, or any disturbed land area shall be completed within fourteen **(14) Calendar Days** after final grading or the final earth disturbance has been completed. When it is not possible to permanently stabilize a disturbed area after an earth disturbance has been completed, or where significant earth disturbance activity ceases, temporary soil erosion control measures shall be implemented within fourteen (14) Calendar Days after the disturbance is completed. Temporary erosion control measures shall be maintained until permanent soil erosion measures are implemented.
18. Final stabilization has been achieved when all earth disturbing activities at the site have been completed, and uniform vegetative cover has been established with an individual plant density of at least seventy **(70%) percent** of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed.
19. All temporary BMPs shall be removed from the site upon submitting the Inactivation Notice.
20. All site wastes (including trash and building materials) must be properly managed to prevent potential pollution of state waters.
21. For street repair operations such as rotor milling, slurry seal and chip seal, the minimum BMPs required are: inlet protection, curb socks, and daily street sweeping.

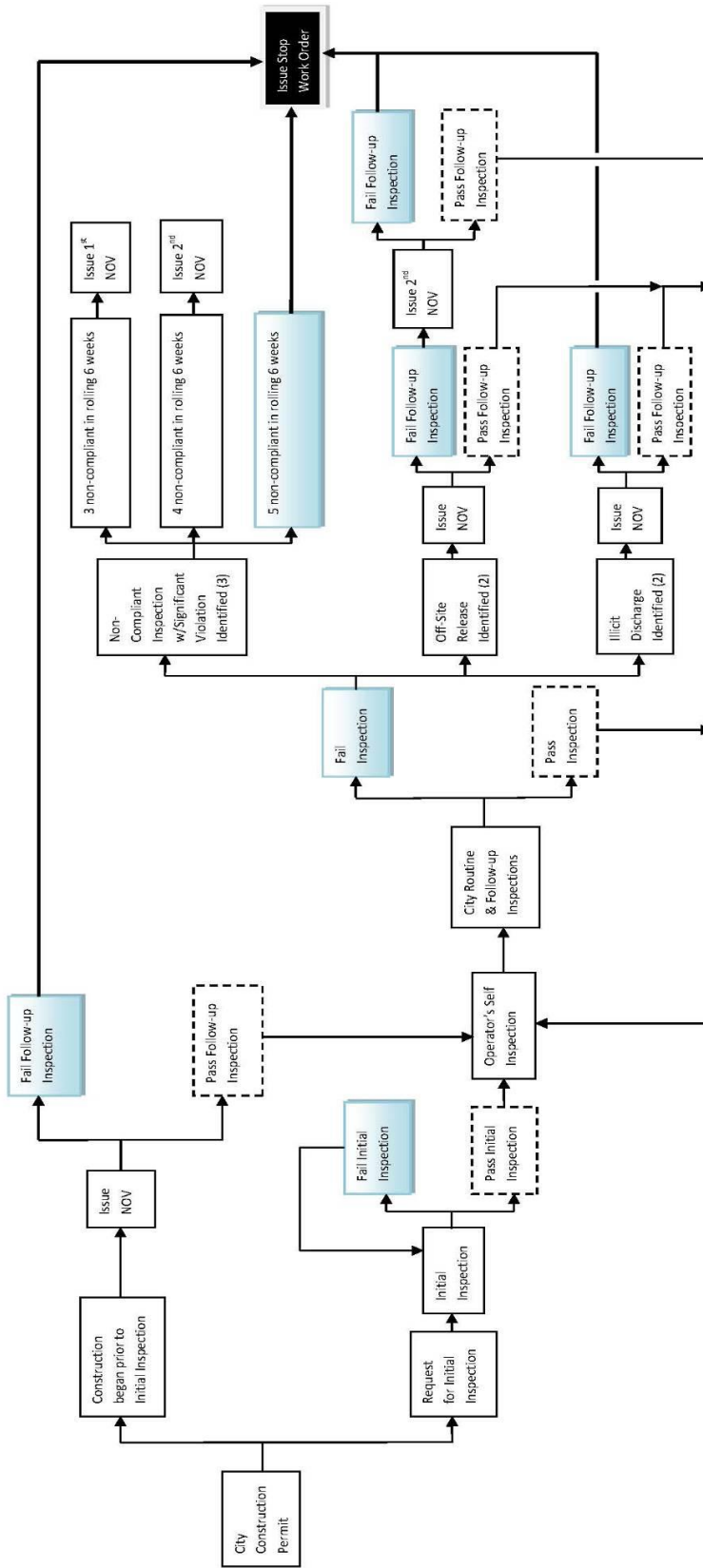
This list is not intended to be all-inclusive, but is intended to identify the general notes identified by Thornton to be included as part of the Stormwater Management Plan for compliance with Thornton's stormwater management requirements for construction activities.

### **BMP Details**

For BMP details refer to UDFCD Volume III or CDOT M-Standards located at: <http://www.udfcd.org> and <http://www.coloradodot.info/business/designsupport/standard-plans/2006-m-standards>

## Appendix B

### City of Thornton Inspection/Enforcement Process



1. The City may elect to shorten the City's enforcement response depending upon the severity, magnitude, impact/or location of the deficiency(s), illicit discharge or off-site release.
2. If an illicit discharge or off-site release is noted during the course of a follow-up inspection, the site may be issued an NOV/SWO in accordance with this process.
3. A site receiving three (3) inspections with the same significant violation identified within six (6) week period, regardless of whether they are the result of a follow-up or routine inspection, will be issued a notice of violation(NOV). If the site fails the inspection following the issuance of a second NOV for the same significant violation within six (6) weeks, the site will be issued a stop work order (SWO). Please note that the severity and magnitude of the site issue(s) may cause the process to be escalated faster or more directly.

### **31. SUBMITTALS, SHOP DRAWINGS, AND SAMPLES**

Thornton's representatives shall have ten (10) Calendar Days to review and approve or reject Shop Drawings and Samples, unless otherwise stated in the Specifications. Rejected items shall be resubmitted to Thornton and subsequent review by Thornton will be within ten (10) Calendar Days. See also General Conditions - Submittals, Shop Drawings, Samples, and Operator's Instructions.

### **32. TEMPORARY ACCESS AND SAFE TRAVEL MAINTENANCE**

Once Work has commenced in a roadway or other area subject to vehicular traffic, including bicycles, the Contractor shall provide and maintain access and safe travel conditions by ramping or surfacing with suitable materials to insure safe travel at all times. If, in the opinion of Thornton, the products used and/or the maintenance methods provided are not capable of safely supporting the anticipated vehicular traffic, the Contractor shall either immediately remove the existing products and provide higher quality products, up to and including placement of temporary hot mix asphalt, increase the frequency of maintenance, or both, as may be directed by Thornton. The provision of products and their maintenance to assure access and safe travel at all times shall be considered incidental to the Work, with all costs to be borne by the Contractor. Failure to comply with this requirement may, at Thornton's sole discretion, result in the Work or a portion of the Work being suspended until the situation is corrected. Contractor shall not be entitled to additional compensation or Time. Should the Contractor not perform any necessary patching and maintenance in a timely manner, Thornton may, at its option, have the Work performed by others and may deduct the cost from amounts due or that become due the Contractor.

### **33. TRAFFIC CONTROL**

- A. Adequate traffic flow shall be maintained at all times, and all barricading and temporary signage for detours and traffic control must meet the standards as set forth in the most current edition of the Manual on Uniform Traffic Control Devices (MUTCD) as adopted by the Colorado Department of Transportation and as adopted by the United States Department of Transportation Federal Highway Administration and requirements of Thornton's Traffic Engineer. Traffic control may be paid as a separate Bid item. If traffic control is not a separate Bid item, then it is considered incidental to the Work and shall be included in the Contract Price. Public safety is the Contractor's sole responsibility.
- B. For all ROW requiring closure for any Work therein, appropriate permits shall be obtained. Prior to the start of construction, the Contractor shall provide Thornton's Traffic Engineering Division with planned traffic control methods and procedures for the Work for review and acceptance by Thornton's Traffic Engineer. In general, except for alleyways, one (1) lane of the roadway for each direction must be kept open at all times or, if this

cannot be achieved, sufficient flagpersons must be provided to properly channel traffic at all times when there is only one (1) lane open.

#### **34. WATER USE**

All water used by the Contractor for testing, compaction, dust control or other uses related to construction of the Work shall be recorded by a meter furnished by Thornton, and the water shall be obtained from a location specified by Thornton which will be no more than five (5) miles from the Project site. A one thousand four hundred dollar (\$1,400) refundable deposit for meter use shall be paid by the Contractor. Water use shall be metered, but will be furnished by Thornton at no charge to the Contractor. The Contractor shall be responsible for paying a monthly water meter rental charge of forty dollars (\$40) per month. The meter is required to be returned to the City of Thornton every six (6) months for maintenance and calibration. If there are any damages to the meter and or any missing parts, the cost of repair and or replacement of parts will be deducted from the Contractor's deposit.

# **GENERAL CONDITIONS**

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**1. ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE OF CLAIMS BY CONTRACTOR**

- A. The acceptance of Final Payment by the Contractor shall operate as a release of all claims by the Contractor for all things done or furnished in connection with the Contract and for every act or omission or neglect of Thornton or others relating to, or arising out of the Contract, except for claims previously made in writing by the Contractor and rejected and/or remaining unsettled by Thornton at the time of Final Payment.
- B. No payment, final or otherwise, shall operate to release the Contractor, its Surety or its insurers from any obligations under the Contract or under the Performance Bond or Labor and Materials Payment Bond including, but not necessarily limited to, any one (1) or more of the following:
  - 1. Obligations arising from or relating to latent defects;
  - 2. Faulty Work or Material appearing after any payment;
  - 3. Failure of the Work to perform in accordance with the requirements of the Contract Documents;
  - 4. Unsettled claims of Thornton;
  - 5. Claims for non-payment of laborers, mechanics, materialmen or suppliers, or for Construction Equipment used or rented; and/or
  - 6. Claims under any maintenance requirements of the Contract Documents or any special guarantees or warranties provided for under the Contract Documents.

**2. ACCESS AND DRAINAGE/FIRE HYDRANTS**

The Contractor shall keep a sufficient clear area around all fire hydrants to permit their full and effective use in case of fire. The Contractor shall keep natural drainage and water courses unobstructed or provide other equal courses effectively placed.

**3. ACCIDENT PREVENTION/EMERGENCY/AUTHORITY TO ACT**

Precaution shall be exercised by the Contractor at all times for the protection of all persons, Work and property, and hazardous conditions shall be guarded against or eliminated. In an emergency affecting the safety of life or property, the Contractor shall be allowed to act in a diligent manner at its discretion, without special instruction or authorization from Thornton, to prevent such threatened loss or injury, and Contractor shall so act, without appeal, if so instructed or authorized. Contractor shall notify Thornton immediately thereafter. Any compensation

claimed by the Contractor on account of emergency Work affecting the safety of life or property, other than the Contractor's Work or property, shall be determined as provided under General Conditions - Claims for Extra Cost, subject to the approval of Thornton.

#### **4. ASSIGNMENTS**

The Contractor shall not assign the whole or any part of the Contract or any monies due or to become due thereunder without the written consent of Thornton and of the Surety on the Contractor's Bonds. A copy of the consent of the Surety, together with a copy of the assignment, shall be filed with Thornton. If the Contractor assigns all or any part of any monies due or to become due under the Contract, the instrument of assignment shall contain a clause to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to the Contractor under the Contract shall be subject to prior claims and liens of all persons, firms, and corporations for services rendered; for the payment of all Materials and Equipment furnished; for payment of all Construction Equipment used or rented in the performance of the Work; and for the payment of any liens, claims, or amounts due federal, state, or local governments or any of their special enterprises.

#### **5. AUTHORITY AND DUTIES OF THORNTON'S REPRESENTATIVE**

- A. Thornton's Representative is placed on the Project site to observe the Work and to keep Thornton informed as to the progress of the Work and the manner in which the Work is being done; to keep records; act as liaison between the Contractor and Thornton; to call to the attention of the Contractor any Defective Work or deviations from the Contract Documents; and to reject work. Failure of Thornton's Representative to call to the attention of the Contractor any Defective Work or deviations from the Contract Documents shall not constitute acceptance of such Work by Thornton or relieve the Contractor of performing the Work in strict accordance with the Contract Documents.
  
- B. Work that has not been given Initial Acceptance by Thornton remains in the control of the Contractor until the entirety of the Work is complete. Because Thornton's Representative cannot control how the Contractor performs the Work, the responsibility for safety and proper use shall be solely the Contractor's. Until the entirety of the work is completed, the Contractor may do work that changes or modifies work previously done, and even though at any given time, a portion of work might be well done and acceptable in quality, the responsibility for keeping it in that condition until all of the Work is complete, is the sole responsibility of the Contractor. For this reason, Thornton will not accept any portion of the Work until the entirety of the Work is complete and control of the Work is withdrawn from the Contractor by Initial Acceptance by Thornton.

- C. Because one of Thornton's Representative's primary interest is to see that the Work progresses expediently and in a Good and Workmanlike Manner, he or she may offer suggestions to the Contractor, which the Contractor may or may not accept, at its discretion. Such suggestions are never to be considered as anything but suggestions and involve no assumption of responsibility, financial or otherwise, by either Thornton's Representative or Thornton.
- D. Any assistance which Thornton's Representative may give the Contractor will not be construed as the basis of any assumption of responsibility or liability in any manner, financial or otherwise, by Thornton's Representative or Thornton.
- E. Thornton's Representative is not and does not purport to be a safety engineer and is not engaged in that capacity by Thornton and shall have neither authority nor the responsibility to enforce safety laws, rules, regulations or procedures, nor shall he or she be responsible for the safety of persons on and about the Project site.
- F. The presence or absence of Thornton's Representative's on any Project will be at the sole discretion of Thornton, and such presence or absence of Thornton's Representative will not relieve the Contractor of its sole responsibility to obtain the construction results required by the Contract Documents.
- G. Thornton's Representative shall not be authorized to approve or accept any portion of the Work or to issue instructions contrary to the Contract Documents. Such approvals, acceptance, or instructions, when given, must be in writing and signed by Thornton. Thornton's Representative shall have authority to reject Defective Work; however, the failure of Thornton's Representative to reject Defective Work or Work that deviates from the Contract Documents shall not constitute acceptance of such Work by Thornton.
- H. Nothing in this section shall in any way be construed so as to require or to place responsibility for the method, manner, scheduling, coordination, or supervision of the Work upon Thornton's Representative or Thornton. Such responsibility rests solely with the Contractor.

## **6. AUTHORITY OF THORNTON**

- A. Thornton, or its consulting Engineer, shall furnish engineering services during construction of the Work to the extent provided in the Contract Documents. Thornton or its consulting Engineer shall observe and review the Work during construction. Compliance with the Contract Documents shall be solely the Contractor's responsibility, notwithstanding such observation, or review. Thornton may suspend the Work when it appears

such suspension may be necessary to accomplish the proper implementation of the intent of the Contract Documents.

- B. The authority to observe, review, or suspend the Work, or exercise such other authority as may be granted to Thornton by the Contract Documents, shall not be construed or interpreted to mean supervision of construction, which is the Contractor's sole responsibility, nor make Thornton responsible for providing a safe place for the performance of work by the Contractor, its employees, Subcontractors or suppliers, or for access, visits, use, work, travel or occupancy by any other person.
- C. Thornton shall have the authority to reject any, or all Work, Materials, and Equipment which does not conform to the Contract Documents and to decide technical questions which arise in the execution of the Work.
- D. Thornton shall make the final determination of the amount, quality, acceptability, and fitness of the several kinds of Work, including Materials and Equipment, which are to be paid for under the Contract and shall decide all questions which may arise in relation to such Work.
- E. Thornton's decisions shall be final and conclusive, except as otherwise expressly provided. In case any question shall arise relative to the Contract Documents, the determination of Thornton shall be a Condition Precedent to Contractor's right to receive payment for work affected by such determination.
- F. Thornton shall decide the meaning and intent of any portion of the Contract Documents where it may be found obscure or to be in disagreement.

## **7. CERTIFICATES AND MANUFACTURER'S GUARANTEES/WARRANTIES**

Four (4) copies of any manufacturer's guaranty/warranty or certificate for any type of Material or Equipment provided shall be submitted to Thornton as a condition precedent to granting Initial Acceptance of the Work.

## **8. CHANGED OR EXTRA WORK**

- A. Thornton reserves the right, at any time during the progress of the Work, to make necessary alterations to, deviations from, additions to, or deletions from the Work, or to require the performance of Changed or Extra Work neither covered by the Drawings and Specifications nor included in the Contractor's Bid Proposal, but forming a part of the contracted Work.
- B. Minor changes in the Work are changes that do not involve an adjustment in the Contract Price and/or the Contract Time and do not materially and adversely affect the Work, including the design, quality, performance, and

workmanship required by the Contract Documents. Thornton shall have the authority to order minor changes that do not involve extra cost or Contract Time and are not inconsistent with the design concept and purposes of the Work.

In the event, the Contractor determines a minor change in the Work is desired, the Contractor shall promptly inform Thornton, in writing, of any such minor changes proposed to be made by the Contractor. Provided Thornton agrees in writing that such changes are minor, the Contractor may make minor changes in the Work consistent with the intent of the Contract Documents. The Contractor shall record all such changes on the Record Drawings maintained by the Contractor.

- C. The Contractor shall not proceed with any Changed or Extra Work without a written Change Order approved in writing by Thornton. Any Changed or Extra Work performed by Contractor without written approval from Thornton shall be done solely at the Contractor's risk, and the Contractor waives any claim for additional compensation and/or extension of Contract Time therefor.
  
- D. Changed or Extra Work shall in no way invalidate the Contract or the Contractor's Bonds, but any difference in cost shall be added to or deducted from the Contract Price, as the case may be. No anticipated profits shall be allowed on Work that is deleted. Adjustments, if any, in the Contract Price by reason of any such Changed or Extra Work shall be determined by one (1) of the following methods in the order as listed or, if appropriate as solely determined by Thornton, by a combination of the methods listed below. Adjustments, if any, in the Contract Time by reason of any such Changed or Extra Work shall be determined in accordance with General Conditions - Extension of Contract Time.
  - 1. Method A By applicable Unit Prices contained in the Contractor's Bid Proposal for the same or similar type or class of Work as determined by Thornton.
  
  - 2. Method B If applicable, Unit Prices were not included in the Contractor's Bid Proposal, then by a Unit Price proposal for the Changed or Extra Work from the Contractor that is accepted by Thornton.
  
  - 3. Method C If applicable, Unit Prices were not included in the Contractor's Bid Proposal and a Unit Price proposal is not practical or cannot be mutually agreed upon, then by a lump sum price proposal for the Changed or Extra Work from the Contractor that is accepted by Thornton.

4. Method D If applicable, Unit Prices were not included in the Contractor's Bid Proposal, and if Thornton and the Contractor cannot mutually agree on pricing per Method B or C before Thornton requests the Contractor to begin Work on the Changed or Extra Work, then the Contractor shall be paid the "actual field cost", as defined in paragraph H below. Each Party must notify the other Party in advance of utilizing Method D to allow each Party the opportunity to perform its due diligence during the performance of the Changed or Extra Work. Failure of the Contractor to notify Thornton in advance that it disagrees with the application of Methods A, B, or C shall bar the Contractor from unilaterally using Method D.

E. Method A – Method A is applicable to price Changed or Extra Work when the following conditions are met:

1. When the same or similar type or class of work, as determined by Thornton, is contained in the Contractor's Bid Proposal as a Pay Item;
2. When Unit Prices are provided in the Bid Proposal for the Pay Item, and
3. When the actual final quantity, after adding in the Changed or Extra Work, is not less than seventy-five percent (75%) nor greater than one hundred twenty-five percent (125%) of the total estimated quantity for the applicable Pay Item.

If condition 1. and 2. are met, but the actual final quantity is less than seventy-five percent (75%) or greater than one hundred twenty-five percent (125%) of the total estimated quantity for the applicable Pay Item, and if a larger quantity variation was expected as expressly noted on the Bid Proposal Form by an asterisk (\*), then Method A shall be used to price the Changed or Extra Work regardless of the final actual quantity installed.

If condition 1. and 2. are met, but the actual final quantity is less than seventy five percent (75%) or greater than one hundred twenty-five percent (125%) of the total estimated quantity for the applicable Pay Item, and if a larger quantity variation was not expected as expressly noted on the Bid Proposal form by an asterisk (\*), then Method B or C shall be used to price the Changed or Extra Work; provided however, that the original estimated quantity shall be paid at the original Unit Price proposed for the particular Pay Item.

- F. Methods B and C – Under Methods B and C, the Contractor shall provide backup documentation showing an estimated itemized cost breakdown for labor (including labor man-hours), Materials and Equipment installed in the Work, Construction Equipment (including rental equipment) utilized in the performance of the Work, Subcontractor costs, incidental expenses, and overhead and profit not to exceed fifteen percent (15%) of the total Change Order price. Documentation shall be sufficient to enable Thornton to evaluate the Contractor's Unit Price or lump sum proposal.
- G. Method D - When any Changed or Extra Work is performed under Method D, the term "actual field cost" is hereby defined to be and shall include:
1. The actual payroll cost, including payroll taxes, of all workmen such as foremen, equipment operators, carpenters, electricians, mechanics, and laborers for the time actually engaged in performing the Changed or Extra Work. No other labor related costs will be allowed including, but not limited to, Contractor's management or supervisory personnel, home office personnel, employee benefits, employee bonuses, insurance, and any other incidental costs. An allowance for these indirect costs is covered in the Contractor's allowable markup on the actual field cost, as described below;
  2. The actual cost of all Materials and Equipment incorporated into the Changed or Extra Work;
  3. The cost of all Construction Equipment for the time actually employed or used in the performance of the Changed or Extra Work based on the Colorado State Department of Transportation's Equipment Schedule in force on the date of the Change Order Request;
  4. Transportation charges at cost necessarily incurred in connection with any Construction Equipment authorized by Thornton for use on such Changed or Extra Work, but which is not already on the Project site;
  5. The actual cost of all power, fuel, lubricants, water, and similar operating expenses as well as other expendable materials such as small tools;
  6. All incidental expenses incurred as a direct result of such Changed or Extra Work, including a prorata portion of premiums related to the Contractor's Bonds, and where the premiums therefore are based on payroll costs, on insurance required by the Contract;

7. The actual cost of any subcontracted Work. In determining the amount payable to the Contractor for a Subcontractor's Work, the Contractor must either obtain a minimum of three (3) competitive firm fixed quotes for the subcontracted Work, or if using an existing Subcontractor, shall require the Subcontractor to submit documentation as required herein to determine the Subcontractor's actual field cost. If the Subcontractor's actual field cost is used to determine the Contractor's overall reimbursement for the Changed or Extra Work, the Subcontractor's markup on its cost of Work to cover its general management and supervisory personnel, home office personnel, employee benefits, employee bonuses, insurance, taxes other than payroll taxes, any other incidental costs, overhead and profit, and all other elements of cost not embraced within the actual field cost as defined herein, shall not exceed fifteen percent (15%) of its actual field cost; and
8. The Contractor's markup on the actual field cost for self-performed work and the Contractor's markup on subcontracted work. The Contractor's markup on self-performed work may not exceed fifteen percent (15%) of the actual field cost for such work. This markup shall cover and be full compensation for the Contractor's general management and supervisory personnel, home office personnel, employee benefits, employee bonuses, insurance, taxes other than payroll taxes, any other incidental costs, overhead and profit, and all other elements of cost not embraced within the actual field cost as defined herein. The Contractor's markup on subcontracted Work shall not exceed five percent (5%) of the Subcontractor's cost whether determined by a competitive quote or by the Subcontractor's actual field cost plus its markup as defined herein, whichever is applicable. No "pyramiding" or additional percentage shall be authorized for the Contractor for any Changed or Extra Work performed by Subcontractors.

When any Changed or Extra Work is performed under Method D, Thornton shall direct the form in which the accounts of the actual field costs shall be kept by the Contractor. The Contractor must specify in writing the proposed method of doing the Work and the type and kind of Construction Equipment, if required, which shall be used in the performance of the Changed or Extra Work, and Thornton must agree in writing to the methodology before the Contractor may commence the Changed or Extra Work. The Contractor shall furnish satisfactory bills, payrolls and vouchers covering all items of cost when requested by Thornton and shall give Thornton access to accounts relating thereto.

- H. Should Thornton and the Contractor be unable to agree on the method for pricing Changed or Extra Work or on the total value of the Changed or Extra Work, Thornton may utilize any combination of Methods A, B, C, and D to develop a Change Order to facilitate the continuation of the Work and payment therefor without delay.
- I. Any Changed or Extra Work shall be considered a part of the Contract, subject to all of its terms, conditions, stipulations, review, warranties, and tests and may be performed without notice to the Surety. The Contractor and its Surety hereby agree to these provisions.
- J. It is the Contractor's and the Surety's joint responsibility to be aware of all Contract Change Orders and to ensure that the Contract value under the Labor and Material Payment Bond and the Performance Bond are modified as appropriate with each Change Order. In addition, the Surety shall ensure that the Contractor's bonding limit has not been exceeded by any Contract Change Order.

## **9. CLAIMS FOR EXTRA COST**

- A. If it appears to the Contractor that Changed or Extra Work is required for which, in its opinion, it should receive additional compensation for extra costs, within ten (10) Calendar Days of when the Contractor knew or should have known of the condition giving rise to the Changed or Extra Work, the Contractor shall give written notice to Thornton's Contract Administration Division making a Claim for Extra Cost and requesting a Change Order be authorized by Thornton for Changed or Extra Work. Contractor shall simultaneously provide a copy of said claim to Thornton's Field Representative. Should a difference of opinion arise as to what does or does not constitute Changed or Extra Work, or concerning the extra cost incurred and the payment thereof, and if Thornton insists on immediate conformance, the Contractor shall proceed with the Work after presenting its written notice to Thornton. Performance by Contractor of the Work in question shall not in any way prejudice the Contractor's ability to receive compensation on a Claim for Extra Cost. Failure to submit timely notice to Thornton as provided for herein shall constitute a complete waiver by the Contractor of its claim for extra cost for Changed or Extra Work.
- B. Provided timely notice has been filed with Thornton, and provided Method A for pricing Changed or Extra Work does not apply and provided that Thornton and the Contractor have not agreed upon pricing per methods B and C, the Contractor shall keep an accurate account of the "actual field cost", as provided for in Method D under the General Conditions - Changed or Extra Work. The Contractor shall thereby not waive any right it might have to compensation for a Claim for Extra Cost in connection with the Changed or Extra Work. Upon receipt of the Contractor's Claim

for Extra Cost, Thornton will make a final determination as to whether or not Changed or Extra Work was involved and, if so, the amount due to the Contractor.

- C. Contractor shall provide to Thornton all supporting documents and receipts in support of its Claim for Extra Cost within thirty (30) Calendar Days after performing the Work for which extra cost is claimed. Thornton shall have the right to reject any Claim for Extra Cost if the foregoing procedure is not followed. Failure to submit accurate and complete supporting documentation within thirty (30) Calendar Days after performing the Work shall constitute a complete waiver of the claim by the Contractor.
- D. In giving verbal instructions, Thornton shall have the authority to make minor changes that do not involve extra cost or Contract Time and are not inconsistent with the design concept and purposes of the Work; but otherwise, except in an emergency endangering life or property, no Changed or Extra Work shall be performed unless pursuant to a Change Order approved by Thornton, and no Claim for Extra Cost shall be valid unless so approved, except as otherwise provided herein.

## **10. CLEANUP PRACTICES**

- A. The Contractor shall maintain general cleanup practices to keep all ROW, streets, alleys, sidewalks, and other premises as free from material and debris as the character of the Work will permit, and upon completion of any part of the Work, shall as required and or as directed by Thornton, remove all surplus material, mud, rubbish, debris, or other objectionable items and leave ROW, streets, alleys, sidewalks and other premises in a safe, acceptable condition. Under no circumstances shall the Contractor allow any condition to exist which creates a nuisance, fire hazard or an environment injurious to health or safety, or an attraction for children, animals, etc., during or after construction.
- B. In the event the Contractor fails to comply with this section, after notice has been given by Thornton, Thornton shall have the right to proceed to clean up such material and debris, make repairs, and charge the cost of the cleanup to the Contractor and to deduct the cost from any monies due or that become due to the Contractor.

## **11. CONCEALED OR UNKNOWN CONDITIONS**

- A. If conditions are encountered at the Project site which are (1) sub-surface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, Contractor shall give written notice to Thornton promptly before such conditions are disturbed

and in no event later than two (2) Business Days after its first observance of the conditions.

- B. Thornton shall promptly investigate such conditions, and if they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, shall provide an adjustment in the Contract Price, Contract Time, or both. If Thornton determines that the conditions at the Project site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, Thornton shall notify the Contractor in writing, stating the reasons. Any objection to Thornton's determination must be made in writing by the Contractor, stating its reasons therefore, within ten (10) Calendar Days after Thornton has given notice of its decision.

## **12. CONSTRUCTION REVIEW/QUALITY ASSURANCE/QUALITY CONTROL TESTING**

- A. During construction, the Work shall be subject to the review and observation of Thornton. The Contractor shall afford every reasonable facility and assistance to Thornton to make such review. If any Work is covered up without approval or consent of Thornton, it will be uncovered for examination by Thornton at the Contractor's expense.
- B. The fact that Thornton has a representative on the Project site shall not be taken as acceptance of the Work or any part of it. The Contractor shall notify Thornton upon completion of the entirety of the Work, and the Work shall be given final construction review by Thornton. Any Quality Control tests and Quality Control re-tests may be witnessed by Thornton or Thornton's Representative. If all parts of the Work are acceptable and comply with the Contract Documents, Initial Acceptance shall be granted by Thornton. If parts of the Work are not acceptable and require additional work by the Contractor necessitating additional cost, such costs shall be paid for by the Contractor.
- C. Contractor shall furnish Quality Control tests and reports on Quality Control tests of all Materials and Equipment called for in the Contract Documents. The Quality Control testing laboratory must be approved by Thornton, and the Contractor shall pay the cost of the Quality Control tests and any Quality Control re-tests that may be required, including all transportation charges.
- D. Thornton shall arrange for and conduct Quality Assurance testing at its own cost.
- E. All Quality Control and Quality Assurance tests and re-tests, unless otherwise provided in the Specifications, shall be in accordance with the pertinent sections of the latest edition of the standards applicable to the

material or devices to be tested. A partial list of the principal societies referred to and their abbreviations follows:

A.A.S.H.T.O.	American Association of State Highway and Transportation Officials
A.C.I.	American Concrete Institute
A.I.S.C.	American Institute of Steel Construction
A.N.S.I.	American National Standards Institute
A.S.T.M.	American Society of Testing Materials
A.W.W.A.	American Water Work Association
C.P.I.	Clay Pipe Institute
C.S.	Commercial Standards
F.S.	Federal Specifications
N.E.C.	National Electric Code
T.M.C.A.	Tile and Marble Contractors of America

- F. All parts of the Work shall conform to the standards of construction in the Contract Documents and to the intent thereof, and if they do not conform, shall be made to do so by rebuilding or replacing or otherwise as instructed by Thornton at Contractor's expense.
- G. If after commencement of the Work Thornton determines that any Work requires special inspection, testing or approval not otherwise provided for in the Contract Documents, Thornton shall issue written authorization instructing the Contractor to order such special inspection, testing, or approval, and the Contractor shall give timely notice of its readiness and of the date arranged so Thornton may observe such inspecting, testing, or approval. If such special inspection or testing reveals a failure of the Work to comply with the Contract Documents, or with laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction over the Work, the Contractor shall bear all costs of such inspection and/or testing.
- H. Required certificates of inspection, Quality Control testing results, or approval shall be secured by the Contractor and promptly delivered to Thornton.

