

# **SPECIFICATIONS AND CONTRACT DOCUMENTS FOR THE TOWN OF WIGGINS, CO MAIN STREET IMPROVEMENTS**

ISSUED FOR BID  
FEBRUARY 2023



PREPARED BY:  
**MA**  
MILLER & ASSOCIATES  
CONSULTING ENGINEERS, P.C.  
12640 W CEDAR DR STE C  
LAKEWOOD, CO 80228



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## **DIVISION 0**

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BIDDING REQUIREMENTS, CONTRACT FORMS



## **ADVERTISEMENT FOR BIDS**

### **Town of Wiggins Wiggins Colorado Main Street Improvements**

#### **General Notice**

Town of Wiggins, Colorado (Owner) is requesting Bids for the construction of the following Project:

#### **Main Street Improvements**

Bids for the construction of the Project will be received electronically by the Town of Wiggins, until February 23, 2023 at 1:00 PM local time. At that time, the Bids received will be publicly opened and read via a virtual meeting.

The Project includes the following Work:

This project, entitled Main Street Improvements, will develop the area on Main Street from 3<sup>rd</sup> Avenue to 5<sup>th</sup> Avenue for improved drainage. The improvements will include curb and gutter, asphalt and concrete paving, sidewalk, curb ramps, and 15" storm sewer piping and the accompanying inlet structures. The storm sewer and inlets will connect to the existing drainage system. An unconnected 8" waterline will be placed for future connection. A right turn lane will be added to the west side intersection of Main Street and Tiger Way.

Bids are requested for the following Contract: Main Street Improvements.

The Project has an expected duration of 120 calendar days.

#### **Obtaining the Bidding Documents**

The Issuing Office for the Bidding Documents is:

Diamondback Engineering  
12640 West Cedar Drive, Suite C  
Lakewood, Colorado 80228-2005

Prospective Bidders may obtain or examine the Bidding Documents via the Issuing Office on Monday through Friday electronically at no cost and may obtain copies of the Bidding Documents from the Issuing Office as described below. Partial sets of Bidding Documents will not be available from the Issuing Office. Neither Owner nor Engineer will be responsible for full or partial sets of Bidding Documents, including addenda, if any, obtained from sources other than the Issuing Office.

Electronic documents will be sent via email to the prospective Bidder's delivery service at no charge. Hard copies of the Bidding Documents may be purchased from the Issuing Office. Cost does not include shipping charges. Upon Issuing Office's receipt of payment, printed Bidding Documents can be mailed or picked up in person. The shipping charge amount will depend on the shipping method chosen. Bidding Documents are available for purchase in the following formats:

<b>Costs for Paper Copies of the Bid Documents</b>	<b>Cost</b>
Bidding Documents (including Full-Size Drawings)	\$100
Bidding Documents (including Half-Size Drawings)	\$75
Electronic download of Bidding Documents	\$0

**Mandatory Pre-bid Conference**

A pre-bid conference for the Project will be held on February 14, 2023 at 11:00AM at the Town of Wiggins Town Hall. Bids will not be accepted from Bidders that do not attend the mandatory pre-bid meeting.

**Instructions to Bidders.**

For all further requirements regarding bid submittal, qualifications, procedures, and contract award, refer to the Instructions to Bidders that are included in the Bidding Documents.

This Advertisement is issued by:

Owner: Town of Wiggins

By: Diamondback Engineering

Date: February 3, 2022

# INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

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## ARTICLE 1—DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Issuing Office*—The office from which the Bidding Documents are to be issued, and which registers plan holders.

## ARTICLE 2—BIDDING DOCUMENTS

- 2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder's responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.
- 2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or reproduction. Printed documents may not be re-sold under any circumstances.
- 2.03 Bidder may register as a plan holder and obtain complete sets of Bidding Documents, in the number and format stated in the Advertisement or invitation to bid, from the Issuing Office. Bidders may rely that sets of Bidding Documents obtained from the Issuing Office are complete, unless an omission is blatant. Registered plan holders will receive Addenda issued by Owner.
- 2.04 Plan rooms (including construction information subscription services, and electronic and virtual plan rooms) may distribute the Bidding Documents or make them available for examination. Those prospective bidders that obtain an electronic (digital) copy of the Bidding Documents from a plan room are encouraged to register as plan holders from the Bidding Documents Website or Issuing Office. Owner is not responsible for omissions in Bidding Documents or other documents obtained from plan rooms, or for a Bidder's failure to obtain Addenda from a plan room.
- 2.05 *Electronic Documents*
- A. When the Bidding Requirements indicate that electronic (digital) copies of the Bidding Documents are available, such documents will be made available to the Bidders as Electronic Documents in the manner specified.
1. Bidding Documents will be provided in Adobe PDF (Portable Document Format) (.pdf) that is readable by Adobe Acrobat Reader Version 2020.013.20064 or later. It is the intent of the Engineer and Owner that such Electronic Documents are to be exactly representative of the paper copies of the documents. However, because the Owner and Engineer cannot totally control the transmission and receipt of Electronic Documents nor the Contractor's means of reproduction of such documents, the Owner and

Engineer cannot and do not guarantee that Electronic Documents and reproductions prepared from those versions are identical in every manner to the paper copies.

- B. Unless otherwise stated in the Bidding Documents, the Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in Paragraph 2.06.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and reproductions prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.

### **ARTICLE 3—QUALIFICATIONS OF BIDDERS**

- 3.01 Bidder is to submit the following information with its Bid to demonstrate Bidder's qualifications to perform the Work:
  - A. Written evidence establishing its qualifications such as financial data, previous experience, and present commitments.
  - B. A written statement that Bidder is authorized to do business in the state where the Project is located, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.
  - C. Bidder's state or other contractor license number, if applicable.
  - D. Subcontractor and Supplier qualification information.
  - E. Other required information regarding qualifications.
- 3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

### **ARTICLE 4—PRE-BID CONFERENCE**

- 4.01 A pre-bid conference will be held at the time and location indicated in the Advertisement. Representatives of Owner and Engineer will be present to discuss the Project.
- 4.02 Information presented at the pre-Bid conference does not alter the Contract Documents. Owner will issue Addenda to make any changes to the Contract Documents that result from discussions at the pre-Bid conference. Information presented, and statements made at the pre-bid conference will not be binding or legally effective unless incorporated in an Addendum.

### **ARTICLE 5—SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE**

- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of

materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

5.02 *Existing Site Conditions*

- A. *Subsurface and Physical Conditions; Hazardous Environmental Conditions-* **A geotechnical report has been completed for this project and can be obtained by the issuing office.**

**ARTICLE 6—BIDDER’S REPRESENTATIONS AND CERTIFICATIONS**

6.01 *Express Representations and Certifications in Bid Form, Agreement*

- A. The Bid Form that each Bidder will submit contains express representations regarding the Bidder’s examination of Project documentation, Site visit, and preparation of the Bid, and certifications regarding lack of collusion or fraud in connection with the Bid. Bidder should review these representations and certifications, and assure that Bidder can make the representations and certifications in good faith, before executing and submitting its Bid.
- B. If Bidder is awarded the Contract, Bidder (as Contractor) will make similar express representations and certifications when it executes the Agreement.

**ARTICLE 7—INTERPRETATIONS AND ADDENDA**

- 7.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.
- 7.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to Engineer in writing. Contact information and submittal procedures for such questions are as follows:

Diamondback Engineering  
12640 West Cedar Drive, Suite C  
Lakewood, Colorado 80228-2005  
(303) 985-4204  
ATTN: Michael Trbovich  
[mtrbovich@miller-engineers.com](mailto:mtrbovich@miller-engineers.com)

- 7.03 Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than seven days prior to the date for opening of Bids may not be answered.
- 7.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

**ARTICLE 8—BID SECURITY**

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of 5 percent of Bidder’s maximum Bid price (determined by adding the base bid and all alternates) and in

the form of a Bid bond issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions. Such Bid bond will be issued in the form included in the Bidding Documents.

- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited, in whole in the case of a penal sum bid bond, and to the extent of Owner's damages in the case of a damages-form bond. Such forfeiture will be Owner's exclusive remedy if Bidder defaults.
- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.
- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within 7 days after the Bid opening.