### **13. CONTRACT IN DEFAULT – GROUNDS FOR DEFAULT**

Thornton may declare the Contract in default for any one (1) or more of the following reasons as determined by Thornton in its sole discretion:

- A. Failure to complete the Work within a Milestone Date or the Contract Time;
- B. Failure or refusal to comply with an instruction of Thornton within a reasonable time;
- C. Failure or refusal to remove rejected Materials or Equipment;

- D. Failure or refusal to perform any Work or to repair any Defective Work that deviates from the Contract Document requirements;
- E. Bankruptcy, insolvency, or the making of an assignment for the benefit of creditors;
- F. Failure to provide a qualified Superintendent or sufficient and competent workmen or Subcontractors to carry on the Work in a satisfactory and Good and Workmanlike Manner;
- G. Failure to prosecute the Work in accordance with the Schedule of Work;
- H. Failure to provide proper Materials and Equipment;
- I. Failure to comply with provisions of the Contract Documents as determined by Thornton;
- J. Disregard of laws, ordinances, rules or regulations, or any order of any public body having jurisdiction over the Work, or the violation of any construction or safety codes; and/or
- K. Multiple claims, frivolous claims, and or inflated claims.

#### **14. CONTRACT IN DEFAULT – PROCEDURE FOR DECLARING IN DEFAULT**

Thornton may declare the Contract in default by giving written notice to the Contractor and its Surety. The notice shall contain the reason or reasons for declaring the Contract in default and shall fix a day certain, not less than seven (7) Calendar Days after the date of the notice, when the Contract shall be declared in default, unless the Contractor or its Surety remedies the default to Thornton's satisfaction or makes satisfactory arrangements with Thornton for its remedy prior to the day certain fixed in the notice. Thornton may, at its sole option, extend the day certain for declaring the Contract in default without prejudice to Thornton's right to thereafter declare the Contract in default. If the Contractor or its Surety fails to remedy the default or make arrangements for its remedy prior to the date set for declaring the Contract in default, or any extension thereof, the Contract shall be declared in default.

#### **15. CONTRACTOR'S EMPLOYEES AND SUBCONTRACTORS**

- A. The Contractor shall provide and maintain, continually on the Project site during the performance of the Work, adequate and competent superintendence of all operations for and in connection with the Work. The Contractor shall either personally superintend its Work or shall cause it to be done by a capable Superintendent acceptable to Thornton. Such Superintendent shall be able to read, write, and speak English fluently and

shall be authorized to receive instructions from Thornton. The Superintendent shall have the authority to see that the Work is carried out in accordance with the Contract Documents and in a first class, thorough and Good and Workmanlike Manner in every respect.

- B. Incompetent, disorderly, intemperate, or incorrigible employees and or Subcontractors shall be removed from the Project by the Contractor when notified by Thornton, and such person shall not again be permitted to return to the Project site without the written consent of Thornton.
- C. The Contractor agrees to defend, indemnify, and hold Thornton harmless from any and all loss or damages arising out of labor disputes within the Contractor's control that occur during the performance of the Contract.

## **16. CONTRACTOR'S RESPONSIBILITIES**

The Contractor agrees that the following are Contractor's responsibility under the Contract Documents:

- A. Contractor shall supervise, inspect and direct the Work completely and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall promptly, as directed by Thornton, either correct all Defective Work, whether or not fabricated, installed or completed, or if the Work has been rejected by Thornton, remove it from the Project site and replace it with Work that is not Defective. Contractor shall pay all claims, costs, losses and damages caused by or resulting from such correction or removal (including, but not limited to, all costs of repair or replacement of the work of others).
- B. The Contractor shall comply with all federal, state, county, district, and municipal laws, ordinances, rules, regulations, building codes, and safety codes relating to or applicable to the Work and shall furnish certification of compliance at completion of the Work upon request of Thornton.
- C. The Contractor shall perform all Work and furnish all Materials, Equipment, Construction Equipment, labor, transportation, superintendence, Quality Control testing, facilities, services, means, methods, techniques, insurance, bonding, and utilities, except as otherwise specified in the Contract Documents, necessary or proper to perform and complete all Work required by and in accordance with the Contract Documents and pay for all applicable taxes, licenses, and permits incidental to performing the Work.

- D. The Contractor alone shall be solely responsible for:
1. All construction means, methods, techniques, sequences, and coordination of all Work under the Contract Documents;
  2. All conditions at the Project site, including the safety of all persons and property;
  3. The supervision, direction, and control of all Work under the Contract; and
  4. All safety procedures and precautions necessary in connection with the Work.
- E. These responsibilities of the Contractor shall apply continuously and shall not be limited to normal working hours. Review of construction by Thornton or Thornton's Representative shall not relieve the Contractor of such responsibilities.
- F. The Contractor shall furnish, erect, maintain, and remove all construction plant and all temporary works and facilities as may be required to perform the Work.
- G. The Contractor alone shall be fully responsible for the safety, efficiency, and adequacy of its Construction Equipment, Material and Equipment, facilities, and appliances, and for any damage which may result from their failure or their improper construction, maintenance, or operation.
- H. Thornton will provide Contractor with reports, drawings, specifications, and such other data as may be available to Thornton and reasonably required by Contractor to perform the Work. No Project information shall be disclosed by Contractor to third parties without prior written consent of Thornton or pursuant to a lawful Court Order directing such disclosure. All documents provided by Thornton to Contractor shall be returned to Thornton at the end of the Project or upon Thornton's request. Contractor is authorized by Thornton to retain copies of such documents at Contractor's expense.
- I. Regarding any electronic devices with data storage capability, including but not limited to computers and copiers, used by the Contractor in connection with the performance of Work, Contractor represents the following:

1. Devices, such as copiers or fax machines, which are not intended to be a data storage device for purposes of performing the Work hereunder, shall have their data storage devices scrubbed each day, either manually or automatically, to delete any data related to Thornton's Project.
2. At the time an electronic device with data storage capacity is taken out of service, all such devices will be securely scrubbed of all data related to Thornton's Project and all data storage drives will be physically destroyed prior to disposition of the device to insure no Thornton data could ever be retrieved from such device.

All data, drawings, designs, plans, reports, studies, schedules, computer programs (nonproprietary), computer input and output, analyses, tests, maps, surveys, or any other materials developed for this Project by Contractor are and shall be the sole and exclusive property of Thornton. Contractor hereby transfers any copyright, trademark, or other intellectual property rights to Thornton. However, any reuse of any documents by Thornton without prior written authorization by Contractor other than for the specific intended purpose of this Contract will be at Thornton's risk. Prior to disposal of any Project documents, the Contractor shall provide Thornton with a ten (10) Calendar Day written notice that it has documents it intends to dispose of, during which time Thornton may take physical possession of such documents.

## **17. CONTRACTOR'S UNDERSTANDING**

No verbal agreement or conversation with any officer, agent or employee of Thornton, either before or after the execution of the Contract, shall affect or modify any of the terms, conditions, or other obligations set forth in any of the Contract Documents. All Contract modifications must be in writing and be in the form of a Change Order.

## **18. CORRELATION OF DOCUMENTS**

- A. The Drawings and Specifications are complementary and supplementary. Portions of the Work which can best be illustrated by the Drawings may not be included in the Specifications, and portions best described by the Specifications may not be depicted on the Drawings. All items necessary or incidental to completely construct or erect the Work specified shall be furnished, whether called for in the Specifications or shown on the Drawings.
- B. The order of precedence of the Contract Documents shall be as established in the Contract. Any discrepancies between the Contract Documents shall promptly be brought to Thornton's attention for resolution.

## 19. DECISIONS OF THORNTON

Thornton, through its duly authorized representatives, shall within a reasonable time after appropriate notice, make decisions in writing on requests, disagreements, and claims between the Contractor and Thornton.

## 20. DEFINITIONS AND TERMS

When the Contract indicates that Work shall be "accepted, acceptable, approved, authorized, condemned, considered necessary, contemplated, deemed necessary, designated, determined, directed, disapproved, established, given, indicated, insufficient, interpreted, ordered, permitted, rejected, required, reserved, satisfactory, specified, sufficient, suitable, suspended, unacceptable or unsatisfactory", it shall be understood that these expressions are followed by the words "by Thornton".

Wherever the following abbreviations, terms, or pronouns are used in any of the Contract Documents, the intent and meaning shall be interpreted as follows:

### ABBREVIATIONS -

AAN	American Association of Nurserymen
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ADA	Americans With Disabilities Act
AGC	Associated General Contractors of America
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ANSI	American National Standards Institute, Inc.
ARA	American Railway Association

AREA	American Railway Engineering Association
ARTBA	American Road and Transportation Builders Association
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATSSA	American Traffic Safety Services Association
AWG	American Wire Gauge
AWPA	American Wood Preservers' Association
AWS	American Welding Society
AWWA	American Water Works Association
CCA	Colorado Contractors Association
CDOT	Colorado Department of Transportation
CP	Colorado Procedure
CPSC	Consumer Products Safety Commission
CRS	Colorado Revised Statutes, 1973, as amended
CRSI	Concrete Reinforcing Steel Institute
DBIA	Design Build Institute of America
EIA	Electric Industries Association
FHWA	Federal Highway Administration Department of Trans.
FSS	Federal Specifications and Standards
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
IMSA	International Municipal Signal Association

IPCEA	Insulated Power Cable Engineers Association
ITE	Institute of Transportation Engineers
MIL	Military Specifications
MUTCD	Manual on Uniform Traffic Control Devices
NEC	National Electrical Code
NEMA	National Electrical Manufacturers' Association
NIST	National Institute of Standards and Technology
NSF	National Sanitation Foundation
OSHA	Occupational Safety and Health Act
SAE	Society of Automotive Engineers
UL	Underwriters Laboratories, Inc.

**ADVERTISEMENT** - A public announcement inviting Bid Proposals for Work to be performed and/or Materials and Equipment to be furnished.

**APPLICATION FOR PAYMENT** – The application submitted by Contractor for payment for Work performed during the prior pay period. May also be called Pay Request.

**BASIS OF PAYMENT** - The terms under which Work is paid for, as designated in the Contract Documents.

**BID** – The offer of a Bidder, on the prescribed form(s), to perform the Work at the prices quoted. May also be referred to a Bid Proposal or Proposal.

**BIDDER** - An individual, firm or corporation submitting a Bid Proposal for the Work.

**BID PROPOSAL** - The offer of a Bidder, on the prescribed form(s), to perform the Work at the prices quoted. May also be referred to as Bid or Proposal.

**BID PROPOSAL FORM** - The documents furnished by Thornton on which the offer of a Bidder is submitted.

**BID PROPOSAL GUARANTY** - The security furnished with a Bid Proposal to guaranty that the Bidder will enter into the Contract if the Bid Proposal is accepted and a Contract is awarded.

**BUSINESS DAY** – Monday through Friday, except for holidays observed by Thornton.

**CALENDAR DAY** - Each and every day shown on the calendar, beginning and ending at midnight.

**CERTIFIED INVOICE** - An invoice from a supplier which has been endorsed by the Contractor guaranteeing that the Material was purchased and received and establishing the value of the Material.

**CHANGE ORDER** - A written order issued to the Contractor by Thornton which covers additions, deletions, or revisions to the Work, Extra Work, and/or any adjustment to the Contract Time and/or Contract Price. The Change Order is the only method authorized for modifying the Contract.

**CHANGED OR EXTRA WORK** - Work not provided for in the Contract as awarded, but determined by Thornton to be essential to the satisfactory completion of the Contract within its intended scope.

**CONDITION PRECEDENT** – An act or event that shall occur prior to the start of a subsequent act or event as defined by the Contract Documents.

**CONSTRUCTION EQUIPMENT** – All plant, machinery, tools and apparatus, including parts and supplies for operation and maintenance, which are necessary for the proper construction and acceptable completion of the Work.

**CONTRACT DOCUMENTS** - The Contract Documents are comprised of the items listed in the Contract.

**CONTRACT PRICE** – The monies payable by Thornton to Contractor for completion of the Work in accordance with the Contract Documents.

**CONTRACT TIME** - The number of Calendar Days, including authorized time extensions, allowed for Substantial Completion of the Work. Where a calendar date of completion is specified, the Work shall be substantially completed on or before that date, including authorized time extensions.

**CONTRACTOR** – The Party contracting directly with Thornton to furnish and perform all Work in accordance with the Contract Documents.

**DEFECTIVE** - An adjective which, when modifying the word Work, refers to Work that is unsatisfactory, faulty or deficient, in that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to Initial Acceptance (unless responsibility for the protection thereof has been assumed by Thornton in writing at Substantial Completion).

**DRAWINGS** - The drawings or reproductions provided by Thornton which show the location, character, dimensions and details of the Work. May also be called Plans.

**ENGINEER** – depending on the context, Engineer may mean the person or designated representative assigned by Thornton within the Infrastructure Department to fulfill the responsibility, duty, and authority associated with the position of City Engineer or Traffic Engineer, or Engineer may mean the consulting engineer engaged by Thornton to produce designs, drawings, and specifications for the construction of the Project.

**FINAL ACCEPTANCE** - The acknowledgment by Thornton that the Warranty Period has expired and outstanding items have been repaired to the satisfaction of Thornton and there appears to be no further outstanding items to be corrected under the Warranty.

**FINAL PAYMENT** – The final amount due to the Contractor, as may be adjusted for any verified statements of claim properly filed with Thornton, upon achieving Initial Acceptance of the Work and payable at 5:00 p.m. on the Final Settlement Date.

**FINAL SETTLEMENT DATE** - The date designated by Thornton in accordance with CRS 38-26-107, as may be amended from time to time.

**GENDER AND NUMBER** - References are made as if masculine in gender and singular in number unless neuter gender is appropriate in the context; however, the use of any gender shall be applicable to all genders and the use of singular number shall include the plural and conversely.

**GOOD AND WORKMANLIKE MANNER** - In a manner generally considered skillful by those capable of judging such Work and as compared to industry standard practices in the Denver Metropolitan Area.

**GOOD REPAIR** - A condition free from any defect, functional problems, or structural deterioration (except that from ordinary and reasonable use) which appreciably reduces the effectiveness or efficiency of the Work for the purpose intended, or any departure from the standards of original construction described in the Contract Documents. The Contractor warrants that the Work shall be in Good Repair during the Warranty Period.

**INITIAL ACCEPTANCE** - An acknowledgment by Thornton that, to the best of Thornton's knowledge, all Work, including Punch List items, has been completed in accordance with the Contract Documents. Initial Acceptance shall not release the Contractor of any Warranty obligations.

**LUMP SUM PRICE** – Prices as established by the Bid Proposal, Schedule of Contract Items and Prices, for elements of Work which are to be installed complete in place and paid as a stipulated sum for the entire element of Work.

**MATERIALS AND/OR EQUIPMENT** - All components, articles, appliances, devices, substances, supplies, and miscellaneous items specified or required for the construction of the Work.

**MAY** – Permissive.

**METHOD OF MEASUREMENT** - The manner in which a Pay Item is measured.

**MILESTONE DATE** – A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of the entirety of the Work.

**NON-CONFORMANCE** - Not in accordance with the terms and conditions set forth in the Contract Documents.

**NOTICE OF AWARD** – The written notice provided by Thornton to the successful Bidder awarding a Contract for the Work.

**NOTICE TO PROCEED** - Written notice to the Contractor to proceed with the Work, including, when applicable, the date of the beginning and the end of the Contract Time.

**OWNER** - The City of Thornton or its designated representative. May also be referred to as Thornton or the City.

**PAY ITEM** - A specifically described element of Work for which a price is agreed to in the Contract Documents.

**PLANS** - The drawings, or reproductions, provided by Thornton, which show the location, character, dimensions, and details of the Work. May also be called Drawings.

**PROJECT** - The overall project of which the Work may be all or only a part.

**PUNCH LIST** – The list of Work items contained in the Certificate of Substantial Completion that the Contractor is required to complete or correct prior to Thornton granting Initial Acceptance.

**QUALITY ASSURANCE TESTING** – The testing performed and paid for by Thornton to assist in evaluating whether Materials or workmanship complies with the quality requirements.

**QUALITY CONTROL TESTING** – The testing that the Contractor performs at its cost to assure that all Materials and workmanship have met the minimum standards for quality.

**RECORD DRAWINGS** – Drawings or other construction documents continuously maintained by the Contractor during the course of construction to show changes made to the original Drawings and/or Specifications. May also referred to as As-Built drawings.

**RIGHT-OF-WAY** - A general term denoting land, property, or interest therein, acquired for or devoted to the construction of an improvement; may also be referred to as ROW.

**SALVAGEABLE MATERIAL** - Material that can be saved or salvaged.

**SAMPLES** - Physical examples furnished or constructed by the Contractor to illustrate Materials, and Equipment, workmanship or finishes, and to establish standards by which the Work will be judged.

**SCHEDULE OF WORK** – A bar chart schedule or a critical path method (CPM) schedule, as the Contract Documents require, which graphically depicts the Contractor's plan for the performance of the Work from Notice to Proceed to Substantial Completion.

**SHALL** - Mandatory.

**SHOP DRAWINGS** – Drawings, diagrams, schedules and other data specifically prepared for the Work by the Contractor or Subcontractor or sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

**SPECIFICATIONS** – Those portions of the Contract Documents, which may also be known as the Technical Specifications, consisting of the written technical descriptions of Materials and Equipment, construction systems, standards, and workmanship applicable to the Work.

**STOP WORK ORDER** – An order issued by Thornton to the Contactor to suspend Work under the Contract; except Work necessary to assure the safety and protection of persons and property shall continue to be the responsibility of the Contactor unless otherwise directed by Thornton.

**SUBCONTRACTOR** – A party supplying labor and material, or only labor, for Work under a separate contract or agreement with the Contractor. Nothing contained in the Contract Documents shall create any contractual relationship between Thornton and any Subcontractor.

**SUBMITTALS** - Shop Drawings, Samples, diagrams, illustrations, certificates, test reports, schedules, performance charts, brochures, shop layouts, fabrication

layouts, assembly layouts, foundation layouts, wiring and piping layouts, specifications and descriptive literature, and any other submittals required by the Contract Documents, which are prepared by the Contractor or a Subcontractor, manufacturer, supplier or distributor, and which illustrate some portion of the Work.

**SUBSTANTIAL COMPLETION** - When the Work is sufficiently completed so it may be utilized by Thornton for the purposes for which it was intended, in accordance with applicable life, health, and safety codes, but excluding minor Work to be completed or corrected as Punch List Work.

**SUBSTANTIAL COMPLETION DATE** - The date on which all the Work is required to be substantially completed. May also be called Date of Substantial Completion.

**SUPERINTENDENT** - The Contractor's authorized on-site representative in charge of directing the Work.

**THORNTON'S REPRESENTATIVE** - Thornton's authorized on-site representative assigned to observe the Work.

**UNIT PRICE** - Prices as established by the Bid Proposal, Schedule of Contract Items and Prices and/or by Change Orders for discrete elements of Work intended to be paid by multiplying the actual quantity of Work performed by the Unit Price bid or subsequently agreed upon by Change Order.

**WARRANTY PERIOD** - The period from Initial Acceptance to Final Acceptance during which the Contractor is responsible for corrections to keep the Work in Good Repair.

**WORK** - All Materials and Equipment incorporated or to be incorporated into the Work, and all labor, expendable equipment, utilities, transportation, operations and services necessary to produce the construction, including all obligations, duties, and responsibilities necessary to the successful completion of the construction of the Work in Good and Workmanlike Manner.

## **21. DISPUTE VENUE/APPLICABLE LAW/STATUTE OF LIMITATIONS**

- A. In the event of any dispute arising under the Contract, venue shall lie in the DISPUTE District Court in and for the County of Adams, State of Colorado.
- B. The laws of the State of Colorado shall apply to any dispute, notwithstanding its choice of law principles.
- C. Any action arising out of or relating to the Contract or the Work asserted by the Contractor against Thornton shall be brought within two (2) years from when the action accrued, pursuant to C.R.S. § 13-80-102(h).

## **22. DRAWINGS AND SPECIFICATIONS**

- A. After execution of the Contract, Thornton will provide the Contractor with four (4) sets of Drawings and Specifications. If additional Drawings and Specifications are required, the Contractor can download and print the required number of documents at its expense from Thornton's on-line document posting service provider.
- B. When, in the opinion of Thornton, revised partial Plans, Drawings and/or Specifications are required to clarify or reflect Changed or Extra Work, Thornton shall provide four (4) copies of such revisions to Contractor. Additional copies shall be paid for by the Contractor. Contractor shall immediately post such revisions to the Record Drawings to be maintained by the Contractor.
- C. The Drawings and Specifications are the property of Thornton and are furnished to the Contractor solely for the construction of the Work.
- D. Data and Measurements. The data given in the Specifications and shown on the Drawings are believed to be accurate, but Thornton does not guarantee the accuracy of such data. It is the Contractor's responsibility to confirm all levels, locations and measurements, and verify all dimensions prior to construction and adapt the Work to the exact limits of construction. Scale measurements taken from Drawings are solely for reference and must be verified by the Contractor.

## **23. DRAWINGS SHOWING CHANGES DURING CONSTRUCTION (Record Drawings or As-Builts)**

Throughout construction, the Contractor shall maintain a thorough up-to-date record of all changes on the Drawings made during construction. As a condition precedent prior to granting Initial Acceptance, the Contractor shall file with Thornton one (1) set of complete reproducible red lined Record Drawings showing all changes and including Contractor's field construction notes neatly and legibly recorded thereon. Such drawings shall include, but not be limited to, the exact routing if changed from drawing location of sewer, water, gas, oxygen supply, condenser water lines, fuel oil tanks and lines, fire protection lines, and any other buried utility lines, and routing of buried electrical feeder lines and changes to routing of conduit runs which are buried or concealed in concrete slabs.

## **24. EXTENSION OF CONTRACT TIME**

- A. The Contractor expressly agrees that in undertaking to complete the Work within the Contract Time, it has taken into consideration and made allowances in the Schedule of Work for all delays and hindrances incidental to such Work, whether growing out of delays in securing Materials and Equipment, labor, normal inclement weather, or otherwise.

- B. If the Contractor is delayed at any time in the progress of the Work by an act or omission of Thornton, any separate contractor employed by Thornton, Changed or Extra Work, industry-wide labor strikes, fire, epidemics, quarantine restrictions, freight embargoes, unavoidable casualties, abnormal weather conditions, causes beyond the Contractor's control, or by any other cause which Thornton determines may justify the delay, the Contract Time shall be extended for such reasonable time as Thornton may determine based on the timing and submittal requirements set forth below; provided, however, that such delay could not have been avoided by the exercise of due diligence by the Contractor.
- C. No extension of the Contract Time will be granted for:
1. Variations between an original Contract Pay Item quantity estimate and the actual Pay Item quantity placed unless such variance exceeds one hundred twenty-five percent (125%) of the original Contract Pay Item quantity estimate;
  2. Rain, snow, wind, flood, or natural phenomena of normal intensity for the locality where the Work is to be performed;
  3. Acts or omissions of the Contractor or its Subcontractors;
  4. Delays occurring concurrently (either at the same time, on the same critical path, or on a concurrent critical path) with delays attributable to acts or omissions of the Contractor or its Subcontractors; and/or
  5. A delay occurring to an activity which is not on the then-current critical path.
- D. A Request for an Extension of the Contract Time shall be submitted in writing to Thornton no later than ten (10) Calendar Days after the commencement of the delay. In the case of a continuing delay for the same cause, only one request is necessary.

The Contractor shall support its Request for an Extension of the Contract Time with a supplemental submittal, which shall be submitted to Thornton within fourteen (14) Calendar Days of submitting the initial Request. The Contractor's supplemental submittal shall include:

1. A description of the activities that were delayed, the reasons for the delay, an explanation of how they were delayed, and a detailed factual statement relative to all relevant dates, locations, etc.;
2. A schedule analysis (based on the critical path method) which shows in graphic form how and where a delay on the then-current critical path occurred and its effect on any Milestone Date or the Substantial Completion Date; and

3. An explanation of the Contractor's efforts to reschedule the Work in order to mitigate the effect of the delay and/or prevent further delays.

In the event the Contractor requires more than fourteen (14) Calendar Days to provide the supplemental submittal, the Contractor shall request in writing an extension of time from Thornton within the fourteen (14) Calendar Day period. If the supplemental submittal or a request for an extension of time to submit the supplemental submittal is not received by Thornton within the fourteen (14) Calendar Day period, the Contractor waives any claim for an extension of Contract Time therefor.

- E. If abnormal weather conditions are the basis for a Request for an Extension of the Contract Time, such request shall be supported by data substantiating that weather conditions during the period of time impacted were unusually severe and could not have been reasonably anticipated. To establish the existence of abnormal weather, the Contractor must submit documentation which shows that the weather conditions experienced in a given calendar month fall outside of the extreme ranges of weather data for the Denver area published by the National Climatic Data Center during the same calendar month over the prior ten (10) year period. The existence of abnormal weather is not sufficient in itself to justify an extension of Contract Time; the Contractor must still demonstrate that the abnormal weather delayed specific activities that were on the then-current critical path that controlled the overall completion of the Work.
- F. Failure to strictly comply with the timing and submittal requirements of this section shall constitute a waiver by Contractor of any Request for an Extension of the Contract Time. All extensions to the Contract Time shall be by Change Order. No oral extensions of Contract time shall be granted by Thornton or may be relied upon by the Contractor.
- G. Notwithstanding anything to the contrary in the Contract Documents, an extension to the Contract Time, to the extent permitted under this section, shall be the sole and exclusive remedy of the Contractor for any delay in the commencement, prosecution, or completion of the Work; hindrance, interference, or obstruction in the Contractor's performance of the Work; loss of productivity; or other similar claims, whether or not such delays are foreseeable. In no event shall the Contractor or its Subcontractors be entitled to any compensation or recovery of any damages in connection with any delay to the Work. The Contractor hereby waives any and all claims past, present, or future for monetary damages arising out of or related to any delay or interference including, without limitation, consequential damages, lost opportunity costs, lost profits, impact damages, acceleration damages, loss of labor productivity damages, all other time related damages, or other similar remuneration against Thornton. Thornton's exercise of any of its rights or remedies under the Contract Documents, regardless of the extent or frequency of Thornton's exercise of

such rights of remedies, shall not be construed as active interference with the Contractor's performance of the Work.

## **25. INDEMNIFICATION**

- A. To the fullest extent permitted by law, Contractor agrees to defend, indemnify and hold harmless Thornton, its officers, agents and employees, from and against all liability, judgments, damages or losses which arise out of, result from, or are in any manner connected with the Work to be performed under this Contract, to the extent it is determined such liability, judgments, damages or losses were caused by the negligent acts, errors, or omissions of Contractor, any subcontractor of Contractor, or any officer, employee or agent of Contractor, or anyone else employed directly or indirectly by any of them or anyone for whose acts any of them may be liable and will pay to Thornton any expenses incurred by reason of such liability, judgments, damages or losses, including, but not limited to, court costs and reasonable attorneys' fees incurred in defending or investigating such claims. Such payments on behalf of Thornton shall be in addition to any and all other legal remedies available to Thornton and shall not be considered Thornton's exclusive remedy.

## **26. LAWS, PERMITS, LICENSES, REGULATIONS, ETC.**

- A. In executing the Work, the Contractor shall comply with all applicable federal and state laws, municipal ordinances, and rules and regulations of all authorities having jurisdiction over employment discrimination, wages and working conditions, and the construction of the Work including, but not limited to, all construction or building codes, OSHA requirements, and safety codes which apply to:
1. Performance of the Work;
  2. Protection of the Project site, adjoining and/or adjacent property; and
  3. Maintenance of passage-ways, guard fences, or other protective facilities.
- B. The Contractor shall obtain all permits and pay for all licenses and approvals necessary for the construction of the Work and give all required notices.

## **27. LIQUIDATED DAMAGES - TIME AN ESSENTIAL ELEMENT**

- A. It is mutually understood and agreed that time is an essential element of the Contract and that it is critical that the Work progress vigorously to completion.

- B. The Contractor agrees that the Work shall be prosecuted regularly, diligently, and uninterrupted at such rate of progress as will insure Milestone Dates are met and Substantial Completion is achieved within the Contract Time. Contractor understands that the Substantial Completion Date set forth in the Contract Documents is a reasonable time for completion of the Work, taking into consideration the average of the preceding ten (10) years' climatic range during the specified Contract Time based on U.S. Weather Bureau statistics for the locality where the Work is to be performed and the usual industrial conditions prevailing in that locality.
- C. If the Contractor neglects, fails or refuses to complete the Work within the Contract Time, then for each Calendar Day after the end of the Contract Time Substantial Completion of the Work is not achieved, the amount per Calendar Day specified in the Special Conditions shall be assessed by Thornton, not as a penalty, but as a predetermined and agreed upon Liquidated Damages.
- D. The amount is fixed and agreed upon by and between the Contractor and Thornton because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages Thornton would sustain in the event the Work is not completed by a Milestone Date or the Date of Substantial Completion.
- E. Thornton shall have the right to deduct Liquidated Damages from any money due, or to become due the Contractor, and to sue for and recover any additional compensation for damages for non-performance of the Contract.
- F. The assessment of Liquidated Damages for failure to complete the Work within the Contract Time shall not constitute a waiver of Thornton's right to collect any additional damages which Thornton may sustain by failure of the Contractor to carry out the terms of this Contract.
- G. If Liquidated Damages for Milestone Dates are specified in the Special Conditions, all conditions for Liquidated Damages shall apply to each and every Milestone specified. All Milestones represent independent damages Thornton will suffer and therefore shall be viewed independently. All Milestones shall be cumulative, increasing by the amount specified for each date the Contractor does not achieve substantial completion for each specific Milestone. If the Contractor fails to obtain Substantial Completion of the Work within the Contract Time, the Liquidated Damages for Milestone Dates shall cease to accrue and Liquidated Damages for failure to complete the Work will commence.

## **28. MATERIALS, EQUIPMENT, SUPPLIES, SERVICES, FACILITIES**

- A. It is understood that, except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all Materials and Equipment, Construction Equipment, including rental equipment, water, heat, light, fuel, power, transportation, superintendence, temporary construction of every nature, and all other services and facilities of every nature whatsoever necessary to execute, complete, and deliver the Work in a Good and Workmanlike Manner within the Contract Time.
- B. No Materials or Equipment shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

## **29. NON-DISCRIMINATION**

Contractor, its agents, employees, and Subcontractors shall not discriminate on the basis of race, color, creed, national origin, ancestry, age, gender, religion, or physical or mental disability in any policy or practice.

## **30. NOTICE AND SERVICE**

Where the manner of giving notice is not otherwise provided, notice to the Contractor from Thornton shall be in writing and considered delivered and service completed, when the notice is posted, by mail via the United States Postal Service, to the Contractor at the address given in the Contractor's Bid Proposal, or delivered in person to the Contractor or its authorized representative on the Project site.