#### **ARTICLE 9—CONTRACT TIMES**

- 9.01 The number of days within which, or the dates by which, the Work is to be (a) substantially completed and (b) ready for final payment, and (c) Milestones (if any) are to be achieved, are set forth in the Agreement.
- 9.02 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

#### **ARTICLE 10—SUBSTITUTE AND "OR EQUAL" ITEMS**

- 10.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, and those "or-equal" or substitute materials and equipment subsequently approved by Engineer prior to the submittal of Bids and identified by Addendum. No item of material or equipment will be considered by Engineer as an "or-equal" or substitute unless written request for approval has been submitted by Bidder and has been received by Engineer within 10 days of the issuance of the Advertisement for Bids or invitation to Bidders. Each such request must comply with the requirements of Paragraphs 7.05 and 7.06 of the General Conditions, and the review of the request will be governed by the principles in those paragraphs. **Each such request shall include the Manufacturer's Certification for Compliance with AIS. Refer to the Manufacturer's Certification form provided in these construction Contract Documents.** The burden of proof of the merit of the proposed item is upon Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. If Engineer approves any such proposed item, such approval will be set forth in an

Addendum issued to all registered Bidders. Bidders cannot rely upon approvals made in any other manner.

- 10.02 All prices that Bidder sets forth in its Bid will be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of “or-equal” or substitution requests are made at Bidder’s sole risk.

#### **ARTICLE 11—SUBCONTRACTORS, SUPPLIERS, AND OTHERS**

- 11.01 The apparent Successful Bidder, and any other Bidder so requested, must submit to Owner a list of the Subcontractors or Suppliers proposed for the following portions of the Work within five days after Bid opening: **None**
- 11.02 If requested by Owner, such list must be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor or Supplier. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor or Supplier, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder will submit a substitute, Bidder’s Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.
- 11.03 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors and Suppliers. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor or Supplier, so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.07 of the General Conditions.

**11.05 – The Contractor shall not award work to Subcontractor(s) in excess of the limits stated in SC 7.07A.**

#### **ARTICLE 12—PREPARATION OF BID**

- 12.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form must be completed in ink and the Bid Form signed in ink. Erasures or alterations must be initialed in ink by the person signing the Bid Form. A Bid price must be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
- B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words “No Bid” or “Not Applicable.”
- 12.02 Electronic copies of the bid are acceptable. The Owner reserves the right to accept Bid Forms which nominally vary in appearance from the original paper version of the Bid Form, providing that all required information and submittals are included with the Bid.



- 12.03 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown.
- 12.04 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown.
- 12.05 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown.
- 12.06 A Bid by an individual must show the Bidder's name and official address.
- 12.07 A Bid by a joint venture must be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must be shown.
- 12.08 All names must be printed in ink below the signatures.
- 12.09 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.
- 12.10 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.
- 12.11 The Bid must contain evidence of Bidder's authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority within the time for acceptance of Bids and attach such certification to the Bid.
- 12.12 If Bidder is required to be licensed to submit a Bid or perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder's licensure, or Bidder must certify in writing that it will obtain such licensure within the time for acceptance of Bids and attach such certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.

#### **ARTICLE 13—BASIS OF BID**

##### **13.01 *Unit Price***

- A. Bidders must submit a Bid on a Unit Price basis as set forth in the Bid Form.

#### **ARTICLE 14—SUBMITTAL OF BID**

- 14.01 The Bidding Documents shall be either electronically or paper copies completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 2 of the Bid Form.
- 14.02 A Bid must be received no later than the date and time prescribed and at the place indicated in the Advertisement or invitation to bid and must be enclosed in a plainly marked package with the Project title, and, if applicable, the designated portion of the Project for which the Bid is submitted, the name and address of Bidder, and must be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope

containing the Bid must be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid must be addressed to the location designated in the Advertisement. Electronic or paper copies of the bid are acceptable.

- 14.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

#### **ARTICLE 15—MODIFICATION AND WITHDRAWAL OF BID**

- 15.01 An unopened Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- 15.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 15.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 15.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, the Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, the Bidder will be disqualified from further bidding on the Work.

#### **ARTICLE 16—OPENING OF BIDS**

- 16.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

#### **ARTICLE 17—BIDS TO REMAIN SUBJECT TO ACCEPTANCE**

- 17.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

#### **ARTICLE 18—EVALUATION OF BIDS AND AWARD OF CONTRACT**

- 18.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.
- 18.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.
- 18.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes

of the Bid, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner will reject the Bid as nonresponsive.

18.04 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.

18.05 *Evaluation of Bids*

- A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
  - B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form. To determine the Bid prices for purposes of comparison, Owner will announce to all bidders a “Base Bid plus alternates” budget after receiving all Bids, but prior to opening them. For comparison purposes alternates will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to said Successful Bidder on its base Bid and any combination of its additive alternate Bids for which Owner determines funds will be available at the time of award.
  - C. For determination of the apparent low Bidder(s) when sectional bids are submitted, Bids will be compared on the basis of the aggregate of the Bids for separate sections and the Bids for combined sections that result in the lowest total amount for all of the Work.
  - D. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.
- 18.06 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 18.07 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

## **ARTICLE 19—BONDS AND INSURANCE**

19.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner’s requirements as to performance and payment bonds, other required bonds (if

any), and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by required bonds and insurance documentation.

- 19.02 Article 8, Bid Security, of these Instructions, addresses any requirements for providing bid bonds as part of the bidding process.

#### **ARTICLE 20—SIGNING OF AGREEMENT**

- 20.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder must execute and deliver the required number of counterparts of the Agreement and any bonds and insurance documentation required to be delivered by the Contract Documents to Owner. Within 10 days thereafter, Owner will deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

#### **ARTICLE 21—SALES AND USE TAXES**

- 21.01 Owner is exempt from Colorado state sales and use taxes on materials and equipment to be incorporated in the Work. Taxes must not be included in the Bid. Refer to Paragraph SC-7.10 of the Supplementary Conditions for additional information.

# BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

## ARTICLE 1—OWNER AND BIDDER

- 1.01 This Bid is submitted to:
- Town of Wiggins
- Tom Acre [tacre@wigginsco.com](mailto:tacre@wigginsco.com)
- 304 Central Ave
- Wiggins, CO 80654
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

## ARTICLE 2—ATTACHMENTS TO THIS BID

- 2.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security;
  - B. List of Proposed Subcontractors;
  - C. List of Proposed Suppliers;
  - D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids;
  - E. Required Bidder Qualification Statement with supporting data;

### ARTICLE 3—BASIS OF BID—UNIT PRICE

#### 3.01 Unit Price Bids

- A. Bidder will complete the Work in accordance with the Contract Documents for the following unit price(s):

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1	Mobilization	LS	1		\$
2	Removal of Asphalt	SY	7110		\$
3	Sawing Concrete	LF	5		\$
4	Sawing Asphalt Mat (6 Inch)	LF	302		\$
5	Concrete Washout Structure	EA	1		\$
6	Vehicle Tracking Pad	EA	2		\$
7	Aggregate Base Couse	TON	1250		\$
8	Hot Mix Asphalt	TON	2323		\$
9	Concrete Pavements (6-Inch Cross pans)	SY	46		\$
10	Inlet Type 16 (5ft)	EA	2		\$
11	Concrete Sidewalk	SY	822		\$
12	Concrete Curb Ramp	SY	32		\$
13	Detectable Warning (Truncated Domes)	SY	10		\$
14	Curb and Gutter Type 2	LF	1233		\$
15	Rectangular Rapid Flashing Beacon	EA	2		\$
16	15" Polypropylene Storm Pipe	LF	633		\$
17	48" Cylindrical Manhole	EA	2		\$
18	60" Cylindrical Manhole	EA	1		\$
19	8" C900 PVC Non-Potable Pipe	LF	1292		\$
20	8" Gate Valve	EA	1		\$
21	8" Cap	EA	1		\$
22	Construction Surveying	LS	1		\$
23	Traffic Control	LS	1		\$
24	Striping and Signage	LS	1		\$
25	Topsoil and Finished Grading	LS	!		\$
Total of All Unit Price Bid Items					\$

### ARTICLE 4—TIME OF COMPLETION

- 4.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 4.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

**ARTICLE 5—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD,  
INSTRUCTIONS, AND RECEIPT OF ADDENDA**

**5.01**    *Bid Acceptance Period*

- A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

**5.02**    *Instructions to Bidders*

- A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

**5.03**    *Receipt of Addenda*

- A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

**ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS**

**6.01**    *Bidder's Representations*

- A. In submitting this Bid, Bidder represents the following:
1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
  2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
  3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
  4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
  5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
  6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and

procedures of construction to be employed by Bidder, if selected as Contractor; and  
(c) Bidder's (Contractor's) safety precautions and programs.