## **31. OPERATIONS AND STORAGE AREAS**

- A. All operations of the Contractor (including storage of Materials and Equipment) shall be confined to areas authorized by Thornton. The Contractor shall be liable for any and all damages to such premises.
- B. The Contractor shall defend, indemnify, and hold harmless Thornton from liability of any nature or kind arising from any use, trespass, or damage occasioned by its operations on the premises of third persons.
- C. The Contractor shall be responsible for the care, compliance with law, and storage of Materials or Equipment delivered to the Project site or purchased for use thereon. Stored Materials or Equipment shall be carefully and continuously protected from damage or deterioration and located so as to facilitate inspection by Thornton. The responsibility for the care and storage of Materials or Equipment shall be the Contractor's whether such Materials or Equipment are furnished by the Contractor or by Thornton. Storage of Materials or Equipment shall not unduly interfere with the progress of the Contractor's Work or the work of any other contractor.

### **32. OR EQUAL CLAUSE**

- A. The inclusion of a manufacturer's name, trademark, or other proprietary identification of a product shall not limit competition, but shall establish a standard of quality, implying an "or equal" clause, unless expressly specified otherwise (see Special Conditions). However, the substitution of a product in place of that specified shall be permitted only upon Thornton's issuance of written approval in the form of an addendum or Change Order in response to a formal request submitted by the Contractor sufficiently in advance to allow adequate time for evaluation by Thornton. If Thornton, in its sole discretion, determines that tests are necessary for a proper evaluation, such testing shall be performed as specified by Thornton and at the Contractor's expense.
  
- B. The substitution of a product shall be subject, without limitation, to any requirements listed in the Special Conditions or other parts of the Contract Documents and the following conditions:
  - 1. It is determined by Thornton that the proposed substitute product is equal or superior in properties, quality, character, and appearance to that specified;
  - 2. Such changes as may be required in the Work to install the substitute product and to properly integrate it into the Work are approved by Thornton;
  - 3. All costs for changes due to substitutions are the responsibility of the Contractor;
  - 4. The Contractor will provide at least the same warranty for the substitution that the Contractor would have provided for the product specified; and
  - 5. The effect of the substitution on the total cost of the Work is approved by Thornton.

### **33. ORDER OF CONSTRUCTION**

Where Thornton's operations require specific sequencing of the Work, such sequencing requirements as provided for in the Contract Documents shall be followed.

### **34. OVERTIME**

Any Work necessary to maintain the Schedule of Work that is considered shall be performed without additional expense to Thornton. The Contractor shall notify Thornton in writing a minimum of two (2) Business Days in advance of any overtime Work being performed.

### **35. PATENTS, COPYRIGHTS, AND ROYALTIES**

- A. The Contractor shall protect, defend, indemnify, and hold harmless Thornton and its officers, agents, servants, and employees from liability of any nature or kind, including cost and expenses for, or on account of any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the Work, including its use by Thornton or Thornton's officers, agents, servants, or employees, unless otherwise specified in the Contract Documents.

If the Contractor uses any design, device, or Materials and Equipment covered by letters, patent or copyright, it shall provide for such use by suitable agreement with the owner of such patented or copyrighted design, device or material. It is mutually agreed and understood that without exception, the Contractor shall pay all royalty and license fees and the Contract Price shall include all royalties or costs arising from the use of such design, device, or Materials and Equipment in any way involved in the Work. The Contractor and/or its Surety shall defend, indemnify and hold harmless Thornton from any and all claims for design, device, or Materials and Equipment, or any trademark or copyright in connection with the Work, and shall indemnify Thornton for the cost, expense, or damage which it may be obligated to pay by reason of such infringement during the prosecution of the Work or after completion of the Work.

### **36. PAYMENT FOR USE, OR OCCUPANCY OF WORK, SUBSTANTIAL COMPLETION, PUNCH LIST, FINAL PAYMENT, WARRANTY PERIOD**

No progress or Final Payment, nor any partial or entire use or occupancy of the Work, nor acceptance thereof, by Thornton shall be construed to be acceptance of Defective Work or improper Materials or Equipment, either wholly or in part. The Contractor's obligation to perform and complete the Work in strict accordance with the Contract Documents shall be absolute.

- A. When the Contractor considers the Work to be substantially complete, the Contractor shall make a written request to Thornton for the issuance of a Certificate of Substantial Completion. Thornton, upon receipt of the request, shall make an inspection of the Work and either issue a written Certificate of Substantial Completion, or deny the Contractor's request in writing and provide the reasons for such denial.
- B. In the case of a denial of the issuance of a Certificate of Substantial Completion, the Contractor shall complete the Work so as to address Thornton's concerns and comply with the Contract Documents and shall again request in writing that Thornton issue a written Certificate of Substantial Completion. Thornton will handle any subsequent requests as outlined herein.

- C. If Thornton issues a Certificate of Substantial Completion, the Certificate shall list any items remaining to be completed as Punch List items and shall set a date certain by which the Contractor shall complete or correct the Punch List items. The date certain shall not be longer than thirty (30) Calendar Days beyond the date of the Certificate of Substantial Completion. If the Contractor does not provide in writing within four (4) Calendar Days of the issuance of the Certificate of Substantial Completion good and sufficient reasons why the Punch List Work cannot be completed by the date established in the Certificate of Substantial Completion, the date shall be as established in the Certificate and the Punch List Work shall be completed by that date. If the Contractor does provide good and sufficient reason why the Punch List Work cannot be completed by the date certain, Thornton will revoke the Certificate of Substantial Completion until such time as the Work is sufficiently complete to allow the Punch List work to be completed within thirty (30) Calendar Days from the date of Substantial Completion. If the Contractor does not complete the items on the Punch List by the date certain, Thornton, upon seven (7) Calendar Days notice, shall have the option to withhold from the Final Payment up to two (2) times the value of the uncompleted Work, to complete any uncompleted Work or repair deficient Work, and to deduct the actual cost from any amounts due or that become due to the Contractor and or to seek compensation from the Surety.
- D. Upon completion of the Punch List items, the Contractor shall make written application to Thornton for an inspection of the Work. Thornton will promptly make such inspection, and when Thornton finds the Work acceptable and complete under the Contract Documents, Thornton will promptly grant Initial Acceptance and will, as required by CRS 38-26-107 as may be amended, establish the Final Settlement Date and post or advertise the Notice of Contractor's Final Settlement.
- E. The Contractor shall submit a final Application for Payment upon completion of the Punch List. Prior to receiving Final Payment, the Contractor, if requested by Thornton, shall file with Thornton:
1. Receipts showing payment in full;
  2. A waiver of claims and/or liens from each Subcontractor, material men, supplier, manufacturer, and dealer for all labor, Material and Equipment used or furnished by each on the Work; and
  3. A complete release of all claims and/or liens of the Contractor which may have arisen under the Contract.

In lieu thereof, Thornton may request and the Contractor shall file statements showing the balance due on all accounts. The manner in which settlement is made by Thornton with the Contractor shall not release the Contractor or its Surety.

- F. The Warranty Period shall begin on the Date of Initial Acceptance. Thornton will issue Initial Acceptance in writing that shall set out the beginning and end dates for the Warranty Period.
- G. The Contractor shall be responsible for the maintenance, security, heat, utilities, damages to the Work, and insurance until the date of Initial Acceptance. In addition, the Contractor shall be responsible for the provision of maintenance, security, heat, utilities, damages to the Work, and insurance for the affected portion of the Work during any period in which the Contractor is called upon to perform Warranty Work.

### **37. PAYMENT WITHHELD**

- A. Thornton may withhold payment or, on account of subsequently discovered evidence, may nullify the whole or part of any payment certificate as may be necessary to protect Thornton from loss on account of any one (1) or more of the following:
  - 1. Defective Work not remedied, Thornton may withhold up to two (2) times the value of the defective Work;
  - 2. Claims filed or notice indicating probable filing of claims of third parties against the Contractor;
  - 3. Failure of the Contractor to make payments to Subcontractors or to make payments for labor, Material, Equipment, Construction Equipment, or equipment rental;
  - 4. Reasonable doubt that the Work can be completed for the balance of the Contract Price remaining;
  - 5. Damage to a Subcontractor or another contractor;
  - 6. Failure or refusal of the Contractor to comply with an instruction of Thornton within a reasonable time;
  - 7. Unsatisfactory prosecution of the Work;
  - 8. Liquidated Damages assessed against the Contractor;
  - 9. Failure to comply with the provisions of the Contract Documents;

10. Being in arrears to Thornton for any amounts owed to Thornton;
  11. Failure to supply or update the Schedule of Work; and/or
  12. Damage to Thornton's property or equipment.
- B. When the above grounds are removed, payment shall be made for amounts withheld. The right to withhold payment; however, shall not preclude Thornton from its right to declare the Contract in default for any of the reasons specified in the General Conditions – Contract in Default.

### **38. PERSONAL LIABILITY OF THORNTON**

In carrying out any of the provisions of the Contract or in exercising any power or authority granted thereby, there shall be no liability upon Thornton's duly authorized representatives, either personally or as officials of Thornton, it being understood that in such matters, they act as agent and representatives of Thornton.

### **39. POTENTIALLY DANGEROUS WORK**

- A. When the use of explosives, driving, or removal of piles, wrecking, excavation, or other similarly potentially dangerous activities are necessary for the prosecution of the Work, the Contractor shall exercise the utmost care so as not to endanger life or property. The Contractor shall be fully responsible for any and all damages, claims, and for the defense of any actions against Thornton resulting from such potentially damaging activity, including payment of attorneys' fees.
- B. The Contractor shall notify each public utility company or other owner of property having structures or improvements in proximity to the Project site of its intent to perform potentially dangerous activities. Such notice shall be given sufficiently in advance to enable the companies or owners of property to take such steps as they deem necessary to relieve the Contractor of responsibility for any damages, claims, or the defense of any actions against Thornton resulting from the performance of such Work.
- C. All explosives shall be stored in a secure manner and all storage places shall be marked clearly "EXPLOSIVES - KEEP OFF", and shall be in the care of competent watchmen at all times.

### **40. PROGRESS PAYMENTS/APPLICATIONS FOR PAYMENT**

- A. When monthly progress payments are authorized, the Contractor shall, on the date established by Thornton, submit to Thornton an itemized Application for Payment, on forms provided by Thornton and supported by such data substantiating the Contractor's right to payment as Thornton may require.

- B. If payments are to be authorized on account of Materials and Equipment not incorporated in the Work, but delivered and suitably stored at the Project site, which are necessary for the orderly prosecution of the Work, the Contractor shall furnish with its Application for Payment bills of sale, bills of lading, Certified Invoices, or such other evidence as may be appropriate and satisfactory to Thornton that establishes:
1. Actual cost, including transportation to the Project site, of such Materials and Equipment;
  2. Titles thereof in Thornton's name, upon payment; and
  3. Appropriate insurance coverage to protect Thornton's interest therein upon payment.
- C. The Contractor warrants that title to all Materials and Equipment covered by an Application for Payment, whether incorporated into the Work or not, shall pass to Thornton upon receipt of payment by the Contractor. The Contractor further warrants that upon submittal of an Application for Payment for Work for which payment has been received from Thornton, shall to the best of the Contractor's knowledge, information, and belief, be free and clear of all liens, claims, security interests, or encumbrances in favor of the Contractor, Subcontractors, suppliers, or other persons or entities making a claim by reason of having provided labor, Materials or Equipment relating to the Work; and that such Materials or Equipment furnished or installed comply with the requirements of the Contract Documents.
- D. The passing of title to Thornton shall not be construed as relieving the Contractor of the sole and complete responsibility for:
1. The care and protection of the Work, Materials and Equipment for which payment has been made; and
  2. The restoration of any damaged or destroyed Work, Materials or Equipment. Such responsibility shall continue until all Work under the Contract has been completed and accepted by Thornton.
- E. Thornton shall make progress payments on account of the Contract Price on the basis of Contractor's Application for Payment and shall make payment to Contractor within thirty (30) Calendar Days after the Application for Payment is approved by Thornton. All such payments will be measured by the schedule of values established in the Contract Documents (and in the case of Unit Price Work based on the number of

units completed) or in the event there is no schedule of values, as provided in the Special Conditions.

- F. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below, less the aggregate of payments previously made and less such amounts as Thornton is entitled to withhold in accordance with General Conditions - Payment Withheld:
1. Ninety-five percent (95%) of the Work completed (with the balance being retainage). Thornton may determine that as long as the character and progress of the Work remain satisfactory to it, no additional retainage will be withheld.
  2. Ninety-five percent (95%) (with the balance being retainage) of Materials and Equipment not incorporated in the Work, but delivered, suitably stored and accompanied by documentation satisfactory to Thornton as provided by the Contract Documents.
- G. Under no circumstances shall payment constitute a waiver of Thornton's right to require the Contractor to fulfill all of the requirements of the Contract Documents.

#### **41. PROTECTION OF PERSONS**

- A. The Contractor shall:
1. At all times protect the lives and health of its employees and Subcontractors;
  2. Take all necessary precautions for the safety of all persons on or in the vicinity of the Project site; and
  3. Comply with all applicable federal, state, county, and municipal safety laws and codes.
- B. Contractor shall comply with all provisions of the "Williams Steiger Occupational Safety and Health Act of 1970" (OSHA), including any amendments thereto and rules and regulations issued pursuant thereto, applicable to the Work and performance of the Contract. Whereas the state in which the Work is performed has passed legislation bearing on Occupational Safety and Health, such legislation and amendments thereto, together with rules and regulations issued pursuant thereto shall be complied with by the Contractor.

## **42. PROTECTION OF PROPERTY**

- A. The Contractor, at no additional expense to Thornton, shall at all times:
1. Safely guard Thornton's property and abutting or adjacent property from injury, loss, or damage;
  2. Protect by false work, braces, shoring or other effective means all buildings, foundations, walls, fences, and other property along his line of Work, or affected directly by its Work, including, but not limited to, Thornton's property, against damage;
  3. Cover or otherwise protect stockpiles of Materials to avoid damage to the Materials and damage to any property from such Materials; and
  4. Repair, replace, or make good any such damage, loss or injury, unless caused directly by Thornton.
- B. The Contractor shall exercise care to protect from injury all water lines, sanitary sewer lines, gas mains, telephone cables, electric cables, services pipes, and other utilities or fixtures which may be encountered during the Work. All utilities and other service facilities or fixtures, if damaged, shall be repaired by the Contractor at its sole expense.
- C. The Contractor, at no additional expense to Thornton, shall at all times safely guard and protect the Work; provide, erect, and maintain suitable barriers around all excavations or obstructions to prevent accidents; and provide, place, and maintain during the night sufficient lights, signals, and signs for this purpose on or near the Work. The Contractor shall at all times, until Initial Acceptance, protect the Work, Equipment and Material from accidental or any other damage and repair any damage at no cost to Thornton.

## **43. QUALITY OF MATERIALS**

In the absence of detailed Specifications, all Materials and Equipment shall conform to the latest standards of the American Society for Testing Materials (ASTM) available at the time the Invitation for Bids is issued, unless otherwise indicated.

## **44. REFERENCE TO STANDARD SPECIFICATIONS**

Any reference to standard specifications in any of the Contract Documents shall always imply the latest edition of such standard specification or specifications available at the time the Invitation for Bids is issued, unless otherwise indicated.

**45. REMEDY OF DEFECTS, THORNTON'S RIGHT TO CORRECT**

If, in the opinion of Thornton, a defect exists, or functional or structural deterioration takes place, or substantial departure from the standards of original construction exists in the Work, Thornton shall notify the Contractor by letter sent by mail via the United States Postal Service to the address given in the Contractor's Proposal. If the Contractor does not proceed within seven (7) Calendar Days of the date of the notice, to remedy such defects, deficiencies, deterioration or departures, or the Contractor's remedies are not adequate as determined by Thornton, Thornton may cause the repairs to be made as Thornton deems appropriate, and the cost shall be paid by the Contractor or its Surety or deducted from amounts due or that become due the Contractor.

**46. RIGHT-OF-ENTRY**

Contractor shall provide to Thornton, Thornton's Representative and representatives of federal, state, county, district and municipal governments complete and free access to the Work, whenever access is requested by Thornton.

**47. RIGHT OF THORNTON TO TERMINATE THE CONTRACT**

Should it appear at any time that the Work is not being prosecuted to insure completion of the Work by a Milestone Date or within the Contract Time, and if upon seven (7) Calendar Days written notice to the Contractor, the Contractor fails to increase the quality or the quantity of the Work, or both, Thornton shall have the right to terminate the Contract and complete the Work as it deems appropriate. The Contractor shall not be entitled to any damages on account of such termination, and will be held liable for all costs and expenses incurred by Thornton in completing the Work. All money due the Contractor will be retained until the Work is completed and all expenses and costs have been deducted, and any money due Thornton shall be paid by the Contractor or its Surety.

**48. RIGHT-OF-WAY**

Thornton will furnish land and ROW as shown in the Contract Documents for the performance of the Work. Contractor shall confine its operations to the ROW furnished.

**49. SANITARY CONVENIENCES**

The Contractor shall furnish the necessary sanitary conveniences, properly secluded, for the use of workers during construction, and these conveniences shall be maintained in a manner that will be inoffensive and in compliance with federal, state, and local health and sanitation requirements.

## **50. SECURITY - CONTRACT**

- A. The Contractor shall furnish two (2) separate surety bonds (in the form attached), each in an amount at least equal to one hundred percent (100%) of the Contract Price as security for the following:
  - 1. The faithful performance of the Contract and the terms, conditions, and stipulations contained therein; and
  - 2. Payment of all laborers and mechanics for labor performed and payment for all Materials and Equipment furnished and for all Construction Equipment used or rented in the performance of the Contract.
- B. The Surety on such bonds shall be satisfactory to Thornton, shall be a duly authorized surety company licensed to do business in the State of Colorado, shall appear in the latest Federal Register Circular 570 as published by the Department of the Treasury, unless otherwise approved by Thornton, and shall have no less than a Best's A Rating. The Surety will in no way be financially associated with the Contractor.
- C. Any and all bonds shall be written as to make the Contract Documents a part thereof, whether by reference or attachment, in order to give the Surety full notice of the conditions therein.
- D. The Contractor shall within ten (10) Calendar Days from and including the date of Notice of Award, furnish Thornton with the required "Performance Bond" and "Labor and Materials Payment Bond", each in a sum equal to one hundred percent (100%) the Contract Price.
- E. If at any time a Surety shall become insolvent, is declared bankrupt, loses its right to do business in the state in which the Work is to be performed, or is no longer listed in Department of the Treasury Circular 570, Contractor shall within ten (10) Calendar Days after notice from Thornton, substitute acceptable bonds in such form and sum and signed by such other Sureties satisfactory to Thornton.

## **51. SEPARATE CONTRACTS**

- A. Thornton reserves the right to let other contracts in connection with the Project. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials, machinery, equipment, supplies and the execution of their work, and shall properly connect and coordinate its Work with theirs.
- B. If any part of the Contractor's Work depends upon the work of any other contractor for proper execution or results, the Contractor shall inspect and promptly report in writing to Thornton any lack of progress or defects in the

other contractor's work that render it unsuitable for proper execution or results. Failure on the part of the Contractor to inspect and report shall constitute acceptance of the other contractor's work as fit and proper for the reception of the Contractor's Work. No extensions to the Contract Time will be granted if the Contractor fails to inspect and report on unsuitable work.

- C. To insure the proper execution of subsequent Work, the Contractor shall measure existing Work and shall at once report in writing to Thornton any incompatibility between the existing Work and the subsequent Work anticipated by the Contract Documents.

## **52. SEVERABILITY CLAUSE**

The provisions of this Contract shall be deemed to be severable, and if any term, phrase, or portion of the Contract shall be determined to be unlawful or otherwise unenforceable, the remainder of the Contract shall remain in full force and effect, so long as the clause severed does not affect the intent of the parties.

## **53. SUBCONTRACTING**

- A. The Contractor may utilize where appropriate the services of Subcontractors on parts of the Work.
- B. The Contractor shall not award any Work to a Subcontractor if Thornton objects.
- C. Thornton encourages all Contractors to utilize minority, disadvantaged, and women-owned businesses whenever possible.
- D. The Contractor shall be as fully responsible to Thornton for the acts and omissions of its Subcontractors, and of persons either directly or indirectly employed by them or under their control, as it is for the acts and omissions of itself and of persons directly employed by it.
- E. The Contractor shall cause appropriate provisions to be inserted in all subcontracts binding Subcontractors to the Contractor as Contractor is bound to Thornton.
- F. Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor and Thornton.

## **54. SUBMITTALS, SHOP DRAWINGS, SAMPLES, SERVICE PARTS MANUALS, AND OPERATOR'S INSTRUCTIONS**

- A. Within fourteen (14) Calendar Days from Notice of Award, the Contractor shall submit an edited Submittal Log (provided in the technical specifications) which for each required Submittal, indicates the

Contractor's proposed submittal date and the time allotted for Thornton's or its representative's, review and approval of each Submittal if sooner than specified. This Submittal Log shall be consistent with the Contractor's Schedule of Work. The Contractor shall thoroughly review the Submittal Log to insure that all of the project submittal requirements are listed and in the appropriate order of operations for their proposed construction schedule.

- B. The Contractor shall furnish all Shop Drawings and Samples which are specified or required by the Contract Documents for the completion of the Work. All Shop Drawing and Sample Submittals shall be submitted to Thornton in electronic format whenever possible. When electronic Submittals are not possible, a minimum of four (4) copies of the Submittal shall be provided. Shop Drawings of Material and Equipment offered by the Contractor for approval by Thornton shall be in sufficient detail to adequately show construction and operation. Shop Drawings and Samples submitted as herein provided by the Contractor and approved by Thornton for conformance with the design concept shall be executed in conformity with the Contract Documents, unless otherwise required by Thornton.
- C. Work performed in connection with the purchase, fabrication, manufacture, shipment, installation, or erection of Material or Equipment prior to Thornton's review and approval, as specified herein, shall be at the Contractor's sole risk, responsibility, and expense.
- D. Shop Drawing and Sample Submittals shall be accompanied by a letter of transmittal which shall list Submittal numbers and dates of the Submittal and shall be in the form required by Thornton. Shop Drawings shall be complete in every respect and bound in sets. Any resubmittals shall show Submittal and resubmittal numbers as well as the dates for previous Submittals and resubmittals.
- E. The Contractor shall submit all Shop Drawings and Samples sufficiently in advance of construction to allow ample time for checking, correcting, resubmitting, rechecking, and approving to avoid any delay in the progress of the Work.
- F. Shop Drawings or Samples submitted shall be marked with the name of the Project, and Submittal number, and bear the stamp or specific written indication of approval of the Contractor as evidence that the Shop Drawings and Samples have been checked by the Contractor. Any Shop Drawings or Samples submitted without the Contractor's stamp of approval or specific written indication of approval shall not be considered by Thornton and shall be returned to the Contractor for approval and resubmission.

- G. At the time of each Submittal, the Contractor shall give Thornton notice of each variation between the Shop Drawing or Sample and the requirements of the Contract Documents. The Contractor shall place a specific notation on the Shop Drawing or Sample and call such variation to Thornton's attention in the Contractor's letter of transmittal. If the variation as submitted is acceptable, Thornton will provide written approval of the variation to the Contractor. Thornton's review and approval of Shop Drawings or Samples shall not relieve the Contractor from responsibility for strict compliance with the requirements of the Contract Documents, unless the Contractor has, in writing, called Thornton's attention to each variation at the time of submission, as required above, and Thornton has given unconditional written approval of each variation to Contractor. Thornton's review and approval of any variation shall not extend to means, methods, techniques, sequences, or procedures of the construction of the Work or to safety precautions or programs incident thereto.
- H. By approving and submitting Shop Drawings and Samples, the Contractor represents that:
1. It has determined and verified all field dimensions and measurements, quantities of Work, field construction criteria and installation requirements, Materials and Equipment, catalog numbers, and similar data;
  2. It has checked, and coordinated such submittals with the requirements of the Work and the Contract Documents; and
  3. Data shown on the Shop Drawings are complete and accurate.
- I. All items of standard equipment shall be the latest model at time of delivery.
- J. When Shop Drawings are submitted for the purpose of showing the installation in greater detail, their approval shall not excuse the Contractor from requirements shown on the Drawings and Specifications.
- K. Shop Drawing and Sample Submittals not conforming to the above requirements shall be returned to the Contractor, without action by Thornton, for resubmittal. Any resulting delay shall be the responsibility of the Contractor.
- L. Thornton's review and approval of Shop Drawings and Samples submitted by the Contractor shall be only for general conformance with the design concept, as otherwise provided, and shall not be construed as:
1. Permitting any departure from the Contract Documents;

2. Relieving the Contractor of the responsibility for any error in details, dimensions, or otherwise that may exist in such Submittals;
  3. Constituting a blanket approval of dimensions, quantities, or details of the Material or Equipment shown; or lubrication drawings showing type and frequency of lubrication. Detailed parts drawings shall show location, name, and catalog numbers of parts.
  4. Approving departures from additional details or instructions previously furnished by Thornton. Such check or approval shall not relieve the Contractor of the full responsibility of meeting all of the requirements of the Contract Documents.
- M. Four (4) sets of bound Operator's Instructions and electric copy shall be furnished by the Contractor for Equipment furnished under the Contract that is specially listed or that is considered to be of a special or complex nature. Operator's Instructions shall include detailed manufacturer's information on all operations and maintenance recommendations.
- N. Four (4) sets each of bound Service Parts Manuals and an electric copy shall be furnished by the Contractor for all items of standard manufacture.
- O. All Operator Instructions and Service Parts Manuals shall be bound in permanent binders satisfactory to Thornton and shall be furnished to Thornton as a condition precedent to granting Initial Acceptance.

## **55. SUSPENSION OF WORK BY THORNTON**

Thornton shall have the right to suspend and reinstate execution of the whole or any part of the Work without invalidating the provisions of the Contract for such period or periods of time as Thornton may deem necessary due to unsuitable weather or such other conditions considered unfavorable for the suitable prosecution of the Work, including failure of the Contractor to supply labor, Materials or Equipment meeting the requirements of the Contract Documents, or failure to carry out instructions or to perform such other provisions of the Contract considered unfavorable for the orderly or suitable prosecution of the Work. During periods of suspension, the Contractor shall protect the Work from damage. Stop Work Orders for suspension of the Work and orders to reinstate performance of the Work shall be issued by Thornton to the Contractor in writing. If the Stop Work Order was issued due to Contractor's, Subcontractor's, and or supplier's non-compliance with the Contract, the Contractor shall, upon approval by Thornton, perform Work necessary to bring the Work back into compliance with the Contract. During such a suspension period the Contractor shall not be entitled to any compensation as a result of the suspension, including compensation for delay. The Contract Time shall continue to run during such suspension period and the Contractor shall remain fully responsible for any liquidated damages that are assessed as a result of late performance.

## 56. TAXES

- A. Contractor shall pay all sales, consumer, use, or other similar taxes required to be paid in accordance with the laws and regulations applicable to the Work. Thornton is exempt from Colorado State and City of Thornton sales and use taxes on Materials and Equipment to be permanently incorporated into the Work. Said taxes shall not be included in the Contractor's Bid Proposal or the Contract Price.
- B. Contractor shall apply to the Colorado Department of Revenue for an exemption certificate and purchase the Materials and Equipment tax free (Section 39-26-104, C.R.S. as amended). Contractor shall be liable for exempt taxes paid due to the failure to apply for exemption certificates or failure to use them.

## 57. TERMINATION FOR CONVENIENCE

- A. Termination Notice - Thornton may terminate the Contract, in whole or in part, for convenience if termination is in Thornton's best interest. Contract termination will be initiated by a written Contract Termination Notice to the Contractor which will specify the effective date of the termination.
- B. Canceled Commitments - The Contractor, after receiving the Contract Termination Notice, shall cancel any outstanding commitments for procurement of Materials and Equipment. In addition, the Contractor shall use reasonable efforts to cancel or divert any outstanding subcontracted commitments, unless otherwise requested by Thornton. With respect to such canceled commitments the Contractor shall:
  - 1. Settle all outstanding liabilities and all claims arising out of the canceled commitments. Such settlements shall be approved by Thornton and shall be final; and
  - 2. Assign to Thornton all of the rights, title, and interest of the Contractor under the terminated orders and Subcontracts, as directed by Thornton. Thornton will then have the right to settle or pay any or all claims arising out of the termination of these commitments.
- C. Termination Claim - The Contractor shall submit its termination claim to Thornton within ninety (90) Calendar Days after the effective date of the Contract Termination Notice. During the ninety (90) Calendar Day period, the Contractor may make a written request to Thornton for a time extension in preparing the claim. Any time extension must be approved by Thornton. If the Contractor fails to submit its termination claim within the time allowed, Thornton may determine the amount due the Contractor, if any, by reason of the termination, which determination shall be final. Failure of the

Contractor to submit a termination claim within the time allowed shall constitute a waiver of the claim.

- D. Payment - Subject to paragraph C above, the Contractor and Thornton may agree upon the whole or any part of the amount to be paid the Contractor as a result of the termination. The amount may include reasonable cancellation charges incurred by the Contractor. The amount may also include any reasonable loss upon outstanding commitments for Subcontracts which the Contractor is unable to cancel, provided the Contractor has proven reasonable effort to divert the commitments to other activities. The amount agreed upon shall be embodied in a Change Order, and the Contractor shall be paid that amount. Where applicable, payments claimed pursuant to termination shall be based on Unit Prices. Payment for partially completed lump sum items may be made in the proportion that the partially completed Work is to the total lump sum item. Where Work performed is of a nature that it is impossible to separate the costs of uncompleted Work from completed Work, the Contractor shall be paid the actual cost incurred for the necessary preparatory Work and other Work completed. The Contractor shall not be entitled to profit or overhead on uncompleted Work.
- E. Disposition of Work and Inventory - The Contractor shall transfer title and deliver to Thornton, such items which, if the Contract had been completed, would have been furnished to Thornton including:
1. Completed and partially completed Work; and
  2. Materials or Equipment produced, acquired, or in the process of being produced that is terminated by the notice.

Other than the above, any termination inventory resulting from the termination may, with written approval of Thornton, be sold or acquired by the Contractor under the conditions prescribed by and at prices approved by Thornton. The proceeds of any such disposition shall be applied to reduce any payments owed to the Contractor, or shall be credited to the cost of Work, or paid in a manner as directed by Thornton. Until final disposition, the Contractor shall protect and preserve all Material and Equipment which is in its possession and in which Thornton has or may have an interest.

- F. Cost Records - The Contractor agrees to make cost records available to the extent they are necessary to determine the validity and amount of each item in the termination claim.

- G. Contractual Responsibilities - Termination of a Contract, or portion thereof, shall not relieve the Contractor of contractual responsibilities for the Work completed, nor shall it relieve the Surety of its obligation for and concerning any claim arising out of Work performed.

**58. THORNTON'S REMEDIES CUMULATIVE; NONWAIVER**

No right or remedy conferred upon or reserved to Thornton by the Contract shall be considered exclusive of any other remedy or contractual right, but the same shall be distinct, separate, and cumulative, and shall be in addition to every other remedy existing at law or in equity or by statute; and every remedy given by the Contract to Thornton may be exercised from time to time as often as the occasion may arise, or as may be deemed expedient. No delay or omission on the part of Thornton to exercise any right or remedy arising from any default on the part of the Contractor shall impair such right or remedy or shall be construed to be a waiver of any such default or an acquiescence thereto, or otherwise affect the right of Thornton to enforce the same in the event of any subsequent breach or default by the Contractor.