7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

#### 6.02 *Bidder's Certifications*

##### A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
  - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
  - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
  - c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
  - d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.



BIDDER hereby submits this Bid as set forth above:

Bidder:

\_\_\_\_\_  
(typed or printed name of organization)

By:

\_\_\_\_\_  
(individual's signature)

Name:

\_\_\_\_\_  
(typed or printed)

Title:

\_\_\_\_\_  
(typed or printed)

Date:

\_\_\_\_\_  
(typed or printed)

*If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.*

Attest:

\_\_\_\_\_  
(individual's signature)

Name:

\_\_\_\_\_  
(typed or printed)

Title:

\_\_\_\_\_  
(typed or printed)

Date:

\_\_\_\_\_  
(typed or printed)

Address for giving notices:

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

Bidder's Contact:

Name:

\_\_\_\_\_  
(typed or printed)

Title:

\_\_\_\_\_  
(typed or printed)

Phone:

Email:

Address:

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

Bidder's Contractor License No.: (if applicable)

\_\_\_\_\_

## BID BOND (PENAL SUM FORM)

<b>Bidder</b> Name: Address <i>(principal place of business)</i> :	<b>Surety</b> Name: Address <i>(principal place of business)</i> :
<b>Owner</b> Name: Town of Wiggins Address <i>(principal place of business)</i> : 304 Central Ave, Wiggins CO, 80654	<b>Bid</b> Project <i>(name and location)</i> :   Bid Due Date:
<b>Bond</b> Penal Sum: Date of Bond:	
Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.	
Bidder	Surety
_____ <i>(Full formal name of Bidder)</i>	_____ <i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i>	By: _____ <i>(Signature) (Attach Power of Attorney)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____ <i>(Signature)</i>	Attest: _____ <i>(Signature)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
<i>Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.</i>	

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond will be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder occurs upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation will be null and void if:
  - 3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
  - 3.2. All Bids are rejected by Owner, or
  - 3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions does not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action will be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety, and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond will be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder must be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Postal Service registered or certified mail, return receipt requested, postage pre-paid, and will be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond will be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute governs and the remainder of this Bond that is not in conflict therewith continues in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

## NOTICE OF AWARD

Date of Issuance:

Owner: Town of Wiggins

Engineer: Diamondback Engineering

Project: Main Street Improvements

Bidder:

Bidder's Address:

You are notified that Owner has accepted your Bid dated **[date]** for the above Contract, and that you are the Successful Bidder and are awarded a Contract for:

The construction of street improvements for the area on Main Street from 3<sup>rd</sup> Ave to 5<sup>th</sup> Ave.

The Contract Price of the awarded Contract is \$**[Contract Price]**. Contract Price is subject to adjustment based on the provisions of the Contract, including but not limited to those governing changes, Unit Price Work, and Work performed on a cost-plus-fee basis, as applicable.

Two unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically.

☐ Drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

1. Deliver to Owner two counterparts of the Agreement, signed by Bidder (as Contractor).
2. Deliver with the signed Agreement(s) the Contract security (such as required performance and payment bonds) and insurance documentation, as specified in the Instructions to Bidders and in the General Conditions, Articles 2 and 6.

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within 10 days after you comply with the above conditions, Owner will return to you one fully signed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner: Town of Wiggins

By *(signature)*: \_\_\_\_\_

Name *(printed)*: \_\_\_\_\_

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

Copy: Engineer

# **AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT**

This Agreement is by and between Town of Wiggins ("Owner") and ("Contractor").

Terms used in this Agreement have the meanings stated in the General Conditions and the Supplementary Conditions.

Owner and Contractor hereby agree as follows:

## **0.00 WORK**

- 1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: The work included on Main St located from 3rd Avenue to 5th Avenue includes the replacement of the asphalt roadway from 3rd Avenue to 5th Avenue. Concrete sidewalks will be added to the stretch of roadway along with curb ramps, concrete crosspans and curb and gutter. Storm drainage will be upgraded with a 15" and 18" storm pipe and inlet structures connecting to existing infrastructure.

## **0.01 THE PROJECT**

- 2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: This project, entitled Main Street Improvements, will create a blending station that will blend the water of the two operating water wells together to provide an arsenic concentration that is below the maximum allowable concentration limit. The blending station will be buried with a mixing tee. A 6" water line will be added to connect the northern and southern distribution systems to add redundancy to the system.

## **0.02 ENGINEER**

- 3.01 The Owner has retained Diamondback Engineering and Surveying ("Engineer") to act as Owner's representative, assume all duties and responsibilities of Engineer, and have the rights and authority assigned to Engineer in the Contract.

## **0.03 CONTRACT TIMES**

### **4.01 *Time is of the Essence***

- A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

### **4.02 *Contract Times: Dates***

- A. The Work will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **120 calendar days after the Notice to Proceed has been issued.**

#### 4.03 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):
  - 1. *Substantial Completion*: Contractor shall pay Owner \$1000.00 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for Substantial Completion, until the Work is substantially complete.
  - 2. *Completion of Remaining Work*: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$1000.00 for each day that expires after such time until the Work is completed and ready for final payment.
  - 4. Liquidated damages for failing to timely attain Milestones, Substantial Completion, and final completion are not additive, and will not be imposed concurrently.
- B. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner's sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.

#### 4.0 *Special Damages*

- A. Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.
- B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.
- C. The special damages imposed in this paragraph are supplemental to any liquidated damages for delayed completion established in this Agreement.

#### 0.04 **CONTRACT PRICE**

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents, the amounts that follow, subject to adjustment under the Contract:

- A. Total Unit Price Work

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EJCDC® C-520, Agreement between Owner and Contractor for Construction Contract (Stipulated Price).  
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Modified to include RD edits from RUS Bulletin 1780-26 (6/16/2020).

## 0.05 **PAYMENT PROCEDURES**

### 6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

### 6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on the basis of Contractor's Applications for Payment on or about the 5th day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (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 elsewhere in the Contract.
  - 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract.
    - a. 95 percent of the value of the Work completed (with the balance being retainage).
    - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion **of the entire construction to be provided under the construction Contract Documents**, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

### 6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work, Owner shall pay the remainder of the Contract Price in accordance with Paragraph 15.06 of the General Conditions.

### 6.04 *Consent of Surety*

- A. Owner will not make final payment or return or release retainage at Substantial Completion or any other time, unless Contractor submits written consent of the surety to such payment, return, or release.

## 0.06 **CONTRACT DOCUMENTS**

### 7.01 *Contents*

- A. The Contract Documents consist of all of the following:
  - 1. This Agreement.
  - 2. Bonds:

- a. Performance bond (together with power of attorney).
  - b. Payment bond (together with power of attorney).
- 3. Proof of Insurance
- 4. General Conditions
- 5. Supplementary Conditions.
- 6. Specifications as listed in the table of contents of the project manual (copy of list attached).
- 7. Drawings (not attached but incorporated by reference) consisting of 8 sheets with each sheet bearing the following general title: Town of Wiggins, CO Main Street Improvements
- 8. Drawings listed on the attached sheet index.
- 9. Addenda (numbers 1 to 5, inclusive).
- 10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
  - a. Notice to Proceed.
  - b. Work Change Directives.
  - c. Change Orders.
  - d. Field Orders.
  - e. Warranty Bond, if any.
- B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 7.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract.

## **0.07 REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS**

### **8.01 *Contractor's Representations***

- A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:
  - 1. Contractor has examined and carefully studied the Contract Documents, including Addenda.
  - 2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
  - 3. Contractor is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.



4. Contractor has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
5. Contractor has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (c) Contractor's safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
9. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

#### 8.02 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.02:
  1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
  2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner,

(b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

#### 8.03 *Standard General Conditions*

- A. Owner stipulates that if the General Conditions that are made a part of this Contract are EJCDC® C-700, Standard General Conditions for the Construction Contract (2018), published by the Engineers Joint Contract Documents Committee, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or “track changes” (redline/strikeout), or in the Supplementary Conditions.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on October 8<sup>th</sup>, 2021 (which is the Effective Date of the Contract).

Owner:

Town of Wiggins, CO

*(typed or printed name of organization)*

By:

*(individual's signature)*

Date:

*(date signed)*

Name:

*(typed or printed)*

Title:

*(typed or printed)*

Attest:

*(individual's signature)*

Title:

*(typed or printed)*

Address for giving notices:

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

Designated Representative:

Name:

*(typed or printed)*

Title:

*(typed or printed)*

Address:

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

Phone:

Email:

\_\_\_\_\_

Contractor:

*(typed or printed name of organization)*

By:

*(individual's signature)*

Date:

*(date signed)*

Name:

*(typed or printed)*

Title:

*(typed or printed)*

Attest:

*(individual's signature)*

Title:

*(typed or printed)*

Address for giving notices:

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

Designated Representative:

Name:

*(typed or printed)*

Title:

*(typed or printed)*

Address:

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

Phone:

Email:

\_\_\_\_\_

License No.:

*(where applicable)*

State:

\_\_\_\_\_

## NOTICE TO PROCEED

Owner: \_\_\_\_\_  
Engineer: \_\_\_\_\_  
Contractor: \_\_\_\_\_  
Project: \_\_\_\_\_  
Effective Date of Contract: \_\_\_\_\_

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on TBD pursuant to Paragraph 4.01 of the General Conditions.

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work will be done at the Site prior to such date.

In accordance with the Agreement:

The date by which Substantial Completion must be achieved is TBD, and the date by which readiness for final payment must be achieved is TBD.

Owner: Town of Wiggins  
By *(signature)*: \_\_\_\_\_  
Name *(printed)*: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date Issued: \_\_\_\_\_

Copy: Engineer

## PERFORMANCE BOND

<b>Contractor</b> Name: Address <i>(principal place of business)</i> :	<b>Surety</b> Name: Address <i>(principal place of business)</i> :
<b>Owner</b> Name:     Town of Wiggins Mailing address <i>(principal place of business)</i> : 304 Central Ave, Wiggins CO, 80654	<b>Contract</b> Description <i>(name and location)</i> :  Contract Price: Effective Date of Contract:
<b>Bond</b> Bond Amount: Date of Bond: <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: <input checked="" type="checkbox"/> None <input type="checkbox"/> See Paragraph 16	
Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.	
Contractor as Principal	Surety
<i>(Full formal name of Contractor)</i> <hr/>	<i>(Full formal name of Surety) (corporate seal)</i> <hr/>
By: <hr/> <div style="text-align: center;"><i>(Signature)</i></div>	By: <hr/> <div style="text-align: center;"><i>(Signature)(Attach Power of Attorney)</i></div>
Name: <hr/> <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: <hr/> <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: <hr/>	Title: <hr/>
Attest: <hr/> <div style="text-align: center;"><i>(Signature)</i></div>	Attest: <hr/> <div style="text-align: center;"><i>(Signature)</i></div>
Name: <hr/> <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: <hr/> <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: <hr/>	Title: <hr/>
<i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i>	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond will arise after:
  - 3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice may indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 will be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement does not waive the Owner's right, if any, subsequently to declare a Contractor Default;
  - 3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
  - 3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
  - 5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
  - 5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
  - 5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
  - 5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

- 5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
  - 5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
- 6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment, or the Surety has denied liability, in whole or in part, without further notice, the Owner shall be entitled to enforce any remedy available to the Owner.
- 7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner will not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety will not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
  - 7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
  - 7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
  - 7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
- 8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
- 9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
- 10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
- 11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.
- 12. Notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears.
- 13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted therefrom and provisions conforming to such

statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

14. Definitions

- 14.1. *Balance of the Contract Price*—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
  - 14.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
  - 14.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
  - 14.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
  - 14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.



## PAYMENT BOND

<b>Contractor</b> Name: Address <i>(principal place of business)</i> :	<b>Surety</b> Name: Address <i>(principal place of business)</i> :
<b>Owner</b> Name: Town of Wiggins Mailing address <i>(principal place of business)</i> : 304 Central Ave, Wiggins CO, 80654	<b>Contract</b> Description <i>(name and location)</i> :  Contract Price: Effective Date of Contract:
<b>Bond</b> Bond Amount: Date of Bond: <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 18	
Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.	
Contractor as Principal	Surety
<i>(Full formal name of Contractor)</i>	<i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <div style="text-align: center;"><i>(Signature)</i></div>	By: _____ <div style="text-align: center;"><i>(Signature)(Attach Power of Attorney)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>	Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
<i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i>	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond will arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond will arise after the following:
  - 5.1. Claimants who do not have a direct contract with the Contractor
    - 5.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
    - 5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).
  - 5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
  - 7.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
  - 7.2. Pay or arrange for payment of any undisputed amounts.
  - 7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

8. The Surety's total obligation will not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond will be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract will be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfying obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action will be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit will be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, will be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted here from and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. Definitions
  - 16.1. *Claim*—A written statement by the Claimant including at a minimum:
    - 16.1.1. The name of the Claimant;
    - 16.1.2. The name of the person for whom the labor was done, or materials or equipment furnished;
    - 16.1.3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
    - 16.1.4. A brief description of the labor, materials, or equipment furnished;

- 16.1.5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- 16.1.6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
- 16.1.7. The total amount of previous payments received by the Claimant; and
- 16.1.8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
- 16.2. *Claimant*—An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond is to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
- 16.3. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
- 16.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 16.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
- 17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

## APPLICATION FOR PAYMENT

Prepared By



Endorsed By



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National Society of Professional Engineers  
1420 King Street, Alexandria, VA 22314-2794  
(703) 684-2882  
[www.nspe.org](http://www.nspe.org)

American Council of Engineering Companies  
1015 15th Street N.W., Washington, DC 20005  
(202) 347-7474  
[www.acec.org](http://www.acec.org)

American Society of Civil Engineers  
1801 Alexander Bell Drive, Reston, VA 20191-4400  
(800) 548-2723  
[www.asce.org](http://www.asce.org)

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# **GUIDELINES FOR THE INTENDED USE OF EJCDC C-620, APPLICATION FOR PAYMENT**

## **1.0 PURPOSE AND INTENDED USE OF THE DOCUMENT**

The Application for Payment is used to facilitate periodic progress payments to the Contractor for Work completed and for stored materials and equipment (referred to in this document as "Stored Materials").

For additional information regarding the Application for Payment, see EJCDC® C-700, Standard General Conditions of the Construction Contract (2018), Paragraph 15.01, and EJCDC® C-001, Commentary on the 2018 EJCDC Construction Documents (2018).

## **2.0 APPLICATION FOR PAYMENT OVERVIEW**

This document was prepared in Microsoft Excel due to the number of calculations involved in the preparation of the Application for Payment. The application consists of a Summary worksheet, and 3 supporting worksheets: Lump Sum worksheet, Unit Price worksheet, and Stored Materials worksheet.

- 2.1 *Summary Worksheet* — calculates the amount to be paid to the Contractor at the end of each Application for Payment period. This calculation imports numbers from the supporting worksheets to determine the value of the Work completed and Stored Materials, calculate retainage, and deduct amounts previously paid to determine the amount the Contractor should be paid for the current application period. Application periods are typically one month; however these periods may be extended when Contractor's efforts do not result in the billable completion of Work or storage of materials and equipment during the payment period.
- 2.2 *Lump Sum Worksheet* — calculates the total value for completed Work for which compensation is paid on a Lump Sum basis. The schedule of values included in this worksheet reflects a breakdown of lump sum Work items to which Contractor and Engineer have agreed, pursuant to Article 2 of the General Conditions. Costs for Stored Materials associated with lump sum items are included on this worksheet to calculate the total value for completed lump sum Work and associated Stored Materials. This total is exported to the Summary worksheet. Separate totals for Work Completed and for materials currently stored are also exported to the Summary worksheet for use in calculating the amount of retainage to be held for each.
- 2.3 *Unit Price Worksheet* — calculates the total value for completed Work for which compensation is paid on a Unit Price basis. The schedule of values included in this spreadsheet is typically a tabulation of Unit Price items from the Agreement. Costs for Stored Materials associated with unit price items are included in this worksheet to calculate the total value for completed Unit Price Work and associated Stored Materials. This total is exported to the Summary worksheet. Separate totals for Work Completed and for Materials Currently Stored are also exported to the Summary worksheet for use in calculating the amount of retainage to be held for each.

- 2.4 *Stored Materials Worksheet* — calculates the total value for materials and equipment that have been purchased and are being stored until they are incorporated into the Work. This worksheet adds materials and equipment to the worksheet as they are brought to the site and stored; such Stored Materials are then deducted from the Stored Materials worksheet total as they are incorporated into the Work, providing a running net value for the materials and equipment remaining in storage. The values of Stored Materials must be manually added to the Lump Sum or Unit Price line items. These do not automatically update when changes are made. The amount of materials remaining in storage is eligible for payment but must be tracked separately from Work completed since different retainage rates may apply to Work completed and Stored Materials.