**59. USE OR OCCUPANCY OF COMPLETED PORTIONS**

- A. Thornton shall have the right to take possession of, use, or occupy any completed or partially completed portions of the Work, notwithstanding the time for completing the entire Work or any portions, may, or may not, have expired. Such taking possession, use or occupancy shall not be deemed an acceptance of any Work until all Work has been completed in accordance with the Contract Documents.
- B. If partial use or occupancy increases the cost, or delays the Work, the Contractor shall be entitled to an adjustment to the Contract Price, Contract Time, or both, as Thornton may determine.
- C. Consent of the Surety and endorsement from the insurance carrier or carriers permitting occupancy or use of any completed or partially completed portions of the Work by Thornton shall be secured by the Contractor.

**60. VARIATION FROM ESTIMATED PAY ITEM QUANTITIES**

On Contracts with Unit Prices, the Contractor may reasonably expect variations in the estimated quantity for any given Pay Item such that the actual quantity installed may range from seventy-five percent (75%) to one hundred twenty-five percent (125%) of the estimated quantity, unless a larger variation is stipulated on the Bid Proposal form. The Contractor shall not be allowed any claims for anticipated profits, for lost profits, or for any damages because of a difference between the estimated quantity for a Pay Item and the actual quantity for the Pay Item, or for the elimination or reduction of a Pay Item quantity as may be required to bring the

cost of the Work within the limits of available funds or to reduce the Scope of the Work for any reason.

## **61. WARRANTY AS TO WORKMANSHIP, MATERIALS AND EQUIPMENT**

- A. In addition to other promises and warranties contained herein, the Contractor warrants to Thornton that the Materials and Equipment furnished under the Contract will be of good quality and new, unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered Defective. This warranty excludes remedy for damage or defect caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage.
- B. Contractor further warrants to Thornton that competent laborers, mechanics, and tradesmen shall be used on the Work. Experienced manufacturer's representatives shall be used to supervise the installation of Equipment, as may be required by Thornton. Any special tools or construction equipment which may be required shall be provided by the Contractor.
- C. Neither the final certificate of payment nor any provision in the Contract Documents, nor partial or entire occupancy of the premises by Thornton, shall constitute acceptance of Work not done in accordance with the Contract Documents or relieve the Contractor of liability in respect to any expressed or implied warranties or responsibility for faulty Materials, Equipment or workmanship. This Warranty will have no time limit except as prescribed by law.

## **62. WARRANTY PERIOD**

- A. The Contractor agrees to keep all Work in Good Repair for a period of one (1) year from the date of Initial Acceptance, unless a longer period is specified in the Contract Documents. Upon written notice from Thornton to the Contractor of any aspect of the Work found by Thornton not to be in Good Repair, the Work shall be promptly repaired by the Contractor. Such repair, including any consequential damages resulting from the defect to be repaired, shall be made without further cost to Thornton.
- B. If the Contractor does not proceed to remedy such defects, deficiencies, deteriorations, or departures called to its attention within seven (7) Calendar Days after mailing of the notice and diligently pursue such repairs, Thornton may cause the repairs to be made as Thornton deems best and the cost shall be paid by the Contractor or its Surety.

- C. The obligations of the Contractor provided in this section shall be in addition to and not in limitation of any obligations imposed upon by it by any special guaranty or warranty required by the Contract Documents or otherwise prescribed by law.

**63. WEATHER**

During weather unsuitable for the proper execution of the Work in a first-class manner, all Work affected by such condition shall be properly protected from weather-related damage.

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## **FHWA FORM 1273**

*See Standard Special Provision* "REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS" for FHWA Form 1273

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**REQUIRED CONTRACT PROVISIONS  
FEDERAL-AID CONSTRUCTION CONTRACTS (FHWA Form 1273)**

By submitting a Bid-Proposal, Contractor affirms compliance with all provisions and reporting requirement of FHWA Form 1273

- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Government wide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

## ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

### I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the

contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

### II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC

794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

#### **6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

**10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

**III. NONSEGREGATED FACILITIES**

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

**IV. Davis-Bacon and Related Act Provisions**

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

**1. Minimum wages**

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

## 2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

### 3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee ( e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

### 4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

#### **10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

#### **V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

#### **VI. SUBLETTING OR ASSIGNING THE CONTRACT**

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on

each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

#### IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

#### X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

##### 1. Instructions for Certification – First Tier Participants:

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.
- d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

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## 2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

### 2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier

Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

#### **Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

#### **XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

- a. To the extent that qualified persons regularly residing in the area are not available.
- b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.
- c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

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## **NOTICE OF AWARD**

Thornton, CO

\_\_\_\_\_, 20\_\_\_\_

TO: [contractor name and address]

The City of Thornton, having duly considered the Bid Proposal submitted on [date], for Phase 4 Traffic Signal System Improvements, Thornton Project No. 13-421C, CDOT Project No. AQC M286-043, CDOT Project Code 2017-143 as detailed in the Contract Documents and it appearing that your Bid Proposal for performing the Work is fair, equitable and to its best interest, the said Bid Proposal is hereby accepted in the amount of xxxxxxxxxx (\$XXXXXXXXXX), for the Base Bid and in the amount of \_\_\_\_\_ (\$YYYY) as stipulated in the Bid Proposal.

In accordance with the terms of the Contract Documents, you are required to execute the formal Contract and furnish the required Performance Bond and Labor and Material Payment Bond within ten (10) consecutive Calendar Days from and including the date of this Notice of Award.

In addition, you are requested to furnish at the same time IRS W-9 Taxpayer ID Forms and the required Certificates of Insurance and Additional Insured Endorsements evidencing compliance with the requirements for insurance stated in the Contract Documents.

The Bid Security submitted with your Bid Proposal will be retained until the Contract has been executed and the required Bonds, Insurance, and W-9 Forms have been furnished and approved.

CITY OF THORNTON, COLORADO

By: \_\_\_\_\_  
Jerry Dye  
Support Services Director

cc: City Clerk

file: Phase 4 Traffic Signal System Improvements, Thornton Project No. 13-421C, CDOT Project No. AQC M286-043, CDOT Project Code 2017-143

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**NOTICE TO PROCEED**

Thornton, CO

\_\_\_\_\_, 20\_\_\_\_

TO: [contractor name and address]

**RE: NOTICE TO PROCEED – Phase 4 Traffic Signal System Improvements, Thornton Project No. 13-421C, CDOT Project No. AQC M286-043, CDOT Project Code 2017-143**

You are hereby authorized to proceed with the Work within ten (10) consecutive Calendar Days from this date and substantially complete the Work within one hundred twenty (120) consecutive Calendar Days from this date. The date for Substantial Completion of this Project is \_\_\_\_\_, 20\_\_.

CITY OF THORNTON, COLORADO

BY: \_\_\_\_\_  
Jerry D. Dye  
Support Services Director

cc: City Clerk

e-mail: Victor Munteanu, CDOT Procurement and Contracts Administrator  
Jim Bilyeu, Plans Examining Supervisor

file: Phase 4 Traffic Signal System Improvements, Thornton Project No. 13-421C,  
CDOT Project No. AQC M286-043, CDOT Project Code 2017-143

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COLORADO  
DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISIONS

◆  
STANDARD SPECIAL PROVISIONS

Name	Date	No. of Pages
Revision of Sections 101, 508, 614, and 710 – Treated Timber <i>Projects having treated timber, including timber structures, timber sign posts, wood sound barriers, wood fence posts, and wood guardrail posts.</i>	(July 31, 2014)	1
Revision of Section 101 and 630 – Construction Zone Traffic Control <i>All projects.</i>	(April 30, 2015)	2
Revision of Section 102 – Contents of Proposal Forms <i>All projects.</i>	(April 9, 2015)	1
Revision of Section 103 – Colorado Resident Bid Preference <i>Projects funded without federal aid.</i>	(February 3, 2011)	1
Revision of Section 103 – Consideration of Proposals <i>All projects.</i>	(May 4, 2017)	1
Revision of Section 103 – Escrow of Proposal Documentation <i>Use sparingly on projects approved by the Region Program Engineer that meet the following criteria:</i> <i>(1) Project with contract amount greater than \$3 million; or</i> <i>(2) complex project that has one or more of the following elements:</i> <i>A. tunneling work</i> <i>B. overlap of or proximity to projects that could result in conflicting construction schedules / delays</i> <i>C. complex state of the art structures</i> <i>D. high risk of encountering unknown hazardous materials</i> <i>E. other government or private agency involvement and there is a good possibility that the entity will request major changes to the Contract.</i>	(May 5, 2011)	2
Revision of Section 105 – Construction Drawings <i>Projects where construction drawings maintained by the Contractor are not required.</i>	(July 29, 2011)	1
Revision of Section 105 – Construction Surveying <i>All projects.</i>	(July 31, 2014)	1
Revision of Section 105 – Contractor Submittals Traffic Signal Pedestal Pole <i>Projects having traffic signal pedestal poles.</i>	(February 3, 2011)	1
Revision of Section 105 – Disputes and Claims for Contract Adjustments <i>Use in all Design-Bid-Build projects and Modified Design/Build projects. Use in Design/Build projects unless your modified version of the SSP is approved by the Standards &amp; Specifications Unit. If a standing DRB is required for the project, add the following General Note to the Plans: "There shall be a Standing Disputes Review Board for this Project." A standing DRB should be called for on the following types of projects:</i> <i>1. Large projects (greater than \$15 million)</i> <i>2. Projects with complex construction</i> <i>3. Projects with large complex structures</i> <i>4. Projects with multi-phase construction</i> <i>5. Projects with major impacts to traffic</i> <i>6. Projects with other complicating factors that could easily lead to disputes</i> <i>On projects that require a standing DRB, establish a planned force account item to cover the ongoing costs of the DRB.</i>	(August 11, 2016)	33

Revision of Section 105 – Hot Mix Asphalt Pavement Smoothness <i>Projects having Hot Mix Asphalt.</i> <i>Note: This specification requires a Force Account item for incentive payment.</i>	(October 20, 2016)	6
Revision of Section 105 – Portland Cement Concrete Pavement Smoothness <i>Projects having Portland Cement Concrete Pavement (PCCP).</i> <i>Note: This specification requires a Force Account item for incentive payment.</i>	(October 20, 2016)	5
Revision of Section 105 – Violation of Working Time Limitation <i>Projects that have a working time limitation specified in the project special provisions.</i>	(February 3, 2011)	1
Revision of Sections 105 and 106 – Conformity to the Contract of Hot Mix Asphalt (Less than 5000 Tons) <i>Projects with less than 5000 tons of HMA, as determined by the Region Materials Engineer.</i> <i>Note: This specification requires a Force Account item for incentive payment.</i>	(January 15, 2015)	8
Revision of Sections 105 and 106 – Conformity to the Contract of Hot Mix Asphalt (Less than 5000 Tons with Volumetric Verification) <i>Projects with less than 5000 tons of HMA, as determined by the Region Materials Engineer.</i> <i>Note: This specification requires a Force Account item for incentive payment.</i>	(January 15, 2015)	9
Revision of Sections 105 and 106 – Conformity to the Contract of Hot Mix Asphalt (Voids Acceptance) <i>Projects with 5000 or more tons of HMA when acceptance is based on asphalt content, voids in the mineral aggregate, air voids, and in-place density.</i> <i>Note: This specification requires a Force Account item for incentive payment.</i>	(January 15, 2015)	10
Revision of Sections 105, 106, 412, 601 and 709 - Conformity to the Contract of Portland Cement Concrete Pavement and Dowel Bars and Tie Bars for Joints <i>Projects having Concrete Class E and Class P.</i> <i>Note: This specification requires a Force Account item for incentive payment. The designer will place a note in the General Notes indicating whether the project will be accepted by flexural strength or compressive strength.</i>	(March 23, 2017)	23
Revision of Section 106 – Buy America Requirements <i>All projects.</i>	(November 6, 2014)	1
Revision of Section 106 – Buy America Requirements (State Funded Projects) <i>Projects not having federal funding.</i>	(March 23, 2017)	1
Revision of Section 106 – Certificates of Compliance and Certified Test Reports <i>All projects.</i>	(February 3, 2011)	1
Revision of Section 106 – Country of Origin <i>Projects which are solely State funded and have budgets greater than \$500,000.</i>	(January 15, 2015)	1
Revision of Section 106 – Hot Mix Asphalt – Verification Testing <i>Projects having more than 5000 tons of Hot Mix Asphalt (HMA) when acceptance is based on gradation, asphalt content, and in-place density.</i>	(July 29, 2011)	2
Revision of Section 106 – Material Sources <i>All projects.</i>	(October 31, 2013)	1
Revision of Section 106 – Modified Epoxy Pavement Marking Acceptance and Pay Factors <i>Projects having modified epoxy pavement marking.</i>	(May 12, 2016)	1

Revision of Section 106 – Supplier List <i>All projects.</i>	(May 4, 2017)	1
Revision of Sections 106 and 412 – Surface Texture of Portland Cement Concrete Pavement <i>Projects having any type of concrete pavement.</i>	(October 29, 2015)	3
Revision of Sections 106, 627 and 713 - Glass Beads for Pavement Marking <i>Projects having pavement marking with glass beads.</i>	(February 23, 2017)	1
Revision of Section 107 - Responsibility for Damage Claims, Insurance Types, and Coverage Limits <i>All projects.</i>	(February 3, 2011)	1
Revision of Section 107 – Warning Lights for Work Vehicles and Equipment <i>All projects.</i>	(January 30, 2014)	1
Revision of Section 107 – Water Quality Control (CDOT Obtained Stormwater Permit) <i>Projects having a Colorado Discharge Permit System (CDPS) Stormwater Construction Permit (SCP) for which CDOT obtains the Stormwater Construction Permit.</i>	(March 29, 2016)	6
Revision of Section 107 – Water Quality Control (Contractor Obtained Stormwater Permit) <i>Projects having a Colorado Discharge Permit System (CDPS) Stormwater Construction Permit (SCP) for which the Contractor obtains the Stormwater Construction Permit.</i>	(March 29, 2016)	6
Revision of Sections 107 and 208 – Water Quality Control under One Acre of Disturbance <i>Projects having disturbed areas of less than one acre not having a Colorado Discharge Permit System (CDPS) Stormwater Construction Permit (SCP).</i>	(March 29, 2016)	4
Revision of Section 108 – Delay and Extension of Contract Time <i>All projects.</i>	(April 30, 2015)	2
Revision of Section 108 – Holiday Weekend <i>All projects.</i>	(February 18, 2016)	1
Revision of Section 108 – Liquidated Damages <i>All projects.</i>	(July 20, 2017)	1
Revision of Section 108 – Notice to Proceed <i>All projects.</i>	(July 31, 2014)	1
Revision of Section 108 – Project Schedule <i>All projects.</i>	(July 31, 2014)	6
Revision of Section 108 – Subletting of Contract <i>All projects.</i>	(May 4, 2017)	1
Revision of Section 108 - Payment Schedule (Single Fiscal Year) <i>Projects which are expected to be completed in a single State fiscal year.</i>	(April 30, 2015)	1
Revision of Sections 108 and 109 - Payment Schedule (Multiple Fiscal Years) <i>Projects which are expected to require more than one State fiscal year to complete.</i>	(January 12, 2017)	1
Revision of Section 109 – Asphalt Cement Cost Adjustment (Asphalt Cement Included in the Work) <i>Projects with items 403 Hot Mix Asphalt and/or 403 Stone Matrix Asphalt in which the cost of Asphalt Cement (AC) is included in the work. Note: This specification requires a Force Account item.</i>	(August 3, 2015)	2

Revision of Section 109 – Asphalt Cement Cost Adjustment (Asphalt Cement Paid Separately) <i>Projects having pay item 411 - Asphalt Cement.</i> <i>Note: This specification requires a Force Account item.</i>	(August 3, 2015)	2
Revision of Section 109 - Compensation for Compensable Delays <i>All projects.</i>	(May 5, 2011)	1
Revision of Section 109 – Fuel Cost Adjustment <i>All projects.</i> <i>Note: This specification requires a Force Account item.</i>	(February 3, 2011)	2
Revision of Section 109 – Measurement of Quantities <i>All projects.</i>	(February 3, 2011)	1
Revision of Section 109 – Measurement of Water <i>All projects.</i>	(January 06, 2012)	1
Revision of Section 109 – Prompt Payment <i>All projects, except local agency projects.</i>	(January 20, 2017)	1
Revision of Section 109 – Prompt Payment (Local Agency) <i>All local agency projects.</i>	(January 20, 2017)	2
Revision of Section 109 – Scales <i>All projects.</i>	(October 29, 2015)	1
Revision of Section 201 – Clearing and Grubbing <i>Projects having earthwork.</i>	(Nov. 10, 2016)	1
Revision of Sections 202, 627 and 708 - Pavement Marking Paint <i>Projects having pavement marking paint except for chip seal projects.</i>	(May 12, 2016)	3
Revision of Section 203 – Excavation and Embankment <i>Projects having earthwork.</i>	(Nov. 10, 2016)	11
Revision of Section 206 – Imported Material for Structure Backfill <i>Projects having imported material for structure backfill.</i>	(July 19, 2012)	2
Revision of Section 206 – Shoring <i>Projects having shoring.</i>	(July 20, 2017)	3
Revision of Section 206 – Structure Backfill (Flow-Fill) <i>Projects having structure backfill.</i>	(March 23, 2017)	3
Revision of Section 206 – Structure Backfill at Bridge Abutments <i>Projects having bridge construction.</i>	(January 30, 2014)	1
Revision of Sections 206, 304, and 613 – Compaction <i>Projects having pay items 206, 304 or 613.</i>	(Nov. 10, 2016)	1
Revision of Sections 206 and 601 – Maturity Meters and Concrete Form and Falsework Removal <i>Projects having any type of concrete construction.</i>	(December 18, 2015)	3
Revision of Section 208 – Erosion Control <i>Projects having any type of erosion control.</i>	(April 20, 2017)	22
Revision of Section 212 – Seed <i>Projects having seed.</i>	(April 26, 2012)	1

Revision of Section 213 – Mulching <i>Projects having mulching.</i>	(January 31, 2013)	4
Revision of Section 216 – Soil Retention Covering <i>Projects having soil retention blanket or turf reinforcement mat.</i>	(July 16, 2015)	6
Revision of Section 250 – Environmental, Health and Safety Management <i>All projects.</i>	(March 23, 2017)	14
Revision of Sections 304 and 703 – Aggregate Base Course (RAP) <i>Projects having the pay item Aggregate Base Course (RAP). The Designer should contact the Region Materials Engineer to determine use.</i>	(October 31, 2013)	1
Revision of Section 401 – Compaction of Hot Mix Asphalt <i>Projects having any type of HMA.</i>	(April 26, 2012)	1
Revision of Section 401 – Compaction Pavement Test Section (CTS) <i>Projects having any type of HMA.</i>	(July 19, 2012)	1
Revision of Section 401 – Composition of Mixtures – Voids Acceptance <i>Projects having voids acceptance of hot mix asphalt.</i>	(February 3, 2011)	1
Revision of Section 401 – Plant Mix Pavements <i>Projects as determined by the Region.</i>	(February 3, 2011)	1
Revision of Section 401 – Reclaimed Asphalt Pavement <i>Projects with voids acceptance of hot mix asphalt, and on any other projects as determined by the Region Materials Engineer.</i>	(May 2, 2013)	2
Revision of Section 401 – Temperature Segregation <i>Projects having Hot Mix Asphalt.</i>	(February 3, 2011)	1
Revision of Section 401 – Tolerances for Hot Mix Asphalt (Voids Acceptance) <i>Projects having hot bituminous pavement when acceptance is based on asphalt content, voids in the mineral aggregate, air voids, and in-place density.</i>	(January 6, 2012)	1
Revision of Section 401 and 412 – Safety Edge <i>Projects having any type of roadway pavement.</i>	(May 2, 2013)	2
Revision of Section 409 – Chip Seal <i>Projects having chip seal.</i>	(August 11, 2016)	2
Revision of Section 412 – Portland Cement Concrete Pavement Finishing <i>Projects having portland cement concrete pavement.</i>	(February 3, 2011)	1
Revision of Sections 412, 601, and 711 - Liquid Membrane-Forming Compounds for Curing Concrete <i>Projects having any type of concrete construction.</i>	(May 5, 2011)	1
Revision of Sections 412 and 705 – Preformed Compression Seals <i>Projects where it is necessary to use preformed compression seals in lieu of silicone sealant in concrete pavement joints, such as projects with fast track concrete.</i>	(February 3, 2011)	2
Revision of Section 502 – Extensions and Splices <i>Projects having steel piling.</i>	(April 20, 2017)	2
Revision of Section 503 – Drilled Shafts <i>Projects having drilled shafts.</i>	(January 12, 2017)	16

Revision of Section 504 – Concrete Block Facing MSE Wall <i>Projects having concrete block facing MSE walls. Hybrid walls will be permitted, unless otherwise stated by the Designer in the General Notes for the MSE Wall Work Sheets.</i>	(February 3, 2011)	13
Revision of Section 504 – Concrete Panel Facing MSE Wall <i>Projects having concrete panel facing MSE walls. Hybrid walls will be permitted, unless otherwise stated by the Designer in the General Notes for the MSE Wall Work Sheets.</i>	(February 3, 2011)	12
Revision of Section 504 – Soil Nail Wall <i>Projects having a soil nail wall.</i>	(May 25, 2017)	12
Revision of Section 507 – Grouted Riprap Slope and Ditch Paving <i>Projects having grouted riprap slope and ditch paving.</i>	(November 6, 2014)	1
Revision of Section 507, 601, and 606 – Macro Fiber-Reinforced Concrete <i>Projects having macro fiber-reinforced concrete.</i>	(May 2, 2013)	1
Revision of Section 510 – Structural Plate Structures <i>Projects having steel or aluminum plate structures.</i>	(February 3, 2011)	1
Revision of Section 512 – Bearing Device Testing <i>Projects having elastomeric bearings.</i>	(November 6, 2014)	1
Revision of Section 518 - Bridge Expansion Device <i>Projects having bridge expansion devices.</i>	(October 31, 2013)	1
Revision of Section 518 – Polyester Concrete End Dam <i>Projects having polyester concrete end dams.</i>	(March 29, 2017)	7
Revision of Section 601 – Class B, BZ, D, DT, and P Concrete <i>Projects having any type of concrete construction.</i>	(February 18, 2016)	2
Revision of Section 601 – Class H and HT Bridge Deck Concrete <i>Projects having Class H or HT concrete.</i>	(May 16, 2013)	4
Revision of Section 601 – Concrete Batching <i>Projects having any type of concrete construction.</i>	(February 3, 2011)	1
Revision of Section 601 – Concrete Finishing <i>Projects having any type of concrete construction.</i>	(February 3, 2011)	1
Revision of Section 601 – Concrete Slump Acceptance <i>Projects having any type of concrete construction.</i>	(October 29, 2015)	1
Revision of Section 601 – Depositing Concrete Under Water <i>Projects having concrete construction under water.</i>	(May 2, 2013)	1
Revision of Section 601 – Fiber-Reinforced Concrete <i>Projects having fiber-reinforced concrete.</i>	(February 18, 2016)	1
Revision of Section 601 – QC Testing Requirements for Structural Concrete <i>Projects having any type of structural concrete construction.</i>	(May 8, 2014)	1
Revision of Section 601 – Structural Concrete Strength Acceptance <i>Projects having any type of concrete construction.</i>	(April 30, 2015)	1
Revision of Sections 601 and 701 – Cements and Pozzolans <i>Projects having any type of concrete construction.</i>	(November 6, 2014)	4

Revision of Section 603 – Culvert Pipe Inspection <i>Projects having culvert pipe.</i>	(October 2, 2014)	1
Revision of Sections 603, 624, 705, 707, and 712 – Drainage Pipe <i>Projects having any type of culvert pipe.</i>	(April 30, 2015)	3
Revision of Section 612 – Delineators <i>Projects having delineators.</i>	(February 3, 2011)	1
Revision of Section 612 – Flexible Delineators <i>Projects having flexible delineators.</i>	(July 19, 2012)	1
Revision of Sections 613 and 715 – LED Roadway Luminaire <i>Projects having light emitting diode (LED) roadway luminaires.</i>	(January 30, 2014)	5
Revision of Section 614 – Accessible Pedestrian Signal <i>Projects having accessible pedestrian signals.</i>	(November 1, 2012)	3
Revision of Section 614 – Blank Out Sign (LED) (Speed Radar) <i>Projects having blank out signs, with speed radar capability.</i>	(Dec. 29, 2011)	6
Revision of Section 614 – Pedestrian Push Button Assembly <i>Projects having post mounted pedestrian push buttons.</i>	(July 19, 2012)	1
Revision of Sections 614 and 713– Sign Panel Sheeting <i>Projects having permanent signing.</i>	(August 11, 2016)	2
Revision of Section 618 – Prestressed Concrete <i>Projects having prestressed concrete members.</i>	(April 26, 2012)	24
Revision of Section 620 – Field Laboratories with Ignition Furnace <i>Projects having Stone Matrix Asphalt (SMA).</i>	(February 3, 2011)	1
Revision of Section 625 – Construction Surveying <i>Projects when 3D modeling data in electronic format is available as stated in the Project Special Provision Worksheet, “Revision of Section 102, Project Plans and Other Data”.</i>	(February 18, 2016)	1
Revision of Section 627 – Preformed Plastic Pavement Marking <i>Projects having inlaid preformed plastic pavement marking.</i>	(May 12, 2016)	2
Revision of Section 627 and 713 – Modified Epoxy Pavement Marking <i>Projects having modified epoxy pavement marking.</i>	(May 12, 2016)	2
Revision of Section 630 - Emergency Pull-off Area (Temporary) <i>Projects having temporary emergency pull-off areas during construction.</i>	(May 5, 2011)	1
Revision of Section 630 – Mobile Pavement Marking Zone (Group 1 without Attenuator) <i>Use this special provision in long striping projects having a mobile pavement marking zone in which a truck mounted impact attenuator is not required for Group 1 (roadways having AADT less than 2000).</i>	(February 3, 2011)	1
<i>The use of the lump sum item is generally used in longer or region-wide projects. The day pay item is generally used in smaller projects.</i>		
Revision of Section 630 - Rolling Roadblock <i>Projects having rolling roadblocks.</i>	(November 1, 2012)	2
Revision of Section 630 - Temporary Portable Rumble Strip <i>Projects in which the Designer, in coordination with the Region Traffic Engineer recommends the use of temporary rumble strips for construction traffic control.</i>	(February 18, 2016)	1

Revision of Sections 630 and 713 – Retroreflective Sheeting <i>All projects.</i>	(January 12, 2017)	2
Revision of Section 702 – Bituminous Materials <i>Projects having bituminous materials.</i>	(March 29, 2016)	11
Revision of Section 703 - Aggregate for Bases <i>Projects which allow recycled asphalt pavement (RAP) to be incorporated into the aggregate base course mix. The Designer should contact the Region Materials Engineer (RME) to determine use.</i>	(October 31, 2013)	1
Revision of Section 703 - Aggregate for Bases (Without RAP) <i>Projects which do not allow recycled asphalt pavement (RAP) to be incorporated into the aggregate base course mix. The Designer should contact the Region Materials Engineer (RME) to determine use.</i>	(October 31, 2013)	1
Revision of Section 703 – Aggregate for Cover Coat Material <i>Projects having cover coat material.</i>	(October 29, 2015)	1
Revision of Section 703 – Aggregate for Hot Mix Asphalt <i>Projects having Hot Mix Asphalt (HMA).</i>	(November 1, 2012)	2
Revision of Section 703 – Aggregate for Stone Matrix Asphalt <i>Projects having stone matrix asphalt (SMA).</i>	(April 26, 2012)	1
Revision of Section 703 – Classification for Aggregate Base Course <i>Projects having aggregate base course.</i>	(October 20, 2016)	1
Revision of Section 703 – Concrete Aggregate <i>Projects having any type of concrete construction.</i>	(July 28, 2011)	1
Revision of Section 703 – Mineral Filler <i>Projects having stone matrix asphalt (SMA).</i>	(May 8, 2014)	1
Revision of Section 709 – Epoxy Coated Reinforcing Bars <i>Projects having any type of concrete construction.</i>	(February 18, 2016)	1
Revision of Section 712 – Geotextiles <i>Projects having having geotextiles or geosynthetics.</i>	(November 1, 2012)	2
Revision of Section 712 – Water for Mixing or Curing Concrete <i>Projects having any type of concrete construction.</i>	(February 3, 2011)	1
Revision of Section 713 – Reflectors for Delineators and Median Barrier <i>Projects having reflectors for delineators and median barrier.</i>	(May 2, 2013)	1
Affirmative Action Requirements – Equal Employment Opportunity <i>All projects.</i>	(February 3, 2011)	10

Disadvantaged Business Enterprise (DBE) Requirements <i>Required on all partially or wholly funded Federal-Aid Design-Bid-Build projects, except local agency projects. This should be used in conjunction with the revised project special provision worksheet, "Disadvantage Business Enterprise (DBE) Contract Goal".</i>	(January 20, 2017)	6
Disadvantaged Business Enterprise (DBE) Requirements (Local Agency) <i>Required on all partially or wholly funded Local Agency administered Federal-Aid Design-Bid-Build projects. This should be used in conjunction with the revised project special provision worksheet, "Disadvantage Business Enterprise (DBE) Contract Goal".</i>	(January 20, 2017)	9
Minimum Wages, Colorado, U.S. Department of Labor General Decision Number CO170016, MOD 2, Highway Construction for Adams, Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Jefferson, and Park counties. <i>All federal-aid projects with contracts exceeding \$2000, except for non-ARRA projects on roadways classified as local roads or rural minor collectors, which are exempt. Projects on local roads, rural minor collectors, and enhancement projects funded with ARRA funds are not exempt.</i>	(June 9, 2017)	10
Minimum Wages, Colorado, U.S. Department of Labor General Decision Number CO170017, MOD 1, Highway Construction for Boulder county. <i>All federal-aid projects with contracts exceeding \$2000, except for non-ARRA projects on roadways classified as local roads or rural minor collectors, which are exempt. Projects on local roads, rural minor collectors, and enhancement projects funded with ARRA funds are not exempt.</i>	(June 9, 2017)	4
Minimum Wages, Colorado, U.S. Department of Labor General Decision Number CO170018, MOD 2, Highway Construction for El Paso, Pueblo, and Teller counties. <i>All federal-aid projects with contracts exceeding \$2000, except for non-ARRA projects on roadways classified as local roads or rural minor collectors, which are exempt. Projects on local roads, rural minor collectors, and enhancement projects funded with ARRA funds are not exempt.</i>	(June 9, 2017)	6
Minimum Wages, Colorado, U.S. Department of Labor General Decision Number CO170019, MOD 2, Highway Construction for Denver and Douglas counties. <i>All federal-aid projects with contracts exceeding \$2000, except for non-ARRA projects on roadways classified as local roads or rural minor collectors, which are exempt. Projects on local roads, rural minor collectors, and enhancement projects funded with ARRA funds are not exempt.</i>	(June 9, 2017)	7
Minimum Wages, Colorado, U.S. Department of Labor General Decision Number CO170020, MOD 2, Highway Construction for Baca, Bent, Costilla, Crowley, Huerfano, Kiowa, Las Animas, Otero, and Prowers counties. <i>All federal-aid projects with contracts exceeding \$2000, except for non-ARRA projects on roadways classified as local roads or rural minor collectors, which are exempt. Projects on local roads, rural minor collectors, and enhancement projects funded with ARRA funds are not exempt.</i>	(June 9, 2017)	5
Minimum Wages, Colorado, U.S. Department of Labor General Decision Number CO170021, MOD 2, Highway Construction for Cheyenne, Kit Carson, Lincoln, Logan, Morgan, Phillips, Sedgwick, Washington, and Yuma counties.	(June 9, 2017)	6

*All federal-aid projects with contracts exceeding \$2000, except for non-ARRA projects on roadways classified as local roads or rural minor collectors, which are exempt. Projects on local roads, rural minor collectors, and enhancement projects funded with ARRA funds are not exempt.*

Minimum Wages, Colorado, U.S. Department of Labor General Decision Number CO170022, MOD 2, Highway Construction for Alamosa, Archuleta, Chaffee, Conejos, Custer, Delta, Dolores, Fremont, Gunnison, Hinsdale, La Plata, Mineral, Montezuma, Montrose, Ouray, Rio Grande, Saguache, San Juan, and San Miguel counties.	(June 9, 2017)	9
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*All federal-aid projects with contracts exceeding \$2000, except for non-ARRA projects on roadways classified as local roads or rural minor collectors, which are exempt. Projects on local roads, rural minor collectors, and enhancement projects funded with ARRA funds are not exempt.*

Minimum Wages, Colorado, U.S. Department of Labor General Decision Number CO170023, MOD 4, Highway Construction for Eagle, Garfield, Grand, Jackson, Lake, Moffat, Pitkin, Rio Blanco, Routt, and Summit counties.	(June 9, 2017)	8
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*All federal-aid projects with contracts exceeding \$2000, except for non-ARRA projects on roadways classified as local roads or rural minor collectors, which are exempt. Projects on local roads, rural minor collectors, and enhancement projects funded with ARRA funds are not exempt.*

Minimum Wages, Colorado, U.S. Department of Labor General Decision Number CO170024, MOD 1, Highway Construction for Larimer, Mesa, and Weld counties.	(June 9, 2017)	7
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*All federal-aid projects with contracts exceeding \$2000, except for non-ARRA projects on roadways classified as local roads or rural minor collectors, which are exempt. Projects on local roads, rural minor collectors, and enhancement projects funded with ARRA funds are not exempt.*

On the Job Training	(July 29, 2011)	3
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*Use in all Federal-aid projects.*

*Funding shall be included for the number of hours of OJT Training that is required as a separate force account. Please contact the Region EO Office for details.*

Partnering Program	(February 3, 2011)	1
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*All projects.*

*Note: This specification requires a Force Account item for partnering cost.*

Railroad Insurance	(February 3, 2011)	1
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*Projects that require railroad insurance.*

Required Contract Provisions – Federal-Aid Construction Contracts	(October 20, 2016)	14
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*Use this standard special provision on federal aid projects advertised on or after January 1, 2017. Designers may use it on projects advertised before this date with the approval of Monica Vialpando, Labor and Contract Compliance Specialist, 720-668-0367.*

Special Construction Requirements, Fire Protection Plan	(November 1, 2012)	2
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*Used in all projects, except those that are in urban areas or located along irrigated farmlands, as determined by the Resident Engineer.*

INSTRUCTIONS TO DESIGNERS (delete these instructions and the instructions that follow each listed standard special provision from the final draft):

- ◆ Type in the project location here.