### **3.0 Instructions for filling out the Payment Application form**

- 3.1 Project-specific information is to be entered in the top portion (header) of the Summary worksheet. This same information will automatically be copied to the other worksheets to complete the headers on all other worksheets.
- 3.2 Outside of the header, data can be entered in non-shaded cells when the sheet is protected. Cells shaded light blue contain equations that will automatically transfer data from other cells or make calculations to complete the worksheet. Altering any of these cells can result in errors in the Application for Payment. It is recommended that the worksheets be protected at all times unless alterations are deliberately being made to the Application for Payment form other than to enter data. See Paragraph 4.0 below for information on Protection of Worksheets.
- 3.3 Enter information regarding each item in the Lump Sum and/or Unit Price worksheets. For Lump Sum projects, each item should represent an item in the schedule of values prepared by the Contractor and approved by the Engineer/Owner, breaking down the Lump Sum amount into measurable components. For Unit Price contracts, use numbers from the Agreement as the schedule of values. Specific information on the data to be entered into each column may be seen by clicking on the header description for that column. Similar comments may be seen for cells in the "Totals" row that indicates how the number is calculated and where this number is exported to another part of the spreadsheet. See the Commentary for additional information.
- 3.4 The equations in the Summary worksheet use numbers imported from both the Lump Sum and Unit Price worksheets. Projects will typically either use the Lump Sum or the Unit Price worksheet, but some projects may use both. If one of the worksheets is not used, it should be hidden and not deleted. If it is deleted, Users will need to correct the equations in the Summary worksheet by unprotecting the worksheet and editing the equations. To hide a worksheet, right click on the worksheet tab at the bottom of the worksheet and select "Hide." To unhide a worksheet, right click on any worksheet tab and select "Unhide," and then select the worksheet to unhide and click "Okay." This same process may be used to hide these Guidelines for Use.



#### **4.0 Protection of Worksheets**

- 4.1 The cells in this Workbook that create the forms or contain equations have been coded to "lock" the cells that should not be altered. It is recommended that the Workbook be Protected (cells locked) at all times unless it is necessary to add or delete rows. Directions for adding and deleting rows are provided in the next section. Passwords can be used to lock the Protect / Unprotect settings on spreadsheets, however the worksheets in this workbook do not require a password.
- 4.2 To unprotect a worksheet, click on the "Review" menu tab at the top of Excel, then click "Unprotect Sheet." To protect a worksheet, click on the "Review" menu tab at the top of Excel, then click "Protect Sheet." This will open a dialog box in which the User is allowed to select protection options. It is recommended that only the top two checkboxes for "Select Locked Cells" and "Select Unlocked Cells" be checked. This will reset the protection for the Worksheet.

#### **5.0 Adding and Deleting Rows**

- 5.1 A limited number of blank rows are provided in the Lump Sum, Unit Price, and Stored Material worksheets. Additional rows may be added to these worksheets by the User. The first step in this process is to unprotect the worksheet as previously discussed. After the sheet is unprotected, move with caution to prevent inadvertently deleting any cells that contain equations. To insert a row, right click in the row heading at the left of the spreadsheet and select "Insert." A new row will be inserted at the location where the cursor was placed in the row heading. If more than one new row is desired, left click and drag the cursor to include the desired number of rows, right click in the selected row headings and then select "Insert." It is important that the line immediately above the "Totals" row not be included in the rows selected. Doing so will require that equations in the "Totals" row be adjusted. When rows are inserted, Excel automatically adjusts the equations to include the new rows, unless the row directly above the "Totals" row is also selected.
- 5.2 After new rows are inserted, it is important to copy a line from one of the original rows so correct formatting and equations are copied into each new row. To do this, select the row to be copied by clicking the cell in Column A and dragging the cursor to the last column in the table. Then select "Copy" from the menu or type CTRL+C to copy the cells. Excel will show that this row has been copied by showing a moving dashed line around the cells that are to be copied. Then select the new rows into which the information is to be copied as before and select Paste from the menu or type CTRL+V.
- 5.3 To delete an unused row, right click in the row heading on the left of the spreadsheet for the row to be deleted and select "Delete." The selected row will be deleted. If more than one row is to be deleted, left click and drag the cursor to the desired number of rows to be deleted and then right click to open the menu and select "Delete." Unlike the admonition on adding new rows, it is okay to delete the row just above the "Totals" row.
- 5.4 After rows have been added or deleted, it is important reset the worksheet protection.

## **6.0 Saving Files**

This file is provided as a Microsoft® Excel Open XML workbook template (.xltx) to prevent this file from being inadvertently changed. When an application for payment is created for a specific project it should be saved as an Excel workbook (.xlsx) file. To do this, select Save As (F12), type in a new file name and select Excel Workbook (.xlsx) from the drop down Save As Type menu.

## **7.0 License Agreement**

This document is subject to the terms and conditions of the License Agreement, 2018 EJCDC® Construction Series Documents. A copy of the License Agreement was furnished at the time of purchase of this document, and is available for review at [www.ejcdc.org](http://www.ejcdc.org) and the websites of EJCDC's sponsoring organizations.

**Contractor's Application for Payment**

<b>Owner:</b> <u>Town of Wiggins</u> <b>Engineer:</b> <u>Diamondback Engineering and Surveying</u> <b>Contractor:</b> _____ <b>Project:</b> <u>Main Street Improvements</u> <b>Contract:</b> _____	<b>Owner's Project No.:</b> _____ <b>Engineer's Project No.:</b> _____ <b>Contractor's Project No.:</b> _____																								
<b>Application No.:</b> _____ <b>Application Date:</b> _____																									
<b>Application Period:</b> <b>From</b> _____ <b>to</b> _____																									
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 70%;">1. Original Contract Price</td><td style="width: 30%; text-align: right;">\$ -</td></tr><tr><td>2. Net change by Change Orders</td><td style="text-align: right;">\$ -</td></tr><tr><td>3. Current Contract Price (Line 1 + Line 2)</td><td style="text-align: right;">\$ -</td></tr><tr><td>4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)</td><td style="text-align: right;">\$ -</td></tr><tr><td>5. Retainage</td><td></td></tr><tr><td>    a. _____ X \$ - Work Completed</td><td style="text-align: right;">\$ -</td></tr><tr><td>    b. _____ X \$ - Stored Materials</td><td style="text-align: right;">\$ -</td></tr><tr><td>    c. Total Retainage (Line 5.a + Line 5.b)</td><td style="text-align: right;">\$ -</td></tr><tr><td>6. Amount eligible to date (Line 4 - Line 5.c)</td><td style="text-align: right;">\$ -</td></tr><tr><td>7. Less previous payments (Line 6 from prior application)</td><td></td></tr><tr><td>8. Amount due this application</td><td style="text-align: right;">\$ -</td></tr><tr><td>9. Balance to finish, including retainage (Line 3 - Line 4)</td><td style="text-align: right;">\$ -</td></tr></table>		1. Original Contract Price	\$ -	2. Net change by Change Orders	\$ -	3. Current Contract Price (Line 1 + Line 2)	\$ -	4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)	\$ -	5. Retainage		a. _____ X \$ - Work Completed	\$ -	b. _____ X \$ - Stored Materials	\$ -	c. Total Retainage (Line 5.a + Line 5.b)	\$ -	6. Amount eligible to date (Line 4 - Line 5.c)	\$ -	7. Less previous payments (Line 6 from prior application)		8. Amount due this application	\$ -	9. Balance to finish, including retainage (Line 3 - Line 4)	\$ -
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8. Amount due this application	\$ -																								
9. Balance to finish, including retainage (Line 3 - Line 4)	\$ -																								
<b>Contractor's Certification</b> The undersigned Contractor certifies, to the best of its knowledge, the following: (1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment; (2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and (3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.																									
<b>Contractor:</b> _____																									
<b>Signature:</b> _____ <b>Date:</b> _____																									
<b>Recommended by Engineer</b> <b>By:</b> _____ <b>Title:</b> _____ <b>Date:</b> _____	<b>Approved by Owner</b> <b>By:</b> _____ <b>Title:</b> _____ <b>Date:</b> _____																								
<b>Approved by Funding Agency</b> <b>By:</b> _____ <b>Title:</b> _____ <b>Date:</b> _____	<b>By:</b> _____ <b>Title:</b> _____ <b>Date:</b> _____																								

## Contractor's Application for Payment

Owner's Project No.: \_\_\_\_\_  
 Engineer's Project No.: \_\_\_\_\_  
 Contractor's Project No.: \_\_\_\_\_