*The above is a complete list of standard special provisions. Each standard special provision is followed by an instruction on its appropriate use. Each instruction can be interpreted by the words “Use on...”. (For example: “Use on All projects”.) For complete instructions on the use of a standard special provision, refer to the transmittal letter with the same date as the standard special provision. Use only those standard special provisions applicable to the project. Delete from the final draft the listings of standard special provisions which do not apply to the project.*

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# **PROJECT SPECIAL PROVISIONS**

## **TECHNICAL SPECIFICATIONS**

### **SPECIAL PROVISIONS**

Phase 4 Traffic Signal System Improvements  
Thornton Project No. 13-421C  
CDOT PROJECT NO. AQC M286-043  
CDOT PROJECT CODE 2017-143

The Colorado Department of Transportation’s Standard Specifications for Road and Bridge Construction (Standard Specifications), dated 2011, controls construction of this Project.

In general, for this Contract, whenever the Specifications and requirements provided in Division 100 General Provisions of the Standard Specifications conflicts with the Specifications and requirements provided in the City of Thornton’s (Thornton) General Conditions, Special Conditions, Information for Bidders, Bid Proposal Form and other documents included herein, the Specifications and requirements provided in Thornton’s documents shall be the governing requirements. Specific examples of such conflicting requirements can be found in the Project Special Provisions noted below; however, the Project Special Provisions may not include every conflict and shall not be taken as such.

The following Special Provisions supplement or modify the Standard Specifications and take precedence over the Standard Specifications and Plans.

### **PROJECT SPECIAL PROVISIONS**

Index .....	(December 29, 2016)
Notice to Bidders .....	(December 29, 2016)
Disadvantaged Business Enterprise (DBE) Contract Goal .....	(December 29, 2016)
On the Job Training Contract Goal .....	(December 29, 2016)
Revision of Section 101 – Definitions and Terms .....	(December 29, 2016)
Revision of Section 102 – Bidding Requirements and Conditions .....	(December 29, 2016)
Revision of Section 103 – Award and Execution of Contract .....	(December 29, 2016)
Revision of Section 107 – Protection of Existing Vegetation.....	(December 29, 2016)
Revision of Section 108 – Prosecution and Progress .....	(December 29, 2016)
Revision of Section 203 – Potholing .....	(December 29, 2016)
Revision of Section 208 – Sweeping (Sediment Removal) .....	(December 29, 2016)
Revision of Section 208 – Concrete Washout Structure .....	(December 29, 2016)
Revision of Section 614 – Traffic Control Devices .....	(December 29, 2016)
Revision of Section 630 – Uniformed Traffic Control .....	(December 29, 2016)
Force Account Items .....	(December 29, 2016)
Utilities .....	(December 29, 2016)
Standard Special Provisions .....	(December 29, 2016)

## **NOTICE TO BIDDERS**

City of Thornton Contract Administrator: Keith Griess, Contract Administrator  
Office Phone: (303) 538-7643

The above-referenced individual is the only representative of Thornton with authority to relay questions to appropriate Thornton staff during the Bidding phase and provide any responses about additional information, clarifications, or interpretations regarding the Plans, Specifications, and any other contract documents or requirements.

All references to the Colorado Division of Highways, Colorado Department of Transportation, and/or Department or Division shall also mean the City of Thornton.

**DISADVANTAGED BUSINESS ENTERPRISE (DBE) CONTRACT GOAL**

This is a federally-assisted construction project. As described in the CDOT DBE Standard Special Provision, the Bidder shall make good faith efforts to meet the following contract goal:

6 Percent DBE participation.

**REVISION OF SECTION 101  
DEFINITIONS AND TERMS**

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

Delete Subsection 101.22 Contract Time. Contract Time shall be as defined in the General Conditions included herein, Subsection 23 Definitions and Terms.

Delete Subsection 101.29 Engineer. Engineer shall be as defined in the General Conditions included herein, Subsection 23 Definitions and Terms.

Delete Subsection 101.57 Record Set. Record Drawings shall be as defined in the General Conditions included herein, Subsection 23 Definitions and Terms.

In general, for this Contract, whenever one (1) of the definitions provided in Section 101 conflicts with the definition provided in Thornton's General Conditions included herein, the definition provided in Thornton's General Conditions shall be the governing definition.

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

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

Delete Subsection 102.02 Contents of Proposal Forms. Covered in the Information for Bidders section of this Project Manual.

Delete Subsection 102.04 Interpretation of Plans and Specifications. Covered in the Information for Bidders section of this Project Manual.

Subsection 102.05 Examination of Plans, Specifications, Special Provisions, and Site of Work. Delete the last paragraph of this Subsection.

Delete Subsection 102.06 Preparation of Proposal.

**REVISION OF SECTION 103  
AWARD AND EXECUTION OF CONTRACT**

Section 103 of the Standard Specifications is hereby deleted for this Project.

**REVISION OF SECTION 107  
PROTECTION OF EXISTING VEGETATION**

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

Subsection 107.12 shall include the following:

1. The Contractor shall save all existing vegetation (including trees, shrubs, ground covers, grasses, wetlands & riparian) in this area, except for that vegetation, which must be removed to accommodate construction of the project, per the plans. Specific areas of vegetation to be protected shall be as directed by the Engineer and shall be protected by using orange construction fencing, wire fencing with metal posts or silt fence. Fencing for trees shall be installed at the drip line of the tree or as approved by the Engineer. Equipment shall not be installed or stockpile material within 15 feet of existing trees to remain.
2. The Contractor shall perform all the work in such a manner that the least environmental damage will result. All questionable areas or items shall be brought to the attention of the Engineer for approval prior to removal or any damaging activity.
3. The Contractor shall promptly report any vegetation damaged or scarred during construction to the Engineer for assessment of damages. Damaged or destroyed fenced vegetation, shall be replaced at the expense of the Contractor. Vegetation of replaceable size shall be replaced at the Contractor's expense. When trees, shrubs beyond replaceable size or wetlands have been damaged or destroyed, the Contractor shall be liable for the appraised value based upon the official current publications. For trees and shrubs use the International Society of Arboriculture, Guide for Plant Appraisals. The Contractor shall pay any fines or jail time should a wetland be damaged, at no cost to the project. The value of disturbed vegetation shall be calculated according to the following formula:

$$\text{(Vegetation size) x (Species) x (Location) x (Condition) x (Arborist or Wetland Specialist) = Vegetation value}$$

A consulting Arborist retained by the Department will determine the value of the trees and shrubs. A consulting Wetland Specialist shall determine the value of the wetland or wetland species. This value will be deducted from any money due to the Contractor.

The determination as to whether a plant is of replacement size or beyond will be made by the Department's Landscape Architect or Wetland Specialist.

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 repaired to the Engineer's satisfaction 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.

**REVISION OF SECTION 108  
PROSECUTION AND PROGRESS**

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

Subsection 108.03 shall include the following:

The Contractor's progress schedule may be a Bar Chart Schedule. Salient features to be shown on the Contractor's progress schedule are:

1. Date of Award
2. Notice to Proceed
3. Potholing
4. Conduit Placement
5. Fiber Optic Cable Placement
6. Fiber Optic Cable Testing
7. Erosion/Sediment Control
8. Construction Traffic Control
9. Revegetation/Seeding
10. Traffic Control Management
11. Final Inspection
12. Punch List Repairs
13. Final Acceptance

Revisions to the salient features may be made with the approval of the Project Engineer. All paperwork required shall be submitted prior to beginning the Work.

The City of Thornton is procuring and programming all Advanced Transportation Controllers (ATC). Some of the Contractor's work, such as installation of the ATC and the cabinet rewiring for phasing standardization, is dependent upon the procurement and programming of the controllers by Thornton. The Contractor shall coordinate this Work Thornton's controller procurement and programming schedule.

**REVISION OF SECTION 202  
REMOVAL OF EQUIPMENT**

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

**DESCRIPTION**

Delete Subsection 202.01 and replace with the following:

This Work consists of the removal of Traffic Signal Equipment.

**CONSTRUCTION REQUIREMENTS**

Subsection 202.04 shall be revised to include the following:

Removal of pull box shall include removal of pull box, concrete collars, and other incidental Materials. At locations where the pull boxes are being replaced or the existing cabling and Materials within the pull box are not being abandoned, Contractor shall take appropriate precautions and exercise care to avoid damaging any existing cabling and Equipment within the pull box. Contractor shall properly dispose of the pull box and incidental Materials. The removal will also include any backfill necessary to match the existing grade.

Removal of Traffic Signal Controller shall include the removal of the existing Traffic Signal Controller from the Traffic Signal Controller Cabinet at the same time as the installation of the new Traffic Signal Controller. See the Prosecution and Progress for additional information. Removal of Traffic Signal Controller shall also include the removal of the conflict monitor.

Removal of the Traffic Signal Controller Cabinet shall include the removal of the cabinet once the new cabinet is ready for installation. The Contractor shall take appropriate precautions and exercise care to avoid damaging any existing cabling and Equipment that will be used in the new Traffic Signal Controller Cabinet. Existing fiber optic termination panels shall be reused in the new cabinets.

The Contractor shall safeguard any salvageable Materials designated by the Project Engineer, and shall be responsible for the expense of repairing or replacing damaged or missing Material until it is delivered by the Contractor to the Thornton Infrastructure Maintenance Center, which is located at 12450 Washington Street, Thornton, CO 80241.

**METHOD OF MEASUREMENT**

Subsection 202.11 shall be revised to include the following:

Removal of Equipment will be measured by the actual number of each item noted below that are removed and accepted.

**BASIS OF PAYMENT**

Subsection 202.12 shall be revised to include the following Pay Items:

<b><u>Pay Item</u></b>	<b><u>Pay Unit</u></b>
Removal of Pull Box	Each
Removal of Traffic Signal Controller	Each
Removal of Traffic Signal Controller Cabinet	Each

Payment will be full compensation for all labor and Materials required to complete the Work.

**REVISION OF SECTION 203  
POTHOLING**

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

**CONSTRUCTION REQUIREMENTS**

Subsection 203.05 (g) shall be revised to include the following:

All existing utilities shall be potholed at each crossing of the directional bore within the Project limits. Pothole repair shall meet the City of Thornton's standard for street repairs.

**METHOD OF MEASUREMENT**

Subsection 203.13 (e) shall be revised to include the following:

Labor and Materials required for surface restoration following Potholing activities shall not be measured and paid separately but shall be included in the Work.

**BASIS OF PAYMENT**

Payment will be made under:

**Pay Item**  
Potholing

**Pay Unit**  
Hour

**REVISION OF SECTION 208  
SWEEPING (SEDIMENT REMOVAL)**

Section 208 of the Standard Specifications is hereby revised for this project as follows:

Section 208.01 shall include the following:

During construction, the Contractor shall perform street cleaning and maintenance to ensure sediment and debris does not accumulate on the roadway surface. This work includes removal and disposal of debris on the roadway beyond that generated by the Contractor's own construction activities. Debris generated by the Contractor's own construction activities shall be picked up at the Contractor's expense in accordance with subsection 208.04 of the Standard Special Provisions and Revision of Sections 101, 107, & 208 – Water Quality Control. Debris on the highway requiring removal and disposal and that was caused by circumstances beyond the Contractor's control will be paid for under this revision.

Section 208.03 shall include the following:

After Contractor specific operations, such as milling or saw cutting that may transport pollutants onto the roadway or into inlets, the road and gutter pan shall be cleaned as needed to prevent millings, concrete wash, saw water, or any other pollutants from entering the storm drain system and waterways. Street Cleaning shall be done using a pickup broom and shall be done within 4 hours after milling, saw cutting and concrete work to ensure that streets and inlets remain clear of those pollutants. This sweeping is in addition to the initial sweeping required after milling operations. The initial sweeping shall be included in the cost of the milling per 202.09 Removal of Asphalt Mat (Planing). This additional sweeping is to ensure no residual construction debris enters the storm drain system after specific operations.

Street-sweeping trucks shall be transported to the work site if they are not capable of highway speeds. The trucks shall utilize a broom sweeper and be water-filled for dust suppression. The vehicle must be equipped with safety lights. All vehicles are subject to the approval of the Engineer.

Section 208.04 shall include the following:

In the event that the Contractor fails to implement the required additional sweeping within the time limit, then the Contractor shall install suitable Storm Drain Inlet Protection devices at all inlet locations within the project limits. These inlet protection devices shall be at the Contractor's expense in accordance with subsection 208.02 (m) and shall be installed prior to the end of work that day.

If storm drain inlets and culverts are found to contain contractor generated sediment, mud, debris or other potential pollutants during the project duration, the storm drain inlets and culverts shall be cleaned at the Contractor's expense.

Section 208.12 shall include the following:

Hours for equipment that is inoperative due to breakdown will not be paid for. Time involved in moving onto or off the project site will not be measured and paid for.

Water used as dust suppression will be incidental to the pay item.

**REVISION OF SECTION 208  
SWEEPING (SEDIMENT REMOVAL)**

Subsection 208.14 shall include the following:

<b><u>Pay Item</u></b>	<b><u>Pay Unit</u></b>
Sweeping (Sediment Removal)	Hour

Payment will be full compensation for all work, materials and equipment required to clean, remove and dispose of sediment and other pollutants and debris from the roadway surface.

**REVISION OF SECTION 208  
CONCRETE WASHOUT STRUCTURE**

Section 208 of the Standard Specifications is hereby revised for this project as follows:

**DESCRIPTION**

Subsection 208.01 shall include the following:

This work consists of the management and removal of concrete washout waste related to the placement of concrete and the cleaning of construction equipment on this project. The washout of concrete from construction vehicles and construction equipment shall be of the mobile operations type. No permanent concrete washout structure(s) will be constructed. The Contractor shall be responsible for providing temporary methods of accumulating concrete washout waste and disposing of concrete washout waste off-site. The Contractor shall comply with all regulations and at no time shall concrete washout waste be disposed of within Department right-of-way or on private property except at sites affiliated with the Contractor and/or his subcontractors.

**MATERIALS**

In Subsection 208.02(j), delete the first paragraph after the section heading, Concrete Washout Structure.

**CONSTRUCTION REQUIREMENTS**

In Subsection 208.05(n), delete the first paragraph after the section heading, Concrete Washout Structure Design, and the second paragraph and subsections (1) through (12).

**METHOD OF MEASUREMENT**

Concrete washout structure shall be measured by the number of mobile structures used on the project as approved by the Engineer.

**BASIS OF PAYMENT**

Payment will be made under:

<u><b>Pay Item</b></u>	<u><b>Pay Unit</b></u>
Concrete Washout Structure	Each

**REVISION OF SECTION 210  
RESET PULL BOX**

Section 210 of the Standard Specifications is hereby revised for this Project as follows:

**CONSTRUCTION REQUIREMENTS**

Reset pull box is to be done in accordance with the Plans. It is the Contractor's responsibility to document the condition of the pull box prior to its removal. This includes, but is not limited to, photographs, videotapes, and measurements. Any existing damage or condition that may be disputable after the pull box is set should be brought to the Engineer's attention prior to removal. If necessary, new Material shall be used at the direction of the Engineer.

Installation of the existing pull box in its new location shall be in accordance with the Plans. Installation of reset pull box shall follow all requirements of the City of Thornton Standard Technical Specifications.

**METHOD OF MEASUREMENT**

Any pull box that is to be reset shall be measured per each and paid for under section 210 Reset Pull Box.

**BASIS OF PAYMENT**

Payment will be made under:

<u><b>Pay Item</b></u>	<u><b>Pay Unit</b></u>
Reset Pull Box	Each

Payment shall be full compensation for all Work and Materials necessary to complete this item including, but not limited to, documentation of existing pull box and stockpiling of pull box as required.

**REVISION OF SECTION 614  
TRAFFIC CONTROL DEVICES**

Section 614 of the Standard Specifications is hereby deleted for this Project and replaced with the following:

**CITY OF THORNTON  
TRAFFIC SIGNAL TECHNICAL SPECIFICATIONS  
PROJECT NO. 13-421**

**TABLE OF CONTENTS**

<u>Section</u>	<u>Title</u>
1	General Traffic Signal Specifications
2	Traffic Signal, Lighting, and Communication Conduit
3	Pull Boxes
4	Modify Traffic Signal Cabinet Phasing
5	Controller and Cabinet Specifications
6	Communication Interface
7	Uninterrupted Power Supply (Continuous Power System)
8	Conflict Monitor
9	Delineator Posts and Fiber Markers
10	Global Positioning System
11	Traffic Control
	APPENDIX A – GPS Device Installation Location
	APPENDIX B – Submittals

# SECTION 1

## GENERAL TRAFFIC SIGNAL SPECIFICATIONS

### 1.0 General Requirements

These Specifications for traffic signals shall govern the Materials used for and the installation of traffic signals.

Construction of traffic signal systems shall be done in accordance with these Specifications, the latest revision of the Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways, published by the Federal Highway Administration (FHWA), the latest revision of the Colorado Supplement, thereto, and in conformity with the details as shown on the Plans.

The Contractor shall have an International Municipal Signal Association (IMSA) Certified Traffic Signal Level II Technician on-site during the period of any splicing and/or termination of wiring for head and controller installation, and shall provide the Owner with a copy of the individual's certification prior to the start of work.

### 1.1 Conditions of Materials Furnished

Items furnished shall be new state-of-the-art Equipment and Materials. The Contractor shall submit for review and approval a list of Equipment and Materials as indicated in Appendix B – Submittals that are proposed to be installed, prior to the Contractor ordering such Materials. Each item shall be identified by the trade name, size, and catalog number.

Traffic control equipment installed in the controller cabinet shall be products from the same manufacturer, or fully compatible if Equipment from more than one (1) manufacturer is used. At existing traffic signal installations being rebuilt, all traffic control equipment furnished by the Contractor shall be compatible with the existing Equipment that will remain.

The Contractor shall supply and install all necessary Materials, Equipment, and labor for the complete installation and operation of the traffic signal system whether specifically mentioned or not on the traffic signal Plans and in these Specifications. The furnishing and installing of such non-listed items shall be considered incidental to the contract.

The Contractor shall supply and furnish all labor, tools, Equipment, and incidentals necessary to complete the Project in an efficient and Workmanlike Manner.

## 1.2 Definitions

### General

Whenever in these Specifications or in other contract documents special engineering terms and words are used, the intent and meaning shall be as defined in the Traffic Engineering Handbook, Institute of Transportation Engineers, latest edition and the Transportation Planning Handbook, Institute of Transportation Engineers, latest edition.

The following special terms and words shall have meanings as defined below:

AASHTO	American Association of State Highways and Transportation Officials
ANSI	American National Standards Institute
ASTM	American Society for Testing Materials
CDOT	Colorado Department of Transportation
FHWA	Federal Highway Administration
IMSA	International Municipal Signal Association
ITE	Institute of Transportation Engineers
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
SSRBC	CDOT Standard Specifications for Road and Bridge Construction
UL	Underwriters Laboratories, Inc.

## 1.3 Regulations and Codes

In addition to the requirements of the Plans, these Specifications, the Special Conditions, and the General Conditions, all items and workmanship shall conform to the requirements of the National Electrical Code (NEC) hereinafter referred to as the Code; Rules for Overhead Electrical Line Construction of the Colorado Public Utilities Commission; standards of ASTM, ANSI, and local ordinances which may apply.

Wherever reference is made to any of the standards mentioned above, the reference shall be construed to mean the Code, order, or standard that is in effect on the date of advertisement for Bids.

## **1.4 Schedule of Work and Working Conditions**

The Contractor shall provide constant attention to the Work necessary to facilitate the progress thereof, and shall cooperate with the Owner, utility representatives and other contractors in every way possible.

At the end of each working period, all excavations shall be barricaded and/or covered to provide safe pedestrian and vehicular passage.

At points where the Contractor's operations are adjacent to properties of traffic signal interconnect, railway, telegraph, telephone, power companies, cable television, or any other utility to which damage might result in considerable expense, loss or inconvenience, Work shall not be commenced until all arrangements necessary for the protection, thereof, shall have been made.

The Contractor shall cooperate with Owners of all underground and overhead utility lines in their removal and rearrangement operations in order that these operations may progress in a reasonable manner, that duplication or rearrangement work be reduced to a minimum, and that services rendered by those parties not be unnecessarily interrupted.

In the event of interruption of water or utility services as a result of accidental breakage; being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with the authority in restoration of service. If water service is interrupted, repair work shall be continuous until the service is restored. Work shall not be undertaken around fire hydrants until approved by the local fire authority.

## **1.5 Distribution of Keys and Instruction Manuals**

When the Project is complete, two (2) keys for each controller cabinet and police panel shall be delivered to the Owner. The instruction manual for the controller shall be left inside the controller cabinet.

## **1.6 Contractor Supplied Documents**

Upon completion of the Work, the Contractor shall submit As-Built Drawings or corrected Plans and/or additional data required by the Owner to show in detail all construction changes. This shall include, but not be limited to, wiring, cable, location, depth of conduit, and modifications to original cabinet wiring.

The Contractor shall submit two (2) sets of schematic wiring diagrams to the Owner for the traffic signal controller, the signal installation's light circuits and auxiliary equipment, including units and values of each component used in the cabinet. The diagrams shall show in detail circuits and components. Such components shown, thereon, shall be identified by name or number and in such a manner as to be readily interpreted.

All diagrams, Plans, and Drawings shall be prepared using graphic symbols shown in ANSI Y32.2, *Graphic Symbols for Electrical and Electronic Diagrams*.

One (1) copy of the controller cabinet diagram and the intersection and phase diagram, as approved by the Owner, shall be placed in a heavy duty plastic envelope with side opening, and placed inside of each controller cabinet in the plan drawer prior to Initial Acceptance of the Project.

## **1.7 Maintaining Existing Traffic Signal Operations**

Existing traffic signals shall be kept in effective operation for the benefit of the traveling public by the Contractor.

At intersections where power to the signals must be turned off, the Contractor shall employ uniformed traffic control. See the Uniformed Traffic Control Project Special Provision for additional information.

The above does not apply to intersections which are completely closed to traffic due to construction.

The Contractor shall maintain a minimum of two (2) three-section (red, yellow, green) traffic signal heads for each approach. Lane assignment changes during construction at existing or temporary traffic signals with video detection shall have the detection zones modified to reflect the lane assignments. In the event that temporary signals are necessary to maintain the minimum signal display, the Contractor shall be responsible for furnishing Materials, Equipment, tools, and labor necessary to install and maintain the temporary signals. Temporary signals must be in the Plans or be approved by the Owner prior to installation. The Contractor shall maintain any temporary signal installed. Thornton shall furnish electrical energy for operation of a temporary signal.

Temporary span-wire traffic signals are not permitted unless shown on the Plans or approved in writing by the Owner.

## **1.8 Field Test of Equipment**

Prior to completion of Work, the Contractor shall make the following tests on traffic signal circuits in the presence of the Owner and the controller representative, if a new controller is used (the Contractor shall notify the Owner forty-eight [48] hours prior to conducting the tests):

1. Each circuit shall be tested for continuity.
2. Each circuit shall be tested for grounds.
3. An insulation resistance test shall be made on each circuit between the circuit and a ground. The insulation resistance shall not be less than the values specified in the provisions of the NEC code.
4. Initial functional testing of a new traffic signal system shall be completed while the traffic signal heads are bagged. Heads shall be bagged with orange colored covers.

5. Louvers, hoods, and signal heads shall be directed to provide maximum visibility.
6. Initial activation shall be between 9:00 a.m. and 2:00 p.m., unless otherwise specified or shown on the Plans. Prior to activation, the Equipment shown on the Plans shall be installed and operable. This includes, but is not an inclusive list: pedestrian signals, pedestrian push buttons, vehicle detectors, system communications, and Opticom. Any exceptions to this must be approved by the Owner.
7. Flash and permanent activation shall have the Owner present.
8. The signal shall be run on flash cycle for a minimum of twenty-four (24) hours prior to turn-on. After flash operations a functional test shall be made which demonstrates that every part of the system functions as specified. The functional test for each traffic signal system shall consist of at least five (5) Calendar Days of continuous satisfactory operation. If unsatisfactory performance of the system develops, the conditions shall be corrected and the test shall be repeated until five (5) Calendar Days of continuous, satisfactory operation is obtained.
9. Prior to the functional test, the Contractor shall make every effort to have resolved all operating difficulties and problems. Components of the system must be complete and in operational condition to the satisfaction of the Owner prior to the functional tests being performed.

Functional tests shall start on any working day except Friday or the day preceding a legal holiday, or on a legal holiday. The Owner reserves the right to require the test on any day of the calendar week.

During the test period, the Owner will provide the electrical energy. Repair costs of any damage caused by public traffic and all other maintenance costs will be the responsibility of the Contractor until Initial Acceptance of the Project by the Owner.

### **1.9 Activation of Traffic Signal Equipment**

Activation of new or modified signal systems shall be made only after all traffic signal circuits have been thoroughly tested as specified and the Owner concurs with the activation.

### **1.10 Permits**

The Contractor shall obtain a Traffic Control Permit from Thornton's Infrastructure Department and an Excavation Permit from Thornton's City Development Department prior to construction.

### **1.11 Concrete Work, Asphalt Work, Aggregate Base Course**

All concrete work, asphalt work and aggregate base course installation to be performed under this Contract shall conform to the requirements of the **2011 Edition of the Colorado Department of Transportation's Standard Specifications for Road and Bridge Construction or as otherwise specified in these Specifications and Plans.** All concrete, except traffic signal pole foundations and sidewalks, shall be Class D. Traffic signal pole foundation concrete shall be Class BZ. Sidewalk concrete shall be Class B with a fiber mesh. All asphalt shall be Grade Sx, (PG 64-22). All aggregate base coarse shall be Class 6.

### **1.12 Removals**

All traffic signal equipment, poles, signs and posts that are removed as required by this Project are to be delivered to the Owner's Infrastructure Maintenance Center (IMC) located at 12450 Washington Street. Coordinate with the Owner at least twenty-four (24) hours in advance of delivery.

### **1.13 Measurement and Payment**

Excavation and backfill will not be paid for separately, but shall be included with the item being installed, as identified by the different payment categories in the schedule of Contract Items and Prices. Concrete and asphalt restoration work that is required due to foundation, controller or conduit installations will not be paid for separately, but included in the Unit Price for the item being installed.

END OF SECTION

## SECTION 2

### TRAFFIC SIGNAL, LIGHTING, AND COMMUNICATION CONDUIT

#### 2.0 General Requirements

Underground utility information shown on the Plans is for information only. The Contractor is responsible for field locating and verifying utility information before starting installation of underground conduit runs and traffic signal pole foundations.

The Contractor shall cooperate with any other Contractor under contract with the Owner and with utility companies providing services to Thornton while installing underground conduit runs.

Electrical conduit shall be installed in accordance with the applicable requirements described in the latest revision of the Colorado Department of Transportation Utility Manual, as amended.

All buried wiring included in this Project shall be placed in a conduit. It will be the option of the Contractor, at his own expense, to use larger size conduit if desired. Where larger size conduit is used, it shall be for the entire length of the run from outlet to pull box or from pull box to pull box. No reducing coupling will be permitted in any conduit run. The Owner must approve increased sizes prior to installation.

Conduits shall be installed under existing pavement through use of directional boring operations. Conduits under pavement may be installed through use of open trench operations only where approved by the Owner.

Conduits shall be Rigid Plastic (PVC), High-Density Polyethylene (HDPE) or Galvanized Rigid Steel (GRC) type conforming to the Plans and these Specifications. Conduit runs shown on the Plans are tentative as to routing and may be changed as directed by the Owner to avoid underground obstructions. In the event of any change from the location shown on the Plans, accurate records shall be incorporated into the As-Built Drawings, and all necessary details and As-Built Drawings submitted to the Owner before final payment is made.

Conduit installation shall include the installation of marking tape laid in the backfilled trench at a depth not more than 8" or less than 4" below finished grade. Heavy gauge polyethylene film (0.004" tape, with legend "Caution Buried Electric Line Below"), shall be used. Where tape length ends and conduit run continues, lapping of not less than 6" will be provided. No glue or adhesive will be allowed to join separate tape sections.