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## Contractor's Application for Payment

Owner's Project No.: \_\_\_\_\_  
 Engineer's Project No.: \_\_\_\_\_  
 Contractor's Project No.: \_\_\_\_\_

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### Contractor's Application for Payment

Owner:	Town of Wiggins					Owner's Project No.:		
Engineer:	Diamondback Engineering and Surveying					Engineer's Project No.:		
Contractor:						Contractor's Project No.:		
Project:	Main Street Improvements							
Contract:								
Application No.: _____ Application Period: From _____ to _____ Application Date: _____								
A	B	C	D	E	F	G	H	I
Item No.	Description	Scheduled Value (\$)	Work Completed		Materials Currently Stored (not in D or E) (\$)	Work Completed and Materials Stored to Date (D + E + F) (\$)	% of Scheduled Value (G / C) (%)	Balance to Finish (C - G) (\$)
			(D + E) From Previous Application (\$)	This Period (\$)				
Original Contract								
			-			-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
Original Contract Totals		\$ -	\$ -	\$ -	\$ -	\$ -		\$ -

### Contractor's Application for Payment

<b>Owner:</b>	Town of Wiggins	<b>Owner's Project No.:</b>	
<b>Engineer:</b>	Diamondback Engineering and Surveying	<b>Engineer's Project No.:</b>	
<b>Contractor:</b>		<b>Contractor's Project No.:</b>	
<b>Project:</b>	Main Street Improvements		
<b>Contract:</b>			

<b>Application No.:</b> _____	<b>Application Period:</b>	<b>From</b>	_____	<b>to</b>	_____	<b>Application Date:</b> _____
-------------------------------	----------------------------	-------------	-------	-----------	-------	--------------------------------

Original Contract and Change Orders							
Project Totals	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -

### Contractor's Application for Payment

Owner:	Town of Wiggins	Owner's Project No.:	
Engineer:	Diamondback Engineering and Surveying	Engineer's Project No.:	
Contractor:		Contractor's Project No.:	
Project:	Main Street Improvements		
Contract:			

Application No.:	Application Period:	From	to	Application Date:
------------------	---------------------	------	----	-------------------

[illegible]



# CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner: Town of Wiggins

Engineer: Diamondback Engineering

Contractor:

Project: Main Street Improvements

This ☒ Preliminary ☐ Final Certificate of Substantial Completion applies to:

☐ All Work ☒ The following specified portions of the Work:

Date of Substantial Completion: TBD

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work must be as provided in the Contract, except as amended as follows:

Amendments to Owner's Responsibilities: ☒ None ☐ As follows:

Amendments to Contractor's Responsibilities: ☒ None ☐ As follows:

Engineer

By (*signature*): \_\_\_\_\_

Name (*printed*): \_\_\_\_\_

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

## NOTICE OF ACCEPTABILITY OF WORK

Owner: Town of Wiggins

Engineer: Diamondback Engineering

Contractor:

Project: Main Street Improvements

Notice Date:

Effective Date of the Construction Contract:

The Engineer hereby gives notice to the Owner and Contractor that Engineer recommends final payment to Contractor, and that the Work furnished and performed by Contractor under the Construction Contract is acceptable, expressly subject to the provisions of the Construction Contract's Contract Documents ("Contract Documents") and of the Agreement between Owner and Engineer for Professional Services dated TBD ("Owner-Engineer Agreement"). This Notice of Acceptability of Work (Notice) is made expressly subject to the following terms and conditions to which all who receive and rely on said Notice agree:

1. This Notice has been prepared with the skill and care ordinarily used by members of the engineering profession practicing under similar conditions at the same time and in the same locality.
2. This Notice reflects and is an expression of the Engineer's professional opinion.
3. This Notice has been prepared to the best of Engineer's knowledge, information, and belief as of the Notice Date.
4. This Notice is based entirely on and expressly limited by the scope of services Engineer has been employed by Owner to perform or furnish during construction of the Project (including observation of the Contractor's Work) under the Owner-Engineer Agreement, and applies only to facts that are within Engineer's knowledge or could reasonably have been ascertained by Engineer as a result of carrying out the responsibilities specifically assigned to Engineer under such Owner-Engineer Agreement.
5. This Notice is not a guarantee or warranty of Contractor's performance under the Construction Contract, an acceptance of Work that is not in accordance with the Contract Documents, including but not limited to defective Work discovered after final inspection, nor an assumption of responsibility for any failure of Contractor to furnish and perform the Work thereunder in accordance with the Contract Documents, or to otherwise comply with the Contract Documents or the terms of any special guarantees specified therein.
6. This Notice does not relieve Contractor of any surviving obligations under the Construction Contract, and is subject to Owner's reservations of rights with respect to completion and final payment.

Engineer

By (*signature*): \_\_\_\_\_

Name (*printed*): \_\_\_\_\_

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

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EJCDC® C-626, Notice of Acceptability of Work.

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# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

## ARTICLE 1—DEFINITIONS AND TERMINOLOGY

### 1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
  2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
  3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
  4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
  5. *Bidder*—An individual or entity that submits a Bid to Owner.
  6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
  7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
  8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
  9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
  10. *Claim*
    - a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the

- requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.
- b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.
  - c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.
  - d. A demand for money or services by a third party is not a Claim.
11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the

recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. *Engineer*—The individual or entity named as such in the Agreement.
23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
  - a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
  - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
  - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals.
36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion of such Work.

43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
46. *Technical Data*
- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
  - b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.
  - c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

## 1.02 Terminology

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:* The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:* The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:* The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
  - 1. does not conform to the Contract Documents;
  - 2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
  - 3. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).
- E. *Furnish, Install, Perform, Provide*
  - 1. The word “furnish,” when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
  - 2. The word “install,” when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
  - 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.
  - 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

- F. *Contract Price or Contract Times*: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

## **ARTICLE 2—PRELIMINARY MATTERS**

### **2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance***

- A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.
- C. *Evidence of Owner’s Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

### **2.02 *Copies of Documents***

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

### **2.03 *Before Starting Construction***

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:
  - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
  - 2. a preliminary Schedule of Submittals; and
  - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work

into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.
  - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
  - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
  - 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.
  - 4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.



## ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

### 3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- G. Nothing in the Contract Documents creates:
  - 1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
  - 2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

### 3.02 *Reference Standards*

- A. *Standards Specifications, Codes, Laws and Regulations*
  - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
  - 2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility

inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

### 3.03 *Reporting and Resolving Discrepancies*

#### A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

#### B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
  - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
  - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

### 3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

### 3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
  - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
  - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

## **ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK**

### 4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

### 4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work may be done at the Site prior to such date.

### 4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the

established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

#### 4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
  - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
  - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

#### 4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
  - 1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
  - 2. Abnormal weather conditions;
  - 3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
  - 4. Acts of war or terrorism.

- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
  2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
  3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
1. The circumstances that form the basis for the requested adjustment;
  2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
  3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
  4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
  5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.
- Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.
- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

## **ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS**

### **5.01 *Availability of Lands***

- A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

## 5.02 *Use of Site and Other Areas*

### A. *Limitation on Use of Site and Other Areas*

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
  2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.
  - C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment

and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

### 5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
3. Technical Data contained in such reports and drawings.

- B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

- C. *Reliance by Contractor on Technical Data:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

- D. *Limitations of Other Data and Documents:* Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
  1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
  2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
  3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
  4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

#### 5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
  2. is of such a nature as to require a change in the Drawings or Specifications;
  3. differs materially from that shown or indicated in the Contract Documents; or
  4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in



Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
  - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
  - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
    - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
    - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
    - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
  3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
  4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions:* Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

#### 5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
  2. complying with applicable state and local utility damage prevention Laws and Regulations;

3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
  4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
  5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. *Engineer's Review:* Engineer will:
1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
  2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
  3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
  4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown

or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
  - b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
  - c. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
  3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
  4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

#### 5.06 *Hazardous Environmental Conditions at Site*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures

- of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
  3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special

conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

## **ARTICLE 6—BONDS AND INSURANCE**

### **6.01 *Performance, Payment, and Other Bonds***

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or

Regulations, and must be issued and signed by a surety named in “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual’s authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner’s termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

#### 6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Alternative forms of insurance coverage, including but not limited to self-insurance and “Occupational Accident and Excess Employer’s Indemnity Policies,” are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.
- D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by

Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.

- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.
- F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
- H. Contractor shall require:
  - 1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
  - 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
- I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
- K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

#### 6.03 *Contractor's Insurance*

- A. *Required Insurance:* Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.
- B. *General Provisions:* The policies of insurance required by this Paragraph 6.03 as supplemented must:
  - 1. include at least the specific coverages required;
  - 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
  - 3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
  - 4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and
  - 5. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds:* The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
  - 1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
  - 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
  - 3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);



4. not seek contribution from insurance maintained by the additional insured; and
5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 *Builder's Risk and Other Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.
- D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.
- E. *Insurance of Other Property; Additional Insurance*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

- A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against

Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
  2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.
- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

**ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES**

7.01 *Contractor's Means and Methods of Construction*

- A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently 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.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.

- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

#### 7.04 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

#### 7.05 *"Or Equals"*

- A. *Contractor's Request; Governing Criteria:* Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
  - 1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
    - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
      - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
  - 3) has a proven record of performance and availability of responsive service; and
  - 4) is not objectionable to Owner.
- b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
  - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.
- E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

#### 7.06 Substitutes

- A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
  2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
  - a. will certify that the proposed substitute item will:
    - 1) perform adequately the functions and achieve the results called for by the general design;
    - 2) be similar in substance to the item specified; and
    - 3) be suited to the same use as the item specified.
  - b. will state:
    - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
    - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
    - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
  - c. will identify:
    - 1) all variations of the proposed substitute item from the item specified; and
    - 2) available engineering, sales, maintenance, repair, and replacement services.
  - d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

- E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 *Concerning Subcontractors and Suppliers*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.



#### 7.09 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

#### 7.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

#### 7.11 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

#### 7.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

### 7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
  - 1. all persons on the Site or who may be affected by the Work;
  - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
  - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as material safety data sheets) or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused by an emergency, or are required as a result of Contractor's response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

- 1. Before submitting a Shop Drawing or Sample, Contractor shall:
  - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
  - b. determine and verify:
    - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
    - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
    - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
  - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
- 2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.
1. *Shop Drawings*
    - a. Contractor shall submit the number of copies required in the Specifications.
    - b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.
  2. *Samples*
    - a. Contractor shall submit the number of Samples required in the Specifications.
    - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.
  3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Engineer's Review of Shop Drawings and Samples*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
  2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
  3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
  4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will

document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

*D. Resubmittal Procedures for Shop Drawings and Samples*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

*E. Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs*

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
  - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
  - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
  - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.

- d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.
- 2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.
- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

**7.17 Contractor's General Warranty and Guarantee**

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
  - 1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
  - 2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
  - 1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
  - 2. normal wear and tear under normal usage.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
  - 1. Observations by Engineer;
  - 2. Recommendation by Engineer or payment by Owner of any progress or final payment;
  - 3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
  - 4. Use or occupancy of the Work or any part thereof by Owner;
  - 5. Any review and approval of a Shop Drawing or Sample submittal;
  - 6. The issuance of a notice of acceptability by Engineer;
  - 7. The end of the correction period established in Paragraph 15.08;
  - 8. Any inspection, test, or approval by others; or

9. Any correction of defective Work by Owner.
- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

**7.18 Indemnification**

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

**7.19 Delegation of Professional Design Services**

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.

- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.
- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
  - 1. Checking for conformance with the requirements of this Paragraph 7.19;
  - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
  - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

## **ARTICLE 8—OTHER WORK AT THE SITE**

### **8.01 *Other Work***

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.



- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.
- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

#### 8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
  - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
  - 2. An itemization of the specific matters to be covered by such authority and responsibility; and
  - 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

#### 8.03 *Legal Relationships*

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
  - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
  - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

## **ARTICLE 9—OWNER'S RESPONSIBILITIES**

### **9.01    *Communications to Contractor***

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

### **9.02    *Replacement of Engineer***

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.

### **9.03    *Furnish Data***

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

### **9.04    *Pay When Due***

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

## ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

### 10.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

### 10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

### 10.03 *Resident Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

### 10.04 *Engineer's Authority*

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.
- C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer's authority as to changes in the Work is set forth in Article 11.

E. Engineer's authority as to Applications for Payment is set forth in Article 15.

**10.05 *Determinations for Unit Price Work***

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

**10.06 *Decisions on Requirements of Contract Documents and Acceptability of Work***

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

**10.07 *Limitations on Engineer's Authority and Responsibilities***

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

**10.08 *Compliance with Safety Program***

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

## ARTICLE 11—CHANGES TO THE CONTRACT

### 11.01 *Amending and Supplementing the Contract*

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

### 11.02 *Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
  - 1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
  - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
  - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and
  - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

### 11.03 *Work Change Directives*

- A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

- B. If Owner has issued a Work Change Directive and:
  - 1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
  - 2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

#### 11.04 *Field Orders*

- A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

#### 11.05 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

#### 11.06 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

#### 11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
  2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
  3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee:* When applicable, the Contractor's fee for overhead and profit will be determined as follows:
1. A mutually acceptable fixed fee; or
  2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
    - a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
    - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;
    - c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;
    - d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
    - e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
    - f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.



#### 11.08 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

#### 11.09 *Change Proposals*

- A. *Purpose and Content:* Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.
- B. *Change Proposal Procedures*
  - 1. *Submittal:* Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
  - 2. *Supporting Data:* The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
    - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
    - b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

- 3. *Engineer's Initial Review:* Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
- 4. *Engineer's Full Review and Action on the Change Proposal:* Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change

Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.
- D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

#### 11.10 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

### ARTICLE 12—CLAIMS

#### 12.01 *Claims*

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
  1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
  2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
  3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
  4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge

and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation*
  - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
  - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
  - 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

## **ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK**

### **13.01 *Cost of the Work***

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
  - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.
  2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
  3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
  4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
  5. Other costs consisting of the following:
    - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
    - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are

consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

c. *Construction Equipment Rental*

- 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
  - 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
  - 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.
- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
  - h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
  - i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. *Costs Excluded:* The term Cost of the Work does not include any of the following items:
- 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
  - 2. The cost of purchasing, renting, or furnishing small tools and hand tools.
  - 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
  - 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
  - 5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
  - 6. Expenses incurred in preparing and advancing Claims.
  - 7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- D. *Contractor's Fee*
- 1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
    - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
    - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
      - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
      - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
  - 2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change

Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

- E. *Documentation and Audit:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

### 13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:* Contractor agrees that:
1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
  2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.
- C. *Owner's Contingency Allowance:* Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

### 13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision

thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
  - a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
  - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
3. Adjusted unit prices will apply to all units of that item.

**ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK**

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply with such procedures and programs as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.



- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
  2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
  3. by manufacturers of equipment furnished under the Contract Documents;
  4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
  5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

#### 14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs,

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

#### 14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

#### 14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
  - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
  - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

#### 14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work,

or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

**14.07 Owner May Correct Defective Work**

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

**ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD**

**15.01 Progress Payments**

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments*
  - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
  - 2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation

establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

*C. Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
  - a. the Work has progressed to the point indicated;
  - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
  - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
  - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
  - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
  - a. to supervise, direct, or control the Work;
  - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
  - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
  - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
  - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
  - a. the Work is defective, requiring correction or replacement;
  - b. the Contract Price has been reduced by Change Orders;
  - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
  - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

**D. *Payment Becomes Due***

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

**E. *Reductions in Payment by Owner***

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
  - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

- b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
  - c. Contractor has failed to provide and maintain required bonds or insurance;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
  - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
  - f. The Work is defective, requiring correction or replacement;
  - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - h. The Contract Price has been reduced by Change Orders;
  - i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
  - j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
  - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or
  - l. Other items entitle Owner to a set-off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
  3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

#### 15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

#### 15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time

submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

#### 15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without

significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

#### 15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

#### 15.06 *Final Payment*

##### A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
  - a. all documentation called for in the Contract Documents;
  - b. consent of the surety, if any, to final payment;
  - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.