#### 2.1 Rigid Plastic Conduit (PVC)

Rigid PVC conduit shall be Schedule 40, Type 2 and shall be manufactured of high-impact PVC, and shall conform to industry and commercial standards No. CS-207-60. Each length of PVC conduit and the various PVC fittings (coupling, adapter, etc.) shall

bear the label of Underwriter's Laboratories, Inc., or be approved by the Owner. The conduit shall be of the size or sizes shown on the Plans or as indicated in these Specifications.

Rigid PVC conduit ends shall be squared and trimmed after cutting to remove rough edges. All connections shall be of solvent weld type except where PVC is to be connected to a steel conduit, in which case the coupling or adapter shall be threaded on the steel conduit side.

Solvent weld joints shall be made in accordance with the PVC manufacturer's recommendations. Rigid PVC conduit shall only be used for underground installations; conduit used above ground shall be galvanized rigid steel.

## **2.2 Galvanized Rigid Conduit Steel (GRC)**

Steel conduit and fittings shall be rigid galvanized steel and shall be uniformly and adequately zinc-coated by the hot-dipped process conforming to ASTM Designation A153. Joints shall be set up tight with squared ends. Fastenings shall be secured and of a type appropriate in design and dimensions for the particular applications. Couplings, connectors, and fittings shall be approved types specifically designed and manufactured for the purpose. Fittings shall be installed to provide a good electrical ground throughout the conduit system. The interior as well as the exterior of a 6" sample cut from a center of a standard length of conduit when tested in accordance with the applicable portion of ASTM Designation A239 shall not show a fixed deposit of copper after four (4) one-minute immersions in the standard copper sulfate solution. The interior of the rigid conduit shall have a continuous coating of lacquer or enamel. Each length shall bear the label of Underwriter's Laboratories, Inc., and shall conform to appropriate articles of the Code. The contractor shall provide catalog information for review by the Owner prior to purchase and installation of GRC.

The end of metallic conduit shall be threaded and well-reamed to remove burrs and rough edges. Field cuts shall be made true and square so that the ends will butt or come together for the full circumference, thereof. Slip joints or running thread will not be permitted for coupling conduit. When a standard coupling cannot be used, weatherproofed threaded three-piece union shall be used. All three-piece unions must be threaded; non-threaded couplings shall not be accepted.

The threads on all conduits shall be well painted with a good quality lead or rust-preventive paint before couplings are made up. All couplings shall be tightened until the ends of the conduits are brought together so that a good electrical connection will be made throughout the entire length of the conduit run. Conduit stubs, caps, and exposed threads, as well as any point along the surface of the conduit that has been injured in handling or installation, shall be painted with good quality asphalt bituminous or other paint suitable for the purpose.

## 2.3 High-Density Polyethylene (HDPE) Conduit

All HDPE conduit installed for this Project shall be schedule 80 in the diameters and quantities shown on the Plans. All HDPE conduit containing fiber optic cables shall be orange in color, unless otherwise specified by Thornton. HDPE conduit utilized on this Project shall be manufactured to the following industry standards and Specifications for dimensional requirements:

- A. ASTM F2160 – Standard Specification for Solid Wall HDPE Conduit Based on Controlled Outside Diameter.
- B. ASTM D3035 – *Standard Specification for PE Plastic Pipe Based on Controlled Outside Diameter.*
- C. NEMA TC7 – *Smooth Wall Coilable Electrical PE Conduit.*
- D. UL 651B – *Continuous Length HDPE Conduit.*

All HDPE conduit shall be manufactured from Materials conforming to the minimum requirements as defined in ASTM D3350 *Standard Specification for PE Plastic Pipe and Fitting Materials*. All HDPE conduit shall be factory lubricated, low friction, high-density conduit constructed of virgin high-density polyethylene resin. Conduit shall be capable of being coiled on reels in continuous lengths, transported, stored outdoors, and subsequently uncoiled for installation, without affecting its properties or performance.

## 2.4 Installation Methods

Conduit sizes and locations shall be as shown on the Plans. Conduit shall be stubbed and capped for future uses where shown on the Plans or where specified.

Existing empty underground conduit to be incorporated into a new system shall be cleaned with a mandrel or cylindrical wire brush and blown out with compressed air. The Contractor shall search for such conduit in the general vicinity shown on the Plans, and shall notify the Owner in advance as to when this operation will take place. The Owner may, at his option, be present to monitor the activity. The cost of such activity shall be incidental to the Project. In the event that such conduit has been rendered inoperative prior to the signal installation, the Contractor shall notify the Owner and payment for new conduit shall be made as per the unit costs provided in the Bid.

Conduits terminating in poles, cabinets, and pedestal bases shall extend a maximum of 3" and a minimum of 2" above the foundation vertically, and shall be sloped toward hand holes in poles or base opening where transformer bases are used. Conduit entering pull boxes shall terminate a minimum of 2" and a maximum of 3" above the bottom of the box.

Conduit ends shall be accomplished by a ninety (90) degree elbow with a minimum radius of forty-eight (48) degrees. Where two (2) or more conduits meet, all ninety (90)

degree elbows shall be brought together in the center of the pull box or cabinet foundation. Conduit shall only enter through the bottom of a pull box. Galvanized rigid conduit terminations within pull boxes shall be fitted with an end coupling as well as insulating bushings to prevent chafing the wire.

Conduits required to be terminated, stubbed, and plugged shall be as shown on the Plans and as directed by the Owner. Conduit plugs shall be supplied and installed in all conduit ends as soon as the conduit is installed, even if the production stops mid-trench or the pull box has not yet been installed. Conduit shall be plugged at all termination points such as pull boxes and traffic signal controller cabinets. All plugs shall be correctly sized to fit the conduit being plugged. Empty conduits shall be sealed with removable mechanical type duct plugs that provide a watertight barrier and are equipped with a rope tie on the inside end for connection of the pull tape. No foam sealant or duct tape will be allowed. All plugs and sealant shall be approved prior to construction. The location of ends of conduit for future electrical circuits under curbs, gutters, sidewalks, or structures shall be marked by a "Y" at least 3" high, cut into the face of the curb, gutter, or structure directly above the conduit.

Ends of unused metal type conduit shall be threaded and shall be capped with standard pipe caps until conductors are in place. When caps are removed, the threaded ends shall be provided with conduit bushings. Ends of unused non-metallic type conduit shall be capped with a standard PVC cap until conductors are in place. Ends of conduit populated with wire shall be plugged with duct seal putty to prevent water infiltration and rodent infestation of the conduit.

Conduit installed outside of the traveled portion of the roadway and out of future roadway areas shall be laid as follows: maximum depth of 30" and a minimum depth of 24".

Concrete replacement within intersection islands created by installation of conduit will not be paid for separately, but included in the Unit Price for conduit. Replacement of roadway, sidewalk, or native growth areas created by installation of conduit will not be paid for separately, but included in the Unit Price for conduit.

All conduits, including conduits from the home run pull box to the controller cabinet, shall include 14 gauge copper stranded tracer wire for future locating of conduits. The sheathing for the tracer wire shall be purple in color. A minimum of 2' of slack tracer wire shall be left in each pull box and in the controller cabinet. At the end of each conduit run, the tracer wire shall be grounded at each traffic signal pole grounding lug.

## **2.5 Excavation and Backfilling**

The excavations required for the installation of conduit shall be performed in such a manner as to avoid unnecessary damage to streets, sidewalks, landscaping and other improvements. Trenches shall not be excavated wider than necessary for the installation of the electrical appurtenances. Concrete removal limits shall be to the nearest pavement, sidewalk or curb and gutter control joint. Excavation shall not be

performed until immediately before installation of conduits. The Material from the excavation shall be placed in a position not to cause damage or obstruction to vehicular or pedestrian traffic or interfere with surface drainage.

Trenches outside the traveled portion of the roadway shall be backfilled with granular Material as approved by the Owner, in 6" lifts and each lift compacted. Off-street trenches in native soil areas shall be backfilled with native soil and shall be compacted and shaped to match the surrounding surface. Surface materials in native soil areas disturbed by excavation and backfilling operations shall be replaced in kind equal to or exceeding original conditions. This shall include replacement of sod in lawn areas or reseeding in native soil areas at no additional cost to the Project as directed by the Owner.

Trenches within islands, under sidewalks, in parking lots or other trenches in paved areas outside the traveled portion of the roadway shall be backfilled with Class 6 granular aggregate base course material as approved by the Owner. The backfill shall be in 6" lifts and each lift compacted up to a point within 3" of existing grade.

Trenches within or across the roadway, bike paths, trails and sidewalks shall be backfilled with CDOT-approved structural backfill (flow-fill) within 3" of existing grade, except on concrete surfaces which shall be removed to the nearest control joint and replaced in kind to match existing thickness, grade and finish. The top 3" of all trenches in asphalt roadways or asphalt off-roadway areas shall be filled to match existing grade and surfacing Materials with hot asphalt mix. All roadways shall be repaired within forty-eight (48) hours of cutting the surface.

Excavations in the street or highway shall be performed in such a manner that not more than one (1) traffic lane is restricted in either direction at any time, unless otherwise permitted by the Owner. A minimum of one (1) lane of traffic in each direction shall be kept open for each direction.

Excavations at intersections being reconstructed or improved shall be performed and backfilled before other improvements are completed so as to not require the repair or replacement of newly installed sidewalks, curbs and gutters, pavement, or landscaping.

Prior to backfilling, the Owner shall have the opportunity to inspect the trench, conduit and tape placement.

## **2.6 Measurement and Payment**

Payment of conduit shall be by linear foot of conduit measured horizontally from centerline of pull box to centerline of pull box and/or centerline of pull box to centerline of controller cabinet. Elbow, vertical, and slack quantities shall be incidental to the horizontal dimension. The cost for conduit installations will include costs for all necessary items including, but not limited to, backfill, saw cutting, patching, jacking, drilling pits, directional boring, removal of pavement, sidewalk, gutters and curbs, and their replacement in kind to match existing grade and other incidentals necessary to

complete the conduit installation in place for acceptance.

Payment shall be made as follows:

**Pay Item**

3" Electrical Conduit

**Pay Unit**

LF

**END OF SECTION**

## SECTION 3

### PULL BOXES

#### 3.0 General

Pull box locations shown on the Plans are approximate. The Contractor shall locate the exact location in the field and the Contractor shall have the Owner agree to the location prior to installation. Pull boxes for traffic signal conduit runs shall not be spaced more than 150' apart from each other unless approved by the Owner. It shall be the option of the Contractor, at his expense, to install additional pull boxes that he may desire to facilitate his work as approved by the Owner.

Pull boxes shall be constructed of an aggregate material consisting of sand and gravel bound together with a polymer and reinforced with continuous woven glass strands. The Material shall have the following mechanical properties.

Compressive Strength	-	11,000 psi
Tensile Strength	-	1,700 psi
Flexural Strength	-	7,500 psi

Pull boxes used for loop detectors on sampling stations shall be a minimum of 12" wide by 16" long by 12" deep. Pull boxes used at junctions of roadway conduit crossing shall be a minimum of 20" long by 33" wide by 15" deep. Pull boxes used for traffic signal communication interconnect shall be a minimum of 24" long by 36" wide by 24" deep. Pull boxes at the controller cabinet shall be a minimum of 30" long by 48" wide by 24" deep. Use of two (2) pull boxes in place of the larger one shall not be permitted. Other sizes may be approved by the Owner.

Pull box lids shall have a non-skid surface with a minimum coefficient of friction of 0.5. Covers shall hold a minimum vertical test load of 8,000 lbs over a 10" x 10" surface with no physical damage or excess deflection. Covers shall have the words Traffic Signal embossed on them and be concrete gray color.

Lids for pull boxes sized 30" long by 48" wide by 24" deep or larger shall consist of two (2) pieces capable of being removed from the pull box independently. The configuration of the two-piece lid shall be such that access to the pull box is unobstructed when both pieces are removed.

A delineator post shall be installed at each pull box installation. Refer to the Delineator Posts and Fiber Markers section for installation requirements.

#### 3.1 Installation

Pull boxes shown in the vicinity of curbs and gutters shall be placed adjacent to the back of the curb. Pull boxes adjacent to standards shall be placed along the side of foundations as shown on the Plans.

The cover of the pull box shall be installed level with the finish grade. The cover of pull boxes located in sidewalks shall be installed level with the sidewalk. The bottom of all pull boxes shall rest on firm ground with 12" of 3/4" to 2" river run rock below the pull box for drainage. Pull boxes installed in a sidewalk must be tied into the sidewalk to prevent the boxes from being pushed down below the top of the sidewalk.

Pull boxes installed in dirt or landscaped areas shall have a 12" wide by 6" thick concrete collar placed around the top, level with the cover of the pull box and finish grade. All concrete collars shall be Portland cement concrete conforming to the applicable requirements for Class B as referenced in the SSRBC.

### **3.2 Payment**

Payment for pull boxes will be for each box installed as outlined below. The payment will include all Work necessary for the final installation.

Payment shall be made as follows:

<b><u>Pay Item</u></b>	<b><u>Pay Unit</u></b>
Pull Box (24"x36"x24")	Each
Pull Box (30"x48"x24")	Each

**END OF SECTION**

## SECTION 4

### MODIFY TRAFFIC SIGNAL CABINET PHASING

#### 4.0 General

This Work consists of modifying existing traffic signal cabinets to operate with a new phasing structure in accordance with the "Phasing Standardization" Plans.

The Contractor shall furnish all Materials required to provide an operational system while minimizing the time that the traffic signals are dark or operate in flash mode. At cabinets where modifications to the existing Conflict Monitor Unit (CMU) Diode Cards are required, the Contractor shall furnish new CMU diode cards. New CMU diode cards, furnished by the Contractor, shall be incidental to the Conflict Monitor Pay Item in Section 9 of these Technical Specifications.

The Contractor shall modify the traffic signal cabinet phasing in accordance with the "Phasing Standardization" Plans. The Work shall include all labor to provide an operational system while minimizing the time that the traffic signals are dark or operate in flash mode. The Contractor shall update cabinet phasing documentation, including but not necessarily limited to, diagrams, cabinet markings, device labels, and conductor markings, as applicable to reflect the Proposed Phasing following the Work.

Where required, the Contractor shall re-configure new CMU Diode Cards to accommodate the Proposed Phasing shown on the Plans. No soldered connections will be permitted to modify the CMU Diode Cards, without the approval of the Owner.

The Contractor shall reset, re-wire and re-configure the existing inputs within the cabinet's input file including vehicle, pedestrian and emergency vehicle detectors, as required to implement the Proposed Phasing. No new input or output re-assignments will be permitted to implement the Proposed Phasing without the approval of the Owner.

The Contractor shall re-wire pedestrian phases to align with the respective parallel and adjacent vehicle phase number.

The Contractor shall coordinate this Work with the procurement and programming of the ATC installation. Refer to the "Prosecution and Progress" Project Special Provision for additional information. The Modify Traffic Signal Cabinet Phasing Work shall occur on the same day as the installation of the ATC which shall occur between 9:00 a.m. and 3:30 p.m., Monday through Friday.

#### 4.1 Payment

The modification of the traffic signal cabinet phasing shall be measured and paid by the number of intersection cabinets requiring re-wiring solely due to phasing standardization.

**Pay Item**

Modify Traffic Signal Cabinet Phasing

**Pay Unit**

Each

**END OF SECTION**

## SECTION 5

### CONTROLLER AND CABINET SPECIFICATIONS

#### 5.0 General – Controller Specifications

An Advanced Transportation Controller (ATC) shall be supplied by Thornton. The Contractor shall install the ATC in an existing or new controller cabinet, as indicated on the Plans.

The Contractor shall coordinate the controller installation work with Section 5 (Modify Traffic Signal Cabinet Phasing) work at select intersections as shown in the Plans. Refer to the “Prosecution and Progress” Project Special Provision for additional information.

The Contractor is responsible for picking up the programmed ATC from the Thornton Infrastructure Maintenance Center, delivering it to the appropriate intersection, installing the new ATC, connecting the existing C1S connector to the ATC, connecting the power supply, connecting the Ethernet communication connector and coordinating with Owner to ensure proper operation of the traffic signal to the satisfaction of the Owner.

The installation of the ATC shall occur between 9:00 a.m. and 2:00 p.m., Monday through Thursday.

#### 5.1 General – Cabinet Specifications

##### 5.1.1 General

A 333SD-ITS Cabinet with uninterrupted power supply shall be installed at locations shown on the plans.

Cabinets shall have the following items included in addition to the items specified for each cabinet.

1. The cabinet shall be natural aluminum with no anti-graffiti coating and no powder coating finish.
2. A means of selecting the active red monitor channel shall be provided on the rear of the monitor panel. Selection shall be accomplished by means of a two (2) position jumper (shunt) with the center position wired to a red monitor input and select of 115V AC to the right and red load switch output to the left. Moving the jumper to the right will provide continuous red input and override, while moving a jumper to the left will attach the monitor channel to the corresponding load switch output.
3. This jumper assembly shall be accessible while the intersection is in operation. Means shall be provided to prevent shock to personnel operating jumper selection devices.

4. Red monitoring disable control shall be provided within the red monitor cable assembly. Pin six (6) on TB02 shall connect to a 24V DC relay coil. This relay is designated RM control relay. The normally closed contacts shall provide 115V AC to the red monitor select line and pin seventeen (17) on the monitor cable. When a logic ground is applied to TB02-6 the RM relay shall energize and open the cable. The relay power will be derived from the cabinet 24V DC cabinet power supply.
5. Each unit shall comply with the following:
  - a. Clamping level 400V peak normal mode and 500V peak common mode. Trace photos and other test related information will be available upon request.
  - b. EMI/EFI noise rejection derived via standardized 50 ohm insertion loss tests shall have amplitude of at least -20 db over a minimum spectrum from 50 KHZ with a -40db being the most desirable.
  - c. Diagnostics indicators shall clearly display the status of the suppression circuit. The indication shall warn of the loss of protection.
  - d. Transient energy suppression shall be in excess of 250 joules.
  - e. Rated voltage is 120V AC with rated output current minimum ten (10) amperes single phase operation.
  - f. All of the above components provided on the Project, excluding the signal monitor unit, shall be on the Colorado and California Qualified Products listing.
6. The cabinet drawings shall be non-fading prints using xerography method. No blue line drawings shall be acceptable.
7. Serial connections shall use a standard RJ – type quick lock connection.
8. One (1) set of anchor bolts.
9. Two (2) preemption discriminators compatible with existing intersection preemption equipment as determined by the Owner's Traffic Engineer. The phase discriminator units shall be used and included in the cost of the controller and cabinet.
10. The cabinet shall include the following:

QUANTITY	ITEM
	Internal Fans – Two (2) for the 333SD-ITS, one (1) for the 336S and 303 Cabinets
	Internal (front/back) fluorescent lamps – Four (4) for the 333SD-ITS, two (2) for the 336S, one (1) for the 303 Cabinets
4	Model 430” Transfer Relays
2	Model 204 2-Circuit Flasher (cube type, 25 AMP output)
12 maximum	Model 200 Load Switches w/Input and Output LEDs (cube type, 25 AMP)
3 maximum	Model 242 DC Isolators
*	Model 222 Loop Amplifiers or Video Detection Cards
1	Conflict Monitor with absence of red monitoring (refer to Section 9; paid separately from cabinet)
	New York 330 Pull-out Drawer Assembly – Two (2) for the 333SD-ITS, one (1) for the 336S, and zero (0) for the 303 Cabinets
1	Transient Voltage Surge Suppression System
2	Split Input files – 333SD-ITS Cabinets only
1	Output File (not in the 303 Cabinet) with terminal strips (not Phoenix connectors)
8	Flash Program Blocks – Six (6) in the 303 Cabinet

\* Match existing cabinet quantity

## 5.2 333SD-ITS Cabinet Assembly

The 333SD-ITS Cabinet shall consist of the following in addition to Section 11.1:

The controller cabinet shall be a four (4) door Model 333SD-ITS as specified. The 333SD-ITS cabinet shall include a base extension assembly. The input file shall meet the requirements of the split input file. Unless otherwise specified in the Contract, the cabinet shall include the following:

Cabinet dimensions: 54” X 43” X 26” D.

All four (4) doors shall have Corbin #2 locks installed.

A minimum of twelve (12) selections are required, eight (8) phase selections and four (4) overlap selections shall be provided with jumper selections.

Split input file shall be an SF 170 that will also operate in the 332/336S cabinets.

The split input file shall use a split twenty-two (22) pin connector (two [2] rows of twenty-two [22] pins) which provide for forty-four (44) unique contacts, rather than the twenty-two (22) double contacts as provided by the former input file. This design shall interface electrically with the older two (2) and four (4) channel devices available under the 170 and NEMA TSI Specification as well as the newer two (2) and four (4) channel devices as specified in the TS2 NEMA Specification.

The input file shall be divided into two (2) partitions. The first partition shall include the first eight (8) slots from the left; the second partition shall include the next six (6) slots. All

fourteen (14) slots shall be able to be tied to one (1) common communication drop if desired.

The serial/ITL transmit and receive pairs shall be wired across the back panel. TXO, DXO, Ground0 serve the first eight (8) slots. TX1, DX1 and Ground1 serve the next six (6) slots. Back plane addressing is automatically assigned in the rear of the input file, such that:

- Slot 1 = Address 0
- Slot 2 = Address 1
- Slot 8 = Address 7 (all three [3] line low)

Addressing from the front of any input device shall override the back plane addressing.

The left side of the 333SD-ITS cabinet assembly shall have shelves assembled to the EIA rack assembly to house additional equipment such as, but not limited to, Video Detection, Standby Uninterrupted Power supply and communication Equipment.

Surge suppression for the field wiring shall be installed on the back of the output file.

The Contractor shall install a beacon on the cabinet to provide visual alert should an uninterrupted power supply become active. The beacon shall be a 24V Whelen 2015HP yellow beacon, or approved equal, and shall be located in the top center of the cabinet. The beacon shall be wired to the cabinet and the uninterrupted power supply using 18 gauge wire. An outdoor silicone caulk bead shall be applied between the beacon and the cabinet to prevent water intrusion.

### 5.3 Measurement and Payment

Measurement and payment will be for items listed below, fully installed with all Equipment necessary for full operation and in compliance with these Specifications.

Payment shall be made as follows:

<u>Pay Item</u>	<u>Pay Unit</u>
Traffic Signal Controller (Install Only)	Each
Traffic Signal Controller Cabinet	Each

Cabinet foundation concrete modification work shall be included in the cost of the Traffic Signal Controller Cabinet. This shall include both the removal and installation of any concrete as shown in the plans.

END OF SECTION

## SECTION 6

### COMMUNICATION INTERFACE

#### 6.0 General

Communication interface will consist of fiber communications and Ethernet switches. This Work shall consist of furnishing, installing and testing all required fiber optic cable and Ethernet switch equipment. Fiber optic cable shall include backbone cable, lateral cable and patch cords running from the environmental distribution type enclosure to the optical data link, and are explained in detail in this Specification. The cable shall be an accepted product of the United States Department of Agriculture Rural Electrification Administration (REA) as meeting the requirements of 7CFR1755.900. The cable shall be new, unused, and of current design and manufacture. Contractor shall provide the Thornton Engineer with two (2) copies of the cable manufacturer's installation instructions. All installation shall be in accordance with these practices except as otherwise directed by the Engineer. Additional cable costs due to damage caused by Contractor neglect of recommended procedures shall be Contractor's responsibility. Backbone cable shall be installed in continuous runs except where cable type changes or where maximum pull lengths govern. The manufacturer's recommended limits for cable pull lengths shall not be exceeded. Cable ends shall be spliced and/or stored in pull boxes as indicated in the Plans or as directed. Only fibers indicated in the Plans need to be spliced or terminated in controller cabinets or pull boxes. All other fibers shall be sealed in a manner recommended by the manufacturer.

No cutting or splicing of the interconnect cable will be allowed unless shown in the Plans or otherwise authorized by the Owner.

#### 6.1 Fiber

Fiber shall be the number of strands indicated on the Plans.

Backbone cable shall consist of loose tube non-armored outdoor cable containing the required number of 12-fiber single mode ("SM") tubes. Backbone cable for installation in conduit shall meet the applicable portions of TIA/EIA-455 fiber optic standards. Lateral fiber optic cable shall be dielectric, loose tube, non-armored outdoor cable (UV resistant and flame retardant outer jacket) suitable for duct installation complying with the following Specification for fiber optic cable, Corning FREEDM/LST cable or approved equal. In addition, the cable shall meet the applicable portions of TIA/EIA-455 fiber optic standards. Lateral cable shall consist of twelve (12) single mode fibers or as indicated on the Plans. Odd length cables and reel ends are acceptable for lateral cables provided they are of sufficient length to connect backbone and controller cabinet in continuous runs. Hereinafter single mode fiber may be abbreviated as "SM".

1. FIBER CHARACTERISTICS. All fibers in the cable must be usable fibers and meet the required Specifications. All optical fibers shall be sufficiently free of surface imperfections and inclusions to meet the optical, mechanical and

environmental requirements of this Specification. Each optical fiber shall consist of a doped silica core surrounded by a concentric silica cladding.

The SM fiber utilized in the cable specified herein shall conform to the following Specifications:

- Typical Core Diameter 8.3 micrometer.
- Cladding Diameter 125 +/- 1.0 micrometer.
- Core to Cladding Offset  $\leq$  0.6 micrometer.
- Cladding Non-Circularity  $\leq$  1.0%. (Defined as  $[1 - (\text{min. Cladding dia.} + \text{max. Cladding dia.})] \times 100$ .)
- Coating Diameter 245 +/- 10 micrometer.
- Colored Fiber Diameter nominal 250 micrometer.
- Maximum Individual Fiber Attenuation – 0.35 dB/km @ 1310 nm and 0.25 dB/km @ 1550 nm.
- Attenuation Uniformity - No point discontinuity > 0.10 dB at either 1310 nm or 1550 nm.
- Attenuation at the Water Peak - The attenuation at 1383 +/- 3 nm shall not exceed 2.1 dB/km.
- Cutoff Wavelength - The cabled fiber cutoff wavelength shall be  $\leq$  1250 nm.
- Mode-Field Diameter (Petermann II): 9.30 plus/minus 0.50 micrometer at 1310 nm and 10.50 +/- 1.00 micrometer at 1550 nm.
- Zero Dispersion Wavelength  $\leq$  1321.5 nm and  $\geq$  1301.5 nm.
- Zero Dispersion Slope ( $S_0$ ):  $\leq$  0.092 ps/(nm<sup>2</sup>/km).

The coating shall be a dual layered, UV cured acrylate applied by the fiber manufacturer. Coating shall be mechanically strippable without damaging the fiber.

2. FIBER SPECIFICATION PARAMETERS. All fibers in the cable shall meet the requirements of this Specification.

When tested in accordance with FOTP-3, "Procedure to Measure Temperature Cycling Effects on Optical Fiber, Optical Cable, and Other Passive Fiber Optic Components," the average change in attenuation at extreme operational temperatures (-40°C to +70°C) shall not exceed 0.05 dB/km at 1550 nm. The magnitude of maximum attenuation change of each individual fiber shall not be greater than 0.15 dB/km at 1550 nm.

Required fiber grade = Maximum Individual Fiber Attenuation.

The maximum dispersion shall be  $\leq$  3.3 ps/(nm km) for 1285 nm through 1330 nm and  $\leq$  18 ps/(nm km) at 1550 nm.

3. SPECIFICATIONS FOR OUTDOOR CABLES. Optical fibers shall be placed inside a loose buffer tube. The fibers shall not adhere to the inside of the buffer tube. Each fiber shall be distinguishable from the others with distinct and recognizable colors in accordance with EIA/TIA-598, Optical Fiber Cable Color Coding, latest revision.

Buffer tubes containing fibers shall also be color coded with distinct and recognizable colors in accordance with EIA/TIA-598, Optical Fiber Cable Color Coding, latest revision.

In buffer tubes containing multiple fibers, the colors shall be stable during temperature cycling and not subject to fading or smearing onto each other or the gel filling material. Colors shall not cause fibers to stick together.

Buffer tubes shall be of a dual-layer construction with the inner layer made of polycarbonate and the outer layer made of polyester.

Filler rods may be included in the cable core to lend symmetry to the cable cross-section.

The central anti-buckling member shall consist of a glass reinforced plastic rod. The purpose of the central member is to prevent buckling of the cable.

Each buffer tube shall either be filled with a non-hygroscopic, non-nutritive to fungus, electrically non-conductive, homogeneous gel or a swellable yarn. The gel and yarn shall be free from dirt and foreign matter. The gel shall be readily removable with conventional nontoxic solvents. Buffer tubes shall be stranded around a central member using the reverse oscillation, or "SZ" stranding process.

The cable core interstices shall either be filled with a water-blocking compound or a swellable yarn. The compound shall be a thixotropic gel containing a Super Absorbent Polymer (SAP) material. The gel shall be non-nutritive to fungus, electrically non-conductive and homogeneous. The gel and yarn shall be free from dirt and foreign matter. The gel shall be readily removable using nontoxic solvents.

Binders shall be applied with sufficient tension to secure buffer tubes to central member without crushing the buffer tubes. Binders shall be non-hygroscopic, non-wicking (or rendered so by the flooding compound) and dielectric with low shrinkage.

Cable shall contain at least one (1) ripcord under the sheath for easy sheath removal.

Tensile strength shall be provided by high tensile strength aramid yarns and/or fiberglass yarns. The high tensile strength aramid and/or fiberglass yarns shall be helically stranded evenly around the cable core.

All dielectric cables (with no armoring) shall be sheathed with medium density polyethylene. The minimum nominal jacket thickness shall be 1.4 mm. Jacketing material shall be applied directly over the tensile strength members and flooding compound. The polyethylene shall contain carbon black to provide ultraviolet light protection and shall not promote the growth of fungus.

The jacket or sheath shall be free of holes, splits and blisters. The cable jacket shall contain no metal elements and shall be of a consistent thickness. Cable jackets shall be marked with sequential meter or foot markings, year of manufacture and a telecommunications handset symbol, as required by Section 350G of the National Electric Safety Code. The actual length of the cable shall be within zero (0) to one percent (1%) of the length markings. The marking shall be in contrasting color to the cable jacket. The height of the marking shall be approximately 2.5 mm.

The maximum pulling tension shall be 2,700 N (608 lbf) during installation (short term) and 890 N (200 lbf) long term installed.

Shipping, storage and operating temperature range of the cable shall be -40°C to +70°C. The installation temperature range of the cable shall be the same as the shipping, storage and operating temperature.

4. GENERAL CABLE PERFORMANCE SPECIFICATIONS. The un-aged cable shall withstand water penetration when tested with a 1 meter static head or equivalent continuous pressure applied at one (1) end of a 1 meter length of filled cable for twenty-four (24) hours. No water shall leak through the open cable end. When a one (1) meter static head or equivalent continuous pressure is applied at one (1) end of a one (1) meter length of aged cable for one (1) hour, no water shall leak through the open cable end. Testing shall be done in accordance with FOTP-82, "Fluid Penetration Test for Filled Fiber Optic Cable."

When tested in accordance with FOTP-81, "Compound Flow (Drip) Test for Filled Fiber Optic Cable," Method A; the cable shall exhibit no flow, drip or leak of filling or flooding compound at 80°C. If material flow is detected, the weight of any compound that drips from the sample shall be less than 0.05 g.