- d. a list of all duly pending Change Proposals and Claims; and
  - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
- 3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. *Engineer's Review of Final Application and Recommendation of Payment:* If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- C. *Notice of Acceptability:* In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. *Final Payment Becomes Due:* Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

#### 15.07 *Waiver of Claims*

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim,

appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

#### 15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
  - 1. correct the defective repairs to the Site or such adjacent areas;
  - 2. correct such defective Work;
  - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
  - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

## **ARTICLE 16—SUSPENSION OF WORK AND TERMINATION**

### **16.01 *Owner May Suspend Work***

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

### **16.02 *Owner May Terminate for Cause***

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
  - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);
  - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
  - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
  - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
  - 1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
  - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects,

attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

#### 16.03 *Owner May Terminate for Convenience*

- A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
  - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
  - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
  - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

#### 16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The

provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

## **ARTICLE 17—FINAL RESOLUTION OF DISPUTES**

### **17.01 *Methods and Procedures***

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this article:
  - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
  - 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this article, Owner or Contractor may:
  - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
  - 2. agree with the other party to submit the dispute to another dispute resolution process; or
  - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

## **ARTICLE 18—MISCELLANEOUS**

### **18.01 *Giving Notice***

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
  - 1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
  - 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
  - 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

### **18.02 *Computation of Times***

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination of the Contract or of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

18.10 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

# SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

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# SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

These Supplementary Conditions amend or supplement EJCDC® C-700, Standard General Conditions of the Construction Contract (2018). The General Conditions remain in full force and effect except as amended.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added—for example, "Paragraph SC-4.05."

## ARTICLE 1—DEFINITIONS AND TERMINOLOGY

No suggested Supplementary Conditions in this Article.

## ARTICLE 2—PRELIMINARY MATTERS

### 2.01 *Delivery of Bonds and Evidence of Insurance*

SC-2.01 Delete Paragraphs 2.01.B. and C. in their entirety and insert the following in their place:

- B. *Evidence of Contractor's Insurance:* When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner copies of the policies (including all endorsements, and identification of applicable self-insured retentions and deductibles) of insurance required to be provided by Contractor in this Contract. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- C. *Evidence of Owner's Insurance:* After receipt from Contractor of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor copies of the policies of insurance to be provided by Owner in this Contract (if any). Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

### 2.02 *Copies of Documents*

SC-2.02 Amend the first sentence of Paragraph 2.02.A. to read as follows:

Owner shall furnish to Contractor no printed copies of the Contract Documents (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF).

### 2.06 *Electronic Transmittals*

SC-2.06 Delete Paragraphs 2.06.B and 2.06.C in their entirety and insert the following in their place:

- B. *Electronic Documents Protocol:* The parties shall conform to the following provisions in Paragraphs 2.06.B and 2.06.C, together referred to as the Electronic Documents Protocol ("EDP" or "Protocol") for exchange of electronic transmittals.



1. *Basic Requirements*

- a. To the fullest extent practical, the parties agree to and will transmit and accept Electronic Documents in an electronic or digital format using the procedures described in this Protocol. Use of the Electronic Documents and any information contained therein is subject to the requirements of this Protocol and other provisions of the Contract.
- b. The contents of the information in any Electronic Document will be the responsibility of the transmitting party.
- c. Electronic Documents as exchanged by this Protocol may be used in the same manner as the printed versions of the same documents that are exchanged using non-electronic format and methods, subject to the same governing requirements, limitations, and restrictions, set forth in the Contract Documents.
- d. Except as otherwise explicitly stated herein, the terms of this Protocol will be incorporated into any other agreement or subcontract between a party and any third party for any portion of the Work on the Project, or any Project-related services, where that third party is, either directly or indirectly, required to exchange Electronic Documents with a party or with Engineer. Nothing herein will modify the requirements of the Contract regarding communications between and among the parties and their subcontractors and consultants.
- e. When transmitting Electronic Documents, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the receiving party's use of software application packages, operating systems, or computer hardware differing from those established in this Protocol.
- f. Nothing herein negates any obligation 1) in the Contract to create, provide, or maintain an original printed record version of Drawings and Specifications, signed and sealed according to applicable Laws and Regulations; 2) to comply with any applicable Law or Regulation governing the signing and sealing of design documents or the signing and electronic transmission of any other documents; or 3) to comply with the notice requirements of Paragraph 18.01 of the General Conditions.

2. *System Infrastructure for Electronic Document Exchange*

- a. Each party will provide hardware, operating system(s) software, internet, e-mail, and large file transfer functions ("System Infrastructure") at its own cost and sufficient for complying with the EDP requirements. With the exception of minimum standards set forth in this EDP, and any explicit system requirements specified by attachment to this EDP, it is the obligation of each party to determine, for itself, its own System Infrastructure.
- b. Each party is responsible for its own system operations, security, back-up, archiving, audits, printing resources, and other Information Technology ("IT") for maintaining operations of its System Infrastructure during the Project, including coordination with the party's individual(s) or entity responsible for managing its System Infrastructure and capable of addressing routine communications and other IT issues affecting the exchange of Electronic Documents.

- c. Each party will operate and maintain industry-standard, industry-accepted, ISO-standard, commercial-grade security software and systems that are intended to protect the other party from: software viruses and other malicious software like worms, trojans, adware; data breaches; loss of confidentiality; and other threats in the transmission to or storage of information from the other parties, including transmission of Electronic Documents by physical media such as CD/DVD/flash drive/hard drive. To the extent that a party maintains and operates such security software and systems, it shall not be liable to the other party for any breach of system security.
- d. In the case of disputes, conflicts, or modifications to the EDP required to address issues affecting System Infrastructure, the parties shall cooperatively resolve the issues; but, failing resolution, the Owner is authorized to make and require reasonable and necessary changes to the EDP to effectuate its original intent. If the changes cause additional cost or time to Contractor, not reasonably anticipated under the original EDP, Contractor may seek an adjustment in price or time under the appropriate process in the Contract.
- e. Each party is responsible for its own back-up and archive of documents sent and received during the term of the contract under this EDP, unless this EDP establishes a Project document archive, either as part of a mandatory Project website or other communications protocol, upon which the parties may rely for document archiving during the specified term of operation of such Project document archive. Further, each party remains solely responsible for its own post-Project back-up and archive of Project documents after the term of the Contract, or after termination of the Project document archive, if one is established, for as long as required by the Contract and as each party deems necessary for its own purposes.
- f. If a receiving party receives an obviously corrupted, damaged, or unreadable Electronic Document, the receiving party will advise the sending party of the incomplete transmission.
- g. The parties will bring any non-conforming Electronic Documents into compliance with the EDP. The parties will attempt to complete a successful transmission of the Electronic Document or use an alternative delivery method to complete the communication.
- h. The Owner will operate a Project information management system (also referred to in this EDP as "Project Website") for use of Owner, Engineer and Contractor during the Project for exchange and storage of Project-related communications and information. Except as otherwise provided in this EDP or the General Conditions, use of the Project Website by the parties as described in this Paragraph will be mandatory for exchange of Project documents, communications, submittals, and other Project-related information. The following conditions and standards will govern use of the Project Website:
  - 1) Describe the period of time during which the Project Website will be operated and be available for reliance by the parties;
  - 2) Provide any minimum system infrastructure, software licensing and security standards for access to and use of the Project Website;

- 3) Describe the types and extent of services to be provided at the Project Website (such as large file transfer, email, communication and document archives, etc.); and
- 4) Include any other Project Website attributes that may be pertinent to Contractor's use of the facility and pricing of such use.

C. *Software Requirements for Electronic Document Exchange; Limitations*

1. Each party will acquire the software and software licenses necessary to create and transmit Electronic Documents and to read and to use any Electronic Documents received from the other party (and if relevant from third parties), using the software formats required in this section of the EDP.
  - a. Prior to using any updated version of the software required in this section for sending Electronic Documents to the other party, the originating party will first notify and receive concurrence from the other party for use of the updated version or adjust its transmission to comply with this EDP.
2. The parties agree not to intentionally edit, reverse engineer, decrypt, remove security or encryption features, or convert to another format for modification purposes any Electronic Document or information contained therein that was transmitted in a software data format, including Portable Document Format (PDF), intended by sender not to be modified, unless the receiving party obtains the permission of the sending party or is citing or quoting excerpts of the Electronic Document for Project purposes.
3. Software and data formats for exchange of Electronic Documents will conform to the requirements set forth in Exhibit A to this EDP, including software versions, if listed.

SC-2.06 Supplement Paragraph 2.06 of the General Conditions by adding the following paragraph:

D. *Requests by Contractor for Electronic Documents in Other Formats*

1. Release of any Electronic Document versions of the Project documents in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be at the sole discretion of the Owner.
2. To extent determined by Owner, in its sole discretion, to be prudent and necessary, release of Electronic Documents versions of Project documents and other Project information requested by Contractor ("Request") in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be subject to the provisions of the Owner's response to the Request, and to the following conditions to which Contractor agrees:
  - a. The content included in the Electronic Documents created by Engineer and covered by the Request was prepared by Engineer as an internal working document for Engineer's purposes solely, and is being provided to Contractor on an "AS IS" basis without any warranties of any kind, including, but