The cable shall withstand a minimum compressive load of 220 N/cm for non-armored cables applied uniformly over the length of the compression plate. The cable shall be tested in accordance with FOTP-41 "Compressive Loading Resistance of Fiber Optic Cables," except that the load shall be applied at the rate of 3 mm to 20 mm per minute and maintained for ten (10) minutes.

The magnitude of the attenuation change shall be within the repeatability of the measurement system for ninety percent (90%) of the test fibers. The remaining ten percent (10%) of the fibers shall not experience attenuation greater than 0.1 dB at 1500 nm (single mode). The average increase in attenuation for the fibers shall be  $\leq$  0.20 dB at 1300 nm (multimode). The repeatability of the

measurement system is typically 0.05 dB or less. No fibers shall exhibit a measurable change in attenuation after load removal.

When tested in accordance with FOTP-104, "Fiber Optic Cable Cyclic Flexing Test," the cable shall withstand twenty-five (25) mechanical flexing cycles at a rate of thirty (30) plus/minus one (1) cycles per minute, with a sheave diameter not greater than twenty (20) times the cable diameter. The magnitude of the attenuation change shall be within the repeatability of the measurement system for ninety percent (90%) of the test fibers. The remaining ten percent (10%) of the fibers shall not experience an attenuation change greater than 0.1 dB at 1550 nm. The repeatability of the measurement system is typically 0.05 dB or less. The cable jacket shall not exhibit evidence of cracking or splitting when observed under five times (5x) magnification.

When tested in accordance with FOTP-25, "Repeated Impact Testing of Fiber Optic Cables and Cable Assemblies," cable shall withstand twenty-five (25) impact cycles. Magnitude of the attenuation change shall be within repeatability of measurement system for ninety (90%) of test fibers. The remaining ten percent (10%) of the fibers shall not experience attenuation change greater than 0.1 dB at 1550 nm. The repeatability of measurement system is typically 0.05 dB or less. The cable jacket shall not exhibit evidence of cracking or splitting at the completion of the test.

When tested in accordance with FOTP-33, "Fiber Optic Cable Tensile Loading and Bending Test," using a maximum mandrel and sheave diameter of 560 mm, the cable shall withstand a tensile load of 2700 N applied for one (1) hour (using Test Condition II of the procedure). In addition, cable sample, while subjected to a minimum load of 2660 N, shall be able to withstand twist of 360 degrees in a length of less than 3 m. Magnitude of attenuation change shall be within repeatability of the measurement system for ninety percent (90%) of the test fibers. Remaining ten percent (10%) of the fibers shall not experience an attenuation change > than 0.1 dB at 1550 nm. Repeatability of the measurement system is typically 0.05 dB or less. The cable shall not experience a measurable increase in attenuation when subjected to the rated residual tensile load of 890 N.

When tested in accordance with FOTP-85, "Fiber Optic Cable Twist Test," a length of cable no greater than 2 m will withstand ten (10) cycles of mechanical twisting. Magnitude of attenuation change will be within the limit of repeatability of the measurement system for ninety percent (90%) of the test fibers. The remaining ten percent (10%) of the fibers will not experience an attenuation change > 0.1 dB at 1550 nm. The repeatability of the measurement system is typically 0.05 dB or less. The cable jacket will exhibit no cracking or splitting when observed under five times (5x) magnification following completion of the test.

When tested in accordance with the proposed FOTP-181, "Lightning Damage Susceptibility Test for Optic Cables with Metallic Components," the cable shall withstand a simulated lightning strike with a peak value of the current pulse  $\geq 105$  kA. The test current used shall be damped oscillatory with a maximum time-to-peak value of fifteen (15) microseconds (which corresponds to a minimum frequency of 16.7 kHz). The time to half-value of the waveform envelope ( $t_{1/2}$ ) shall be forty to seventy (40-70) microseconds. In addition to the analysis criterion set forth on FOTP-181, the integrity of the buffer tubes (or analogous loose tube, i.e. core tube) and strength members must be intact after removal of the cable specimens from the test box.

5. **QUALITY ASSURANCE PROVISIONS.** All optical fibers shall be proof tested by the fiber manufacture at a minimum load of 100 kpsi. All optical fibers shall be one hundred (100%) attenuation tested. The attenuation of each fiber shall be provided with each cable reel.
6. **PACKAGING.** The completed cable shall be packaged for shipment on non-returnable wooden reels. Top and bottom ends of the cable shall be available for testing. Both ends of the cable shall be sealed to prevent the ingress of moisture. Each reel shall have a weatherproof reel tag attached identifying the reel and cable. Each cable shall be accompanied by a cable data sheet that contains significant information on the cable.
7. **MISCELLANEOUS.** The cable manufacturer shall provide installation procedures and technical support concerning the items contained in this Specification.

Contractor shall terminate all fibers on the Contractor-provided patch panel in the controller cabinets indicated on the Plans.

Contractor shall terminate backbone fibers on the contractor-provided patch panel as shown on the Plans. Number of bulkheads on individual patch panels shall be as shown in the Plans or as otherwise specified herein. The bulkheads shall be metal type and not plastic.

Cable shall be installed using appropriate strain relief in the cabinet (through cable ties) at a minimum of three locations.

Prior to installation, the Contractor shall submit a schematic interconnect diagram to the Owner for approval. The diagram shall clearly indicate cable routing, splice points, and fiber connections including identifying the color coded fibers and buffer tubes. Installation of the cable will not be permitted until the schematic diagram has been approved by the Owner.

The same color coded pairs of fibers and/or wires shall be used throughout the entire Project.

At the terminal points the jackets shall be stripped and the ends taped. Gel filling compound shall be removed using filled cable cleaner.

Cable shall be installed in new conduit or existing conduit as depicted in the Plans. Contractor shall be required to leave a minimum of 50' coiled and laced slack lateral cable in each traffic signal controller cabinet; 50' coiled and laced slack cable in pull boxes where the lateral cable is spliced; 50' coiled and laced slack backbone cable in pull boxes where the backbone is broken out; and 50' coiled and laced slack backbone cable at all other pull box locations called out in the Plans. The fiber optic cable shall be neatly coiled and clearly tagged and labeled at such pull boxes and at all other locations where it is exposed.

For all fiber optic cables, each fiber shall be checked with an OTDR and full traces documenting fiber performance shall be provided to the Engineer within thirty (30) days of test. All optical fibers shall be within the manufacturer's recommended tolerances. In addition, any other acceptance testing recommended by the manufacturer shall be provided. Data shall be supplied to the Engineer prior to completion of the Project.

Cable shall be transported to the site using cable reel trailers. Care shall be taken at all times to avoid scraping, denting or otherwise damaging the cable before, during and after installation. Damaged cable shall be replaced by the Contractor without additional compensation.

Sufficient slack shall be pulled to allow cable cutting and connection to communications Equipment.

Cable shall be installed in conduit or duct in accordance with the Contract Drawings. Conduit and duct ends shall have all rough edges smoothed to prevent scraping the cable. A stiff bristle brush shall be pulled through each section of conduit before pulling cable. A manufacturer recommended lubricant shall be applied to the cable to reduce friction between the cable and duct or conduit. Where fiber optic cables are to be installed in inner duct, the Contractor shall secure each section of inner duct to prevent it from being pulled with the cables.

A fiber optic cable kellems grip shall be attached to the cables so that no direct force is applied to the optical fiber. The cable grip shall have a ball-bearing swivel to prevent the cable from twisting during pulling. Cable rollers and feeders and winch cable blocks shall be used to guide the cable freely into the duct and at maintenance hole locations. The Contractor shall ensure that the tensile load on the cable does not exceed the manufacturer's recommended maximum. Mechanical aids and pulling cables or ropes shall be used as required.

Personnel equipped with two-way radios shall be stationed at each maintenance hole, cabinet, pedestal, communications box and junction box through which the cable is to be pulled to observe and lubricate the cable.

Where mechanical pulling is required (i.e. all runs greater than 150'), a dynamometer shall be used to record installation tension and a tension limiting device shall be used to prevent exceeding the maximum pulling tension as

defined by the cable manufacturer. The maximum pulling tension shall be recorded for each run of cable. The cable shall be taken up at intermediate pulling points with an intermediate cable take-up device as approved by the Engineer to prevent over-tension on the cable. Cable pulls shall be continuous and steady between pull points and shall not be interrupted until the entire run of cable has been pulled.

Contractor shall be responsible for ensuring the cable length is sufficient to allow for connection between the communications equipment and the splice closures (if applicable) including provision for slack, vertical runs, cable necessary for splicing, wastage and cable to allow for the removal of the splice closure for future splicing.

Where backbone or lateral cable runs are left to be "dead ended," a minimum of 100' of cable shall be left coiled in the final cabinet, manhole, or pull box, unless otherwise called for in the Plans.

8. **SPLICES AND SPLICE CLOSURES.** Splices are not allowed without the written authorization of the Engineer. If splices are authorized, each such splice shall occur in a new pull box to be installed by the Contractor or an existing manhole or pull box already installed along the route. All splices shall be enclosed within a splice closure, Siecor Catalog SCN-CAN or approved equal.

Following successful splicing, said splice closure shall be placed inside the described pull box or manhole. Contractor shall accomplish the Work using splicing tools and hardware recommended by the cable manufacturer. The average splice loss shall not exceed 0.2 dB for any given span.

Existing splice closures that require re-entry shall be conducted per the manufacturer's recommendation for re-entry and resealing. The Contractor shall use caution to prevent damage to the existing fiber strands, splices, and buffer tubes inside the splice closure. When sealing the closure for a second time, the Contractor shall follow all re-entry requirements of the manufacturer.

9. **TESTING.** Cable reels shall be tested for attenuation prior to installation. Contractor shall measure attenuation of at least ten percent (10%) of the total fibers randomly selected on each reel. Where the ten percent (10%) quantity equates to more than one (1) fiber, the fibers tested shall be located in different buffer tubes. Attenuation shall meet or exceed the specified performance requirements. If cable is furnished by the Contractor, Contractor shall ensure that Specifications for fiber optic cable have been met prior to installation.
10. **BUFFER TUBE FAN-OUT.** Contractor shall terminate the loose-tube lateral cable at the controller using a buffer tube fan-out kit, Corning Catalog FAN-BT or approved equal. Fanned-out cables shall be terminated at the controller telemetry panel or in the contractor-furnished termination enclosure as shown in the Plans. The fan-out kit shall be placed inside the cabinet rack-mounted

termination enclosure. The number of fibers to be landed and terminated shall be as shown in the Plans.

11. **TERMINATION ENCLOSURE.** Contractor shall furnish and install a cabinet rack-mounted termination enclosure for storage of the fan-out kit and broken-out fibers. This enclosure shall be sized as called out in the Plans. Optional guard and dust proofing components shall be included. Contractor shall furnish and install all connectors, adaptors, jumpers and/or pigtails required to establish the final connection to the controller. Contractor shall furnish and install a rack-mounted termination enclosure for storage of the fan-out kit and broken out fibers at the IMC or other City facility as indicated in the Plans. This enclosure shall be sized as called out in the Plans.
12. **FIBER OPTIC PATCH CORD (PIGTAIL) CABLES.** Fiber optic patch cord cables shall consist of SM fibers housed individually in protective jackets. Both ends of the cable shall be connected. Fiber optic patch cord cable shall be suitable for operation over a temperature range of -30°C to + 60°C.

Fiber optic patch cords shall be fiber optic jumper cable, duplex, ceramic ferrule, yellow-jacketed (for SM) 8.3/125 nm or orange-jacketed (for multimode) 62.5/125 nm, adaptable to ST style connectors.

Fiber optic patch cord cables shall be a minimum of 6' in length and suitably long enough to be connected between the interconnect panel and the communications Equipment (i.e. the fiber optic transceivers). Patch cord couplings shall be compatible with termination points.

Appropriate strain relief in the cabinet (through cable ties) shall be installed at a minimum of three locations. Sufficient slack shall be left to allow relocation of the Equipment anywhere within the existing cabinet. The attenuation of a fiber optic patch cord cable after installation, not including the connector loss, shall not exceed 0.1dB measured at 1310 nm and 1550 nm.

13. **CONNECTORS.** The connector shall have a ceramic ferrule with a nickel-plated nut and body. The connector shall be ST and/or SC and/or LC style field mounted connector compatible with communication Equipment as identified in the Plans and these Specifications. The connector shall be compatible with a physical contact (PC) finish.

All connectors shall be polished to a PC finish such that the return loss per mate pair of connectors is less than -25 dB.

The return loss when the connector is mated with previously installed connectors shall be less than -18 dB. The connector insertion loss shall not be greater than 0.20 dB (typical). The connector loss shall not vary more than 0.20 dB after one thousand (1000) repeated matings. The tensile strength shall withstand an axial load of 20 lbs with less than 0.20 dB change.

Index matching fluids or gels shall not be used. The connectors shall be compatible with the optical fiber surrounding jacket and shall be installed on one (1) end of the optical fiber in accordance with the manufacturer's recommended Materials, Equipment, and practices. The connector shall be suitable for the intended environment and shall meet the following environmental conditions:

- a) Operating Temperature: -40°C to +80°C
- b) Storage Temperature: -40°C to +85°C

The connector loss shall not vary more than 0.20 dB over the operating temperature range. Connectors shall be protected by a suitably installed waterproof protection cap.

## **6.2 Conductor Cable**

Five (5) feet of slack shall be left for each conductor at each support pole and 2' of slack shall be left at each pull box containing cable connections.

## **6.3 Ethernet Field Switches**

Ethernet switches shall be used to facilitate communication between the ATC and the central traffic signal system's communication server. The field ethernet switch shall be Kyland-USA KY-3182RM field switches or approved equal with eight (8) copper 10/100 RJ-45 Ethernet ports and two (2) 100/1000 Small Form-factor Pluggable (SFP) fiber ports. Each SFP port shall be populated with a 100Base-FX single mode SFP transceiver. SFP transceivers shall be hardened (rated for operation from -40°F to +185°F) and shall be as listed below from Kyland-USA or its approved SFP manufacturer:

- A. KY-SFaSFP10K SFP transceiver, 100M, SM, 1310 nm, 10 km
- B. KY-SFaSFP20K SFP transceiver, 100M, SM, 1310 nm, 20 km

The Contractor shall connect all devices in accordance with the Plans and Kyland-USA's recommendations, unless otherwise specified by the Owner.

All required cabling, connectors and harnesses shall be provided by the Contractor as required for an operational system.

All Ethernet switches and SFP transceivers shall be installed with a basic configuration in conformance with Kyland-USA by a certified partner either prior to installation or at the installation site. Final configuration for data transport will be conducted by the Owner after installation and basic configuration is performed and upon final approval and acceptance.

## 6.4 Measurement and Payment

Ethernet switch shall include all labor and Materials required to install and make it operational including the following items:

- Ethernet Switch;
- One (1) straight-through Ethernet cable 6' in length;
- Two (2) pair of fiber optic patch cables, each 6' in length;
- All other Work and Materials necessary to complete the item.

Fiber optic cable shall be measured horizontally by the linear foot from centerline of pull box to centerline of pull box and/or centerline of pull box to centerline of controller cabinet. All required coiled and laced slack cable shall be considered incidental to the horizontal dimension. The fiber optic cable measurement shall also include all labor and Materials required to install and terminate the interconnect cable (and make it operational) including the following items:

- All required splicing, splice closures, splice kits, splicing tools, ancillary hardware and labor to accomplish the splices;
- All required fan-out kits, fan-out kit tools, ancillary hardware and labor to accomplish the fan-out;
- All required termination enclosures (including specified features), connectors, adaptors, jumpers, pigtails, patch panels (including specified number of bulkheads), ancillary hardware and labor required to accomplish the termination;
- All required testing and documentation activities;
- Identification labels for both backbone and lateral fiber cables in each pull box and cabinet;
- All required rigid conduit risers, weather-heads, attachment hardware, pole guying and bracing (temporary or permanent);
- As-Built documentation; and
- All other Work and Material necessary to complete the item.

Payment shall be made as follows:

<u>Pay Item</u>	<u>Pay Unit</u>
Ethernet Switch	Each

END OF SECTION

## SECTION 7

### UNINTERRUPTED POWER SUPPLY (CONTINUOUS POWER SYSTEM)

#### 7.0 General

The Uninterrupted Power System (UPS) is a true on-line power conditioner and battery backup or uninterruptible power system designed for transportation and traffic applications. The UPS shall be capable of operating up to its rated power level in extreme environments with existing Equipment on the street today including any and all signal heads (i.e., Incandescent, LED, Neon, etc.)

#### 7.1 Battery System

The battery shall be comprised of extreme temperature, deep cycle, Absorbed Glass Material/Valve Regulated Lead Acid (AGM/VRLA) batteries that have been field proven and tested by the U.S. Military.

The battery system shall consist of one (1) or more strings (typically four [4] or six [6] batteries per string) of extreme temperature, deep cycle AGM/VRLA batteries such as Clary Outpost batteries or equivalent.

Batteries shall be certified to operate at extreme temperatures from -40°C to +74°C.

The batteries shall be provided with appropriate interconnect wiring and corrosion resistant mounting trays and/or brackets appropriate for the cabinet into which they will be installed.

The interconnect cable shall be protected with abrasion resistant nylon sheathing and shall connect to the base module via a quick-release circular connector.

For safety and proper operation purposes, the circular battery connector shall have interlocking pins to prevent turn-on if batteries are not connected and to shut off the UPS should the batteries be disconnected.

Battery construction shall include heavy-duty, inter-cell connections for low-impedance between cells, and heavy-duty plates to withstand shock and vibration.

The top cover shall use tongue and groove construction and shall be epoxy glued to the battery case for maximum strength and durability.

An optional lifting handle shall be available on most battery models.

## 7.2 Measurement and Payment

Payment for Uninterrupted Power Supply shall be per unit installed and shall include all labor and Materials in order to have a fully functional system to the satisfaction of the Owner.

Payment shall be made as follows:

<u>Pay Item</u>	<u>Pay Unit</u>
Uninterrupted Power Supply	Each

END OF SECTION

## SECTION 8

### CONFLICT MONITOR

#### 8.0 General

This Work consists of furnishing and installing a conflict monitor at cabinet locations where new ATC controllers are to be installed.

The conflict monitor shall be an EDI Model 2010ECLip to provide Ethernet connectivity and support remote communications using Thornton's existing EDI ECcom software.

Installation of the conflict monitor shall be in accordance with the installation procedures outlined in the operations manual and as directed by the Owner.

#### 8.1 Payment

Payment shall be made as follows:

<u>Pay Item</u>	<u>Pay Unit</u>
Conflict Monitor	Each

END OF SECTION

## SECTION 9

### DELINEATOR POSTS AND FIBER MARKERS

#### 9.0 General

Delineator posts and fiber markers for interconnect conduit marking shall be 48" flexible guide posts, white in color with a 3" x 9" high intensity reflective strip, to be installed with an 18" soil anchor.

#### 9.1 Payment

Payment for the installation of delineator post work indicated in the Plans shall be per item and shall include all labor and Materials required to complete the Work to the satisfaction of the Owner. Fiber markers and soil anchors shall not be measured and paid for separately, but shall be incidental to the delineator post Pay Item.

Payment shall be made as follows:

**Pay Item**

Delineator Post

**Pay Unit**

Each

**END OF SECTION**

## **SECTION 10**

### **GLOBAL POSITIONING SYSTEM**

#### **10.0 General**

North American Datum 83 (NAD83) Colorado State Plane Central Zone coordinate system (grid) units in feet shall be provided for all roadway devices within the Project limits. This shall include traffic signal controller cabinets, sign posts, pull boxes, water valve type pull boxes, traffic signal poles, pedestal poles, and street light poles. The elevation datum shall be based upon the North American Vertical Datum 1988 (NAVD 88).

#### **10.1 Data Format**

The GPS data collected shall be provided to Thornton in an AutoCAD Drawing format using model space or using the GPS Device Installation form in Appendix A. The use of AutoCAD Drawings or the GPS Device Installation Location form in Appendix A shall be at the discretion of the Traffic Engineer. If AutoCAD Drawings are required, the Drawings shall include a note describing how the coordinates were established along with the primary control points that were used. The AutoCAD information shall also be incorporated into the As-Builts for the Project.

The horizontal and vertical positional accuracy of the data collected shall be within a tolerance of  $\pm 0.3'$ .

#### **10.2 Payment**

GPS information gathering will not be measured or paid for separately, but shall be considered subsidiary to the Pay Item being installed. This Work shall include all labor, Materials, and Equipment required to complete the Work.

END OF SECTION

## SECTION 11

### TRAFFIC CONTROL

#### 11.0 General

The following Special Provisions supplement or modify the Technical Specifications in preceding sections.

#### 11.1 Traffic Control

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

Subsection 630.09. Delete the first, second, and third paragraph as well as item #3 of the fourth paragraph and add the following:

The Contractor shall develop an individual Traffic Control Plan (TCP) and supporting Method of Handling Traffic (MHT) for each of the locations included in the Contract to be approved by the Owner prior to starting construction. Individual Traffic Control Permits will be issued for each respective location included in the Contract. The Contractor shall submit all TCP's and MHT's to the Owner for approval within ten (10) days after formal Award of the Contract. Failure of the Contractor to submit detailed, comprehensive and clearly legible TCP's and MHT's will constitute grounds for rejection of TCP's and MHT's without extensive elaboration or comment from the Owner. The Owner will return approved or "redlined" TCP's and MHT's to the Contractor within five (5) days from receipt of the submittal. The Contractor shall then present final corrected TCP's and MHT's to the Owner for final approval and issuance of a Traffic Control Permit.

Pedestrian movements shall also be fully addressed in the TCP and MHT submittals. No plan will be approved that unreasonably impedes or restricts pedestrian movements. No devices required for the implementation of the Contract requirements will be permitted to be installed on or above sidewalk surface areas unless otherwise approved by the Owner in the respective MHT.

The Contractor shall also obtain Traffic Control Permits as required by other municipal, county or state agencies when the Work requires traffic control devices to be installed within the limits of their respective jurisdictions. The Contractor shall contact other appropriate municipalities at least seventy-two (72) hours before starting work in any areas that will affect or change traffic flow within other jurisdiction(s). The Contractor shall obtain approval from the respective responsible representative of other jurisdictions for any lane or street closure, or any change or interruption of the flow of traffic within that respective City. If the Contractor desires to revise the approved TCP or MHT as a result of comments received from other jurisdictions, the Contractor shall submit such revisions to the Owner and allow one (1) week for review and comment. The Owner will approve a Plan that, in his judgment, provides adequately for the safety

and convenience of the public and provides the same or greater service as the previously approved Plan.

The Contractor shall work only between the hours of 8:30 a.m. and 3:30 p.m., on Arterial and Collector streets, with the stipulation that only one (1) direction of travel be interrupted at any given time unless working in median areas. Active traffic control devices shall be installed and removed between the hours of 8:30 a.m. and 3:45 p.m. The Contractor must maintain at least one (1) lane of traffic in each direction as well as a median lane for left turn movements on all Collector and Arterial Streets unless otherwise approved by the Owner and incorporated into an approved MHT. Business access closures may only occur on Monday through Thursday for duration not to exceed two (2) hours before reopening each access. Businesses must have at least one (1) access point open during construction. Requests for other hours, special conditions or time allowances will be subject to approval by the Owner. Separate turn lanes will be required at all signalized intersections during the course of construction at intersections.

The Contractor shall notify the Project construction coordinator at least two (2) weeks in advance of the need for a uniformed police officer for traffic control during paving or excavation at any signalized intersection when his operations require either his Equipment or the public to operate contrary to the signals. The uniformed police officer will be supplied at the Thornton's expense. The contract coordinator shall notify the Thornton Police Department of the need for a uniformed police officer for traffic control. The Contractor shall coordinate the electrical "shut-down" of the respective signal operation by the Owner. Contractor's personnel shall **NOT** direct traffic through a signalized intersection. All Contractor personnel on-site, including superintendents and principals, are required to wear a visible safety vest in conformance with the MUTCD.

Drums shall be placed at a maximum spacing of 30'. Each barricade shall be furnished with two (2) steady-burn beacons. Other construction traffic control devices shall be used where applicable.

The Contractor will not be permitted to have Construction Equipment, personal vehicles, or Materials in the lanes open to traffic unless permitted by the Owner. The Contractor is cautioned that all personal vehicle and Construction Equipment parking will be prohibited where it conflicts with safety, access, or flow of traffic at any time. Personal vehicle and Construction Equipment parking will be prohibited on all private lots without the respective property owner's permission.

Traffic lanes through construction areas shall be maintained as shown on the approved Traffic Control Plans or with a clear width of at least 11' per lane. When directed by the Owner, the Contractor shall provide and maintain an acceptable temporary asphalt surface for temporary roads or driveways. Temporary surfacing shall conform to the applicable portions of Section 400 of the SSRBC.

In the event there is a violation of the working hours limitations or any other traffic control requirement, the Contractor will automatically be subject to a "Stop Work Order"

immediately. **Work shall not resume until the Contractor assures the Owner, in writing, that there will not be a reoccurrence of the violation.** In the event more violations take place, there will be an Incident Credit issued to the Owner for each incident.

“No Parking” signs shall be placed not less than forty-eight (48) hours in advance of any temporary on-street parking restrictions and shall conform to the requirements listed under the section titles Legal Relations and Responsibilities to the Public. During non-construction periods (evenings, weekends, holidays, etc.), all Work shall be adequately protected to ensure the safety of vehicular and pedestrian traffic. Open trenches during non-construction periods are not permitted. The Contractor must periodically check on the condition of traffic control devices that may be utilized during the course of the Project on weekends or holidays as may be warranted to ensure that devices that are damaged or moved during non-work hours are restored in an expedient fashion.

Three (3) days prior to mobilization the Contractor shall erect at Project end points automated variable message signs for Arterial streets or orange reflective sign panels of adequate size utilizing black 4” lettering for Collector streets. The signs will advertise the anticipated start date, Project duration and description. The signs will be required to be updated should information expressed be changed during the course of the Project. These signs will not be paid for separately but be included in the cost for Traffic Control. An automated variable message sign will be considered as an acceptable substitution for the aforementioned described signage for Collector streets.

Subsection 630.14 shall be deleted and replaced with the following:

All construction Traffic Control shall be measured on a Lump Sum basis.

Subsection 630.15 shall be deleted and replaced with the following:

Traffic Control shall be paid for by one (1) Lump Sum as listed on the respective Bid Proposal Form. Payment for all other traffic control devices, personnel, Equipment, Material and any other related expense for traffic control shall be included in the Lump Sum Bid Unit Price for Traffic Control.

## **11.2 Payment**

Payment shall be made as follows:

**Pay Item**  
Traffic Control

**Pay Unit**  
Lump Sum

**END OF SECTION**

# APPENDIX A

## GLOBAL POSITIONING SYSTEM (GPS) DEVICE INSTALLATION LOCATION

Date of GPS Locate:

---

Item Being Located – “Device”, “Pull Box”, etc:

---

Location of Item – “Street”, “Direction of Travel”, “Side of Street”, etc.:

---

North American Datum:

Northing \_\_\_\_\_  
(based on NAD83 Colorado State Plane Central Zone Coordinate System)

Easting \_\_\_\_\_  
(based on NAD83 Colorado State Plane Central Zone Coordinate System)

Vertical \_\_\_\_\_  
(based on NAVD 88)

Remarks (primary control points used and how coordinates were established):

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## **APPENDIX B**

### **SUBMITTALS**

The Contractor shall submit for review and approval the following list of Equipment and Materials as required by the Plans, prior to the Contractor ordering such Materials. Submittals shall consist of product cut sheets and necessary supporting Material and each item shall be identified by the trade name, size, and catalog number. Additional documentation may be requested at the discretion of the Traffic Engineer:

- Conduit
- Pull Box
- Traffic Signal Pole and Mast Arm
- Pedestrian Pole and Base
- Vehicle Detection (including mounting hardware and monitor)
- Pedestrian Push Button (including instruction sign)
- Signal Head (including mounting hardware)
- Backplate
- Signal Indication
- Pedestrian Signal Head (including mounting hardware)
- Pedestrian Signal Face
- Emergency Vehicle Preemption
- Traffic Signal Controller and CPU
- Traffic Signal Controller Software (include revision number)
- Traffic Signal Controller Cabinet
- Radio (including antenna and antenna cable)
- Master Radio/Fiber Interface
- Fiber Optic Modem
- Ethernet/Fiber Interface
- Ethernet Telemetry (including antenna and antenna cable)
- Rack Assembly
- Fiber Optic Cable
- Concrete Mix Design (Class BZ)
- Concrete Mix Design (Class D)
- Asphalt Mix Design
- Uninterrupted Power Supply
- Uninterrupted Power Supply Beacon
- Illuminated Street Name Sign (including mounting hardware)
- Wire (traffic signal conductors, pedestrian pushbutton. etc.)
- Meter Housing
- Street Light Luminaire (see Section 15 for additional submittal requirements)
- Street Light Pole
- Sign and Sign Face Material
- Sign Post and Base
- Pavement Marking Material
- School Flashing Light Assembly
- Delineator Post
- Speed Monitoring Sign
- Speed Cushion

**REVISION OF SECTION 630  
UNIFORMED TRAFFIC CONTROL**

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

**MATERIALS**

Uniformed Officers - The Contractor shall employ off-duty police officers to provide traffic control and traffic enforcement throughout the Project as required by the Project Manager. Uniformed Traffic Control shall be Thornton police officers, unless otherwise approved. Authorization must be made by the Project Manager in advance of working arrangements for Uniformed Traffic Control.

Uniformed Traffic Control is required at any time that power to the traffic signal must be turned off due to traffic signal cabinet phasing modification, cabinet replacement, rewiring, or any other construction activities.

**METHOD OF MEASUREMENT**

Uniformed Traffic Control will not be paid for separately, but shall be included in the cost of the Lump Sum Traffic Control Pay Item.

**BASIS OF PAYMENT**

Uniformed Traffic Control will not be paid for separately, but shall be included in the cost of the Lump Sum Traffic Control Pay Item.

## FORCE ACCOUNT ITEMS

### DESCRIPTION

This Special Provision contains the 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 five thousand (\$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.

<u>Force Account Item</u>	<u>Quantity</u>	<u>Estimated Amount</u>
F/A Minor Contract Revisions	F.A.	\$25,000
F/A Partnering	F.A.	\$ 1,000
F/A Fuel Cost Adjustment	F.A.	\$ 500
F/A Erosion Control	F.A.	\$ 1,000

**F/A Minor Contract Revisions** – This item will cover the cost of unanticipated Work that is determined to be necessary as Work on the Project progresses, which was not shown or described in the Contract Plans and Specifications. There will be no payment for this force account item unless written authorization is provided to the Contractor from the Engineer.

**F/A Partnering** – This item will cover the cost of partnering as outlined in the Standard Special Provision titled “Partnering Program”.

**F/A Fuel Cost Adjustment** – This item is for cost adjustments resulting from increases or decreases in the monthly average prices of gasoline, diesel and other fuels, as specified in the Standard Special Provision titled “Revision of Section 109 -- Fuel Cost Adjustment”.

**F/A Erosion Control** – This Work shall include all necessary Work and Materials for erosion control items not identified in the Plans and at the Engineer’s direction. Payment will be made based on time and Materials used to perform the Work. Work must be performed in a Workmanlike Manner and properly scheduled to minimize cost and inconvenience to CDOT and/or adjacent property owners. The Force Account shall also be used to pay for any additional BMPs or testing which may become required by future changes to the current storm water regulations by either EPA or CDPHE and could include future effluent limits.

## UTILITIES

The known utilities within the limits of this project are:

UTILITY	CONTACT/EMAIL	PHONE/FAX
Xcel Energy - Electric	Jim Corbett	(303) 425-3864
Xcel Energy - Gas	Jim McQuisten	(303) 571-3744
United Power Incorporated	Jason Maxey	(303) 637-1211
Century Link	Lisa Hauswirth	(303) 451-2329
Comcast	Customer Service	(303) 930-2000
Zayo Bandwidth	Kenneth Carter	(303) 632-0883
City of Thornton – Traffic	Darrell Alston Darrell.Alston@cityofthornton.net	(720) 977-6480
City of Thornton – Sanitary/Sewer	Gary Labella	(720) 977-6554
City of Thornton - Water	Steve Crow	(720) 977-6553
CDOT ITS 425C Corporate Circle Golden, CO 80401	Jill Scott jill.scott@state.co.us	(303) 512-5805 Office (303) 512-5878 Fax
CDOT Region 1 Traffic Operations 18500 E. Colfax Avenue Aurora, CO 80011	Jim Chase jim.chase@state.co.us	(303) 365-7336 Office (303) 365-7314 Fax
AT&T Long Distance Fiber	Tom Jakse tjakse@clearwaterconsulting.net	(720) 289-5471 Cell (303) 840-9771 Work
AT&T Local Network Fiber	Kelly Fails Kf6543@att.com	(720) 746-8489 Cell (303) 655-7467 Work
Metro Wastewater Reclamation District	Mark Hofmeister manholeofmeister@mwr.dst.co.us	(303) 286-3229
Kerr McGee Anadarko Productions	Charlie Stefo Charlie.stefo@anadarko.com	
Colorado Agricultural Ditch Company	Matt Stockton office@coloradoagriculturalditch.com	(720) 977-6511
Lower Clear Creek Ditch Company	Matt Stockton office@lowerclearcreekditch.com	(720) 977-6511

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, to complete the utility work with minimum delay to the project.

### **PART 1 CONTRACTOR SHALL PERFORM THE WORK LISTED BELOW:**

Coordinate project construction with the performance by the utility owner of each utility work element listed in Part 2 below. Perform preparatory work specified in Part 2 for each utility work element. Provide an accurate construction schedule that includes all utility work elements to the owner of each impacted utility.

Provide each utility owner with weekly updates to the schedule. Conduct detailed utility coordination meetings prior to each construction phase to coordinate all requirements and schedules, and provide other necessary accommodations as directed by the Engineer. Notify each utility owner in writing, with a copy to

the Engineer, prior to the time each utility work element is to be performed by the utility owner. Provide the notice with the number of days specified in Part 2 immediately prior to the time the utility work must be begun to meet the project schedule.

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

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

### **Project Limits – All Utility Owners**

Prior to excavating, the Contractor shall positively locate all potential conflicts with existing underground utilities and proposed construction, as determined by the Contractor according to proposed methods and schedule of construction. The Contractor shall modify construction plans to avoid existing underground facilities as needed, and as approved by the Engineer. Please note that UNCC marks only its members' facilities – Other facilities, such as ditches and drainage pipes may exist, and it is the Contractor's responsibility to investigate, locate and avoid such facilities.

### **NO UTILITY WORK EXPECTED.**

### **PART 2 UTILITY OWNERS SHALL PERFORM THE WORK LISTED BELOW:**

The City of Thornton Contractor shall provide traffic control for any utility work expected to be coordinated with construction, as directed by the City of Thornton Engineer. However, traffic control for utility work outside of typical project work hours shall be the responsibility of the utility owner. The utility owner shall prepare and submit to the City of Thornton a Method of Handling Traffic for utility work to be performed outside typical project work hours. The utility owner shall obtain approval of the Method of Handling traffic from the City of Thornton Engineer prior to beginning the utility work to be performed outside typical project work hours.

### **NO UTILITY WORK EXPECTED.**

### **GENERAL:**

The Contractor shall comply with Article 1.5 of Title 9, CRS ("Excavation Requirements") when excavating 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 actual day of notice, prior to commencing such operations. The Contractor shall contact the Utility Notification Center of Colorado (UNCC) at phone no. **811**, to have locations of UNCC registered lines marked by member companies. All other underground facilities shall be located by contacting the respective owner. Utility service laterals shall also be located prior to beginning excavation or grading.

The location of utility facilities as shown on the plan and profile sheets, and 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.

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**CITY OF THORNTON  
SPECIAL PROVISIONS  
CDOT PROJECT NO. AQC M286-041 (21128)**

**STANDARD SPECIAL PROVISIONS**

<b>Name</b>	<b>Date</b>	<b>No. of Pages</b>
Revision of Section 101 and 630 – Construction Zone Traffic Control	(April 30, 2015)	2
Revision of Section 102 – Contents of Proposal Forms	(April 9, 2015)	2
Revision of Section 105 – Construction Surveying	(July 31, 2014)	1
Revision of Section 105 – Violation of Working Time Limitation	(February 3, 2011)	1
Revision of Section 105 – Disputes and Claims for Contract Adjustments	(October 29, 2015)	33
Revision of Section 106 – Buy America Requirements	(November 6, 2014)	1
Revision of Section 106 – Certificates of Compliance and Certified Test Reports	(February 3, 2011)	1
Revision of Section 106 – Material Sources	(October 31, 2013)	1
Revision of Section 106 – Supplier List	(January 30, 2014)	1
Revision of Section 107 – Project Payrolls	(May 2, 2013)	1
Revision of Section 107 - Responsibility for Damage Claims, Insurance Types, and Coverage Limits	(February 3, 2011)	1
Revision of Section 107 – Warning Lights for Work Vehicles and Equipment	(January 30, 2014)	1
Revision of Sections 107 and 208 – Water Quality Control, Under One Acre of Disturbance	(May 2, 2013)	3
Revision of Section 108 – Delay and Extension of Contract Time	(April 30, 2015)	2
Revision of Section 108 – Liquidated Damages	(October 29, 2015)	1
Revision of Section 108 – Notice to Proceed	(July 31, 2014)	1
Revision of Section 108 – Project Schedule	(July 31, 2014)	6
Revision of Section 108 - Payment Schedule (Single Fiscal Year)	(April 30, 2015)	1
Revision of Section 108 – Subletting of Contract	(January 31, 2013)	1
Revision of Section 109 - Compensation for Compensable Delays	(May 5, 2011)	1
Revision of Section 109 – Fuel Cost Adjustment	(February 3, 2011)	2
Revision of Section 109 – Measurement of Quantities	(February 3, 2011)	1
Revision of Section 109 – Measurement of Water	(January 06, 2012)	1
Revision of Section 109 – Prompt Payment	(January 31, 2013)	1
Revision of Section 109 – Scales	(October 29, 2015)	1
Revision of Sections 203, 206, 304 and 613 – Compaction	(July 19, 2012)	2
Revision of Section 208 – Aggregate Bag	(January 31, 2013)	1
Revision of Section 208 – Erosion Control Supervisor	(April 30, 2015)	1
Revision of Section 208 – Erosion Log	(January 31, 2013)	1
Revision of Section 250 – Environmental, Health and Safety Management	(January 15, 2015)	14
Revision of Sections 412, 601, and 711 - Liquid Membrane-Forming Compounds for Curing Concrete	(May 5, 2011)	1
Revision of Sections 601 and 701 – Cements and Pozzolans	(November 6, 2014)	4
Revision of Section 601 – Concrete Batching	(February 3, 2011)	1
Revision of Section 601 – Concrete Finishing	(February 3, 2011)	1
Revision of Section 601 – Concrete Form and Falsework Removal	(July 28, 2011)	2
Revision of Section 601 – Concrete Slump Acceptance	(October 29, 2015)	1
Revision of Section 601 – Entrained Air of Class BZ Concrete	(April 30, 2015)	1
Revision of Section 601 – Structural Concrete Strength Acceptance	(April 30, 2015)	1
Revision of Section 601 and 701 – Cements and Pozzolans	(November 6, 2014)	4
Revision of Section 630 – Retroreflective Sign Sheeting	(May 8, 2014)	1
Revision of Section 703 – Concrete Aggregate	(July 28, 2011)	1

**CITY OF THORNTON  
SPECIAL PROVISIONS  
CDOT PROJECT NO. AQC M286-041 (21128)**

**STANDARD SPECIAL PROVISIONS**

<b>Name</b>	<b>Date</b>	<b>No. of Pages</b>
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 (DBE) Requirements	(Dec. 26, 2013)	10
Minimum Wages, Colorado,	(January 9, 2015)	10
U.S. Department of Labor General Decision Number CO150016, Highway Construction for Adams, Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Jefferson, and Park counties.		
On the Job Training	(July 29, 2011)	3
Partnering Program	(February 3, 2011)	1
Required Contract Provisions – Federal-Aid Construction Contracts	(October 31, 2013)	14

## **APPENDIX A**

- CDOT Form #606, Anti-Collusion Affidavit
- CDOT Form #1413, Bidders List
- CDOT Form #1414, Anticipated DBE Participation Plan
- CDOT Form #605, Contractor's Performance Capability Statement
- CDOT Form #621, Assignment of Antitrust Claims
- CDOT Form #1415, Commitment Confirmation
- CDOT Form #1416, Good Faith Effort Report





# CDOT FORM #1414, ANTICIPATED DBE PARTICIPATION PLAN

COLORADO DEPARTMENT OF TRANSPORTATION			
<b>ANTICIPATED DBE PARTICIPATION PLAN</b>			
Bidder:		Project:	
Contact:		Project Code:	
Phone:		Date of Proposal:	
Email:		Contract Goal:	
Preferred Contact Method:		Region:	
<b>DBE Commitments</b>			
DBE Firm Name	Work to Be Performed	Commitment Amount	Eligible Participation
Total Eligible Participation			
Total Bid Amount			
Total Eligible Participation Percentage			
<b>Bidder Signature</b>			
<p><b>This section must be signed by an individual with the authority to bind the Bidder.</b> By signing this form, as an authorized representative of the Bidder, you declare under penalty of perjury in the second degree and any other applicable state or federal laws that the statements made in this document are true and complete to the best your knowledge. Further, you attest that you have read the Standard Special Provision Disadvantaged Business Enterprise Requirements and understand the following:</p> <p>CDOT shall not award a contract until it has been determined that the contract goal has been met or that you have otherwise demonstrated good cause. Once your proposal has been submitted, commitments may not be modified or terminated without the approval of CDOT. If selected as the lowest apparent bidder, you shall submit a Form 1415 for each commitment listed above. If you have not met the contract goal, you will also be required to submit documentation of all good faith efforts to meet the contract goal.</p> <p>It is your responsibility to ensure that the selected DBEs are certified for the work to be performed and that their eligible participation has been properly counted. For additional information and instructions on calculating eligible participation, see the Standard Special Provision Disadvantaged Business Enterprise Requirements.</p>			
Name	Title	Signature	Date

**This form must be submitted by the proposal deadline. For CDOT projects, submit to [cdot\\_hq\\_dbefirms@state.co.us](mailto:cdot_hq_dbefirms@state.co.us).**

Civil Rights and Business Resource Center CDOT Form # 1414 01/14

## CDOT FORM #605 CONTRACTOR'S PERFORMANCE CAPABILITY STATEMENT

<b>COLORADO DEPARTMENT OF TRANSPORTATION CONTRACTORS PERFORMANCE CAPABILITY STATEMENT</b>	Project#
---	----------

1. List names of partnerships or joint ventures  none

\_\_\_\_\_

\_\_\_\_\_

---

2. List decreases in the contractors fiscal or workmanship qualifications compared to the last prequalification statement submitted to CDOT. (Attach additional sheets if necessary.)

a. Key personnel changes  none

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

b. Key equipment changes  none

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

c. Fiscal capability changes (legal actions, etc.)  none

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

d. Other changes that may effect the contractors ability to perform work.  none

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

I DECLARE UNDER PENALTY OF PERJURY IN THE SECOND DEGREE, AND ANY OTHER APPLICABLE STATE OR FEDERAL LAWS, THAT THE STATEMENTS MADE ON THIS DOCUMENT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE

Contractor's firm or company name	By	Date
	Title	
2nd Contractor's firm or company name (if joint venture)	By	Date
	Title	

# CDOT FORM # 621 ASSIGNMENT OF ANTITRUST CLAIMS

<b>COLORADO DEPARTMENT OF TRANSPORTATION ASSIGNMENT OF ANTITRUST CLAIMS</b>	PROJECT NO.
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Contractor and Colorado Department of Transportation (CDOT) recognize that in actual economic practice antitrust violations ultimately impact on CDOT. Therefore, for good cause and as consideration for executing this contract and for receiving payments hereunder:

1. Contractor hereby irrevocably assigns to CDOT any and all claims it may now have or which may hereafter accrue to it under federal or state antitrust laws in connection with the particular project, goods or services purchased or acquired by CDOT pursuant to this contract.
  
2. Contractor hereby expressly agrees:
  - a. That, upon becoming aware that a third party has commenced a civil action asserting on Contractor's behalf an antitrust claim which has been assigned to CDOT hereunder, Contractor shall immediately advise in writing:
    - (1) Such third party that the antitrust claim has been assigned to CDOT, and
    - (2) CDOT that such civil action is pending and of the date on which, in accordance with subparagraph a. (1) above, Contractor notified such third party that the antitrust claim had been assigned to CDOT;
  - b. To take no action which will in any way diminish the value of the claims or rights assigned or dedicated to CDOT hereunder; and
  - c. Promptly to pay over to CDOT its proper share of any payment under an antitrust claim brought on Contractor's behalf by any third party and which claim has been assigned to CDOT hereunder.
  
3. Further, Contractor agrees that in the event it hires one or more subcontractors to perform any of its duties under the contract, Contractor shall require that each such subcontractor:
  - a. Irrevocably assign to CDOT (as a third party beneficiary) any and all claims that such subcontractor may have or which may thereafter accrue to the subcontractor under federal or state antitrust laws in connection with any goods or services provided by the subcontractor in carrying out the subcontractor's obligations to Contractor;
  - b. Upon becoming aware that a third party has commenced a civil action on the subcontractor's behalf asserting an antitrust claim which has been assigned to CDOT hereunder, shall immediately advise in writing:
    - (1) Such third party that the antitrust claim has been assigned to CDOT, and
    - (2) Contractor and CDOT that such civil action is pending and of the date on which, in accordance with subparagraph b. (1) above, the subcontractor notified such third party that the antitrust claim had been assigned to CDOT;
  - c. Take no action which will in any way diminish the value of the claims or rights assigned or dedicated to CDOT hereunder; and
  - d. Promptly pay over to CDOT its proper share of any payment under an antitrust claim brought on the subcontractor's behalf by any third party and which claim has been assigned or dedicated to CDOT pursuant hereto.

I, acting in my capacity as officer of a bidder (bidders if a joint venture) do agree to the above assignment of antitrust claims.

Contractor's firm or company name	By	Date
	Title	
2nd contractor's firm or company name. (if joint venture.)	By	Date
	Title	

CDOT Form #621 12/91

# CDOT FORM #1415 COMMITMENT CONFIRMATION

COLORADO DEPARTMENT OF TRANSPORTATION <b>COMMITMENT CONFIRMATION</b>				
<b>SECTION 1.</b> This section must be completed by the Contractor.				
Project:		Project Code:		
Bidder/Contractor:		Phone:		
Contact:		Email:		
DBE Firm Name:		DBE Phone:		
DBE Address:		DBE Email:		
<b>Commitment Details</b>				
Category	Work to be Performed	DBE Work Code(s)	Commitment Amount	Eligible Participation
Construction				
Trucking				
Supplies				
Services				
Total				
This section must be signed by an individual with the power to contractually bind the Bidder/Contractor. You declare under penalty of perjury in the second degree and any other applicable state or federal laws that the statements made in this document are complete, true and accurate to the best of your knowledge.				
	Title	Signature	Date	
Bidder/Contractor Representative				
<b>SECTION 2.</b> This section must be completed by the DBE. (Attach additional pages if necessary).				
This document is not a contract with the Bidder/Contractor; it is an acknowledgement of the obligation that the Bidder/Contractor is making to CDOT. The amounts listed above may be less than the subcontractor or purchase order amount, but can never be more, and shall not reflect any mark up by the Bidder/Contractor. <b>All questions must be answered.</b>				
Are you contracting directly with the Bidder/Contractor or with one of its subcontractors? If with a subcontractor, provide the firm name.				
Will you be purchasing supplies or materials or leasing or renting equipment from the Bidder/Contractor or its subcontractors? If so, explain.				
Do you intend to subcontract any portion of the work listed above? If yes, state to which firms, what work and the approximate amount. Include trucking subcontractors and owner-operators.				
Will you be providing trucking services on this project? If so, state how many of your own trucks and employees you will have on this project.				
Who within your firm will be supervising and responsible for your firm's work on this project?				
Will you be acting as a broker on this project? If so, state what you will be brokering and your approximate brokerage fee.				

# CDOT FORM #1416 GOOD FAITH EFFORT REPORT

COLORADO DEPARTMENT OF TRANSPORTATION			
<b>GOOD FAITH EFFORT REPORT</b>			
<b>Section 1. Contractor and Project Information</b>			
Bidder:		Project:	
Address:		Project Code:	
Contact Name:		Proposal Amount:	
Contact Phone:		Contract Goal Percentage:	
Contact Email:		Contract Goal Dollar Value:	
<b>Section 2. Efforts to Achieve DBE Participation.</b> Attach a narrative that answers the questions below and complete Page 2 (Subcontractor Quote Summary). Provide any supporting documentation which demonstrates your good faith efforts.			
<p>a. Describe your overall plan or approach to meeting the contract goal. Include how much and what work you intend to self-perform; how much and what work you intend to subcontract; what work areas were identified as subcontracting opportunities for DBEs; and the approximate number of DBEs per area.</p> <p>b. Describe your efforts to obtain DBE participation (i.e. how you attempted to execute your plan or approach to meeting the contract goal). Include direct outreach (state the DBE solicited, date(s) and method of phone, email or fax); indirect outreach such as events, publications, and/or communication with minority and other organizations that you conducted to reach DBEs (state date(s), location and audience); other efforts you made to assist DBEs in competing for or obtaining contracts (accepting quotes from DBEs that may be higher than other subcontractors, modifications to contract scopes, unbundling, mentoring, etc.); and obstacles you encountered in assisting or contracting with DBEs. Cost alone shall not be a reason to reject a DBE and will be considered in the evaluation of Page 2.</p> <p>c. If the eligible participation submitted on the Form 1414 was miscalculated, determined to be invalid, or otherwise did not meet the contract goal, provide your justification for such deficiencies and the remedies you have taken or intend to take to avoid the issue in the future. If you have obtained any additional commitments since submission of the bid, attach the Form 1415(s) and the reason why such commitments were not obtained prior to the proposal due date.</p>			
<b>Section 3. Affidavit of Good Faith Efforts.</b> The Bidder must show that it took all necessary and reasonable steps to achieve the DBE contract goal which by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if not fully successful. 49 CFR Part 26, Appendix A sets forth examples and guidance for good faith efforts. The contractor is not limited to the examples provided in 49 CFR Part 26, Appendix A and may provide any documentation that demonstrates good faith efforts to obtain DBE participation on this contract.			
<p>If, at any time, CDOT has reason to believe that any person or firm has willfully and knowingly provided incorrect information or made false statements, CDOT may initiate suspension or debarment proceedings against the person or firm under 49 CFR Part 29, take enforcement action under 49 CFR Part 31, Program Fraud and Civil Remedies, and/or refer the matter to the Department of Justice or Office of the Inspector General for criminal prosecution under 18 U.S.C. 1001, which prohibits false statements in Federal program.</p> <p>By signing below, the Bidder hereby affirms that it has made good faith efforts and has documented all such efforts in this form and the attached supporting documentation.</p> <p>I, _____, am the _____ of _____.</p> <p style="text-align: center;"> <span style="margin-right: 100px;">Representative Name</span> <span style="margin-right: 100px;">Title</span> <span>Company</span> </p> <p>I have the authority to make this affidavit for and on behalf of my company. All information provided herein and attached as evidence of my company's good faith efforts is true and accurate to the best of my belief.</p> <p style="text-align: center;"> <span style="margin-right: 100px;">_____</span> <span>_____</span> </p> <p style="text-align: center;"> <span style="margin-right: 100px;">Signature</span> <span>Date</span> </p>			
<b>Notarization: Must be completed by a licensed notary.</b>			
County of _____		State of _____	
Subscribed and sworn before me this _____ day of _____		SEAL	
Notary Signature _____			
Notary Address _____			
<p><b>CDOT projects:</b> Submit this form and all supporting documentation to the CDOT Civil Rights and Business Resource Center via fax to (303)757-9019. All originals must be sent to: CDOT Civil Rights and Business Resource Center, 4201 E. Arkansas Ave. Room 150, Denver, CO 80222.</p>			
<p><b>Local agency projects:</b> Submit this form and all supporting documentation to the local agency. All originals must be sent to: CDOT Civil Rights and Business Resource Center, 4201 E. Arkansas Ave. Room 150, Denver, CO 80222.</p>			



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# Bacon Act Wage Determination CO170016, updated June 9, 2017.

General Decision Number: CO170016 06/09/2017 CO16

Superseded General Decision Number: CO20160016

State: Colorado

Construction Type: Highway

Counties: Adams, Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Jefferson and Park Counties in Colorado.

## HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.20 for calendar year 2017 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January

1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.20 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2017.

The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/06/2017
1	04/07/2017
2	06/09/2017

ELEC0111-003 03/01/2017

	Rates	Fringes
ELECTRICIAN (Traffic Signalization Only)		
Clear Creek.....	\$ 29.60	10.77

\* ENGI0009-010 05/01/2017

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
(3)- Drill Rig Caisson (smaller than Watson 2500 and similar).....	\$ 27.60	10.10
(4)-Crane (50 tons and under)		
Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin Counties.....	\$ 27.75	10.10

(4)-Scraper (single bowl, under 40 cu. yd).....	\$ 27.75	10.10
(5)-Crane (51-90 tons) Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin Counties.....	\$ 27.92	10.10
(5)-Drill Rig Caisson (Watson 2500 similar or larger), Scraper (40 cu.yd and over),.....	\$ 27.92	10.10
(6)-Crane (91-140 tons) Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin Counties.....	\$ 28.55	10.10

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SUCO2011-001 09/15/2011

	Rates	Fringes
CARPENTER		
Excludes Form Work		
Adams.....	\$ 16.61	3.88
Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Jefferson, Park....	\$ 19.27	5.08
Form Work Only		
Adams.....	\$ 16.78	3.57
Broomfield, Clear Creek, Elbert, Gilpin.....	\$ 19.11	5.46
Jefferson.....	\$ 16.88	3.81
Park.....	\$ 17.28	5.38
CEMENT MASON/CONCRETE FINISHER		
Adams.....	\$ 16.05	3.00
Arapahoe.....	\$ 18.70	3.85
Broomfield, Clear Creek, Elbert, Gilpin.....	\$ 18.37	3.00
Jefferson.....	\$ 18.02	3.42
Park.....	\$ 17.09	2.85
ELECTRICIAN		
Excludes Traffic Signal Installation		
Adams.....	\$ 31.00	14.01
Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Jefferson, Park....	\$ 35.13	6.83
Traffic Signalization Electrician		
Adams, Arapahoe, Broomfield, Elbert, Gilpin, Park.....	\$ 27.25	7.10
Jefferson.....	\$ 26.78	5.44
Traffic Signalization Groundsman		
Adams.....	\$ 13.96	2.80
Araphaoe, Broomfield, Elbert, Gilpin, Park.....	\$ 15.24	3.81

Clear Creek.....	\$ 15.70	2.14
Jefferson.....	\$ 15.19	4.72
FENCE ERECTOR.....	\$ 13.02	3.20
FORM WORKER		
Arapahoe.....	\$ 15.30	3.90
GUARDRAIL INSTALLER		
Adams.....	\$ 12.89	3.45
Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Jefferson, Park.....	\$ 12.89	3.20
HIGHWAY/PARKING LOT STRIPING:Painter		
Adams, Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Park.....	\$ 12.62	3.21
Jefferson.....	\$ 14.21	3.21
IRONWORKER, REINFORCING		
Adams.....	\$ 22.14	0.77
Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Jefferson.....	\$ 16.69	5.45
Park.....	\$ 19.98	2.89
IRONWORKER, STRUCTURAL.....	\$ 18.22	6.01
LABORER		
Asphalt Raker		
Adams, Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Jefferson..	\$ 16.29	4.25
Park.....	\$ 17.41	1.86
Asphalt Shoveler.....	\$ 21.21	4.25
Asphalt Spreader.....	\$ 18.58	4.65
Common or General		
Adams.....	\$ 16.29	4.25
Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin.....	\$ 16.67	4.27
Jefferson.....	\$ 16.51	4.27
Park.....	\$ 15.64	2.46
Concrete Saw (Hand Held)		
Adams.....	\$ 16.29	5.20
Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Jefferson, Park....	\$ 16.29	6.14
Landscape and Irrigation		
Adams, Arapahoe, Broomfield, Elbert, Gilpin, Jefferson, Park....	\$ 12.26	3.16
Clear Creek.....	\$ 14.98	3.16
Mason Tender- Cement/Concrete		
Adams.....	\$ 17.71	2.83

Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin.....\$	16.96	4.04
Jefferson.....\$	16.29	4.25
Park.....\$	15.08	3.10
Pipelayer.....\$	13.55	2.41
Traffic Control (Flagger)		
Adams, Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin.....\$	9.55	3.05
Jefferson.....\$	9.73	3.05
Park.....\$	9.42	3.21
Traffic Control (Sets Up/Moves Barrels, Cones, Install Signs, Arrow Boards and Place Stationary Flags) (Excludes Flaggers)		
Adams, Arapahoe, Broomfield, Elbert, Gilpin, Jefferson.....\$	12.43	3.22
Clear Creek.....\$	13.14	3.20
Park.....\$	12.76	3.20
PAINTER (Spray Only).....\$	16.99	2.87
POWER EQUIPMENT OPERATOR:		
Asphalt Laydown		
Adams, Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Jefferson..\$	22.67	8.75
Park.....\$	22.67	8.72
Asphalt Paver.....\$	24.97	6.13
Asphalt Roller		
Adams.....\$	24.20	7.70
Arapahoe.....\$	22.68	8.72
Broomfield, Clear Creek, Elbert, Gilpin.....\$	23.41	7.67
Jefferson.....\$	22.84	7.69
Park.....\$	22.84	8.72
Asphalt Spreader		
Adams, Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Park.....\$	22.67	8.67
Jefferson.....\$	23.34	8.06
Backhoe/Trackhoe		
Adams.....\$	20.31	4.24
Arapahoe.....\$	24.59	6.24
Broomfield, Clear Creek, Elbert, Gilpin.....\$	22.19	6.48
Jefferson.....\$	21.99	5.60
Park.....\$	20.81	6.58
Bobcat/Skid Loader		
Adams, Broomfield, Clear Creek, Elbert, Gilpin.....\$	15.37	4.28
Arapahoe.....\$	18.23	4.28
Jefferson.....\$	16.85	4.28
Park.....\$	22.46	0.00

Boom.....	\$ 22.67	8.72
Broom/Sweeper		
Adams, Broomfield, Clear Creek, Elbert, Gilpin, Park.....	\$ 22.70	8.07
Arapahoe.....	\$ 22.67	8.73
Jefferson.....	\$ 22.18	8.36
Bulldozer		
Adams.....	\$ 25.20	6.72
Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Jefferson, Park....	\$ 26.90	5.59
Concrete Pump.....	\$ 21.60	5.21
Crane		
Adams, Park.....	\$ 22.82	8.72
Jefferson.....	\$ 23.55	6.68
Drill		
Adams, Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Park.....	\$ 20.48	4.71
Jefferson.....	\$ 20.65	5.74
Forklift.....	\$ 15.91	4.68
Grader/Blade		
Adams.....	\$ 23.94	8.23
Arapahoe.....	\$ 22.67	8.72
Broomfield, Clear Creek, Elbert, Gilpin, Park.....	\$ 23.90	7.93
Jefferson.....	\$ 23.28	7.73
Guardrail/Post Driver.....	\$ 16.07	4.41
Loader (Front End)		
Adams.....	\$ 23.09	8.72
Arapahoe.....	\$ 26.80	4.84
Broomfield, Clear Creek, Elbert, Gilpin.....	\$ 23.20	8.33
Jefferson.....	\$ 23.06	7.76
Park.....	\$ 22.67	8.72
Mechanic		
Adams.....	\$ 22.82	8.72
Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Park.....	\$ 24.04	7.35
Jefferson.....	\$ 23.56	8.72
Oiler		
Adams, Jefferson.....	\$ 21.97	8.72
Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Park.....	\$ 23.73	8.41
Roller/Compactor (Dirt and Grade Compaction)		
Adams.....	\$ 16.70	3.30
Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Jefferson.....	\$ 20.30	5.51
Park.....	\$ 16.52	3.13
Rotomill.....	\$ 16.22	4.41
Screed		
Adams.....	\$ 27.89	3.50
Arapahoe.....	\$ 22.67	8.72

Broomfield, Clear Creek, Elbert, Gilpin.....	\$ 24.67	6.02
Jefferson.....	\$ 22.64	8.43
Park.....	\$ 20.36	3.04
Tractor.....	\$ 13.13	2.95

TRUCK DRIVER

Distributor		
Adams.....	\$ 15.80	5.27
Arapahoe.....	\$ 19.62	5.27
Broomfield, Clear Creek, Elbert, Gilpin, Park.....		
Jefferson.....	\$ 18.19	5.27
Jefferson.....	\$ 19.46	6.04
Dump Truck		
Adams.....	\$ 16.68	5.27
Arapahoe.....	\$ 18.94	5.27
Broomfield, Clear Creek, Elbert, Gilpin.....		
Jefferson.....	\$ 16.47	5.27
Jefferson.....	\$ 16.97	4.78
Park.....	\$ 15.40	3.21
Lowboy Truck		
Adams, Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Park.....		
Jefferson.....	\$ 17.25	5.27
Jefferson.....	\$ 19.80	6.42
Mechanic.....	\$ 26.48	3.50
Multi-Purpose Speciality and Hoisting Truck		
Adams, Broomfield, Clear Creek, Elbert, Gilpin, Park.....		
Jefferson.....	\$ 17.49	3.17
Arapahoe.....	\$ 15.79	2.48
Jefferson.....	\$ 15.13	3.89
Semi/Trailer Truck		
Adams, Broomfield, Clear Creek, Elbert, Gilpin, Jefferson, Park.....		
Jefferson.....	\$ 18.39	4.13
Arapahoe.....	\$ 16.00	2.60
Single Axle (Includes Pickup and Pilot Car)		
Adams, Jefferson.....	\$ 13.93	3.68
Arapahoe.....	\$ 15.10	3.77
Broomfield, Clear Creek, Elbert, Gilpin, Park.....		
Jefferson.....	\$ 14.74	3.68
Truck Mounted Attenuator....	\$ 12.43	3.22
Water Truck		
Adams.....	\$ 17.50	5.19
Arapahoe, Broomfield, Clear Creek, Elbert, Gilpin, Park.....		
Jefferson.....	\$ 19.36	4.07
Jefferson.....	\$ 17.57	5.27

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WELDERS - Receive rate prescribed for craft performing operation to which  
welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are

survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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#### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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**END OF GENERAL DECISION**

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# ***ADDENDA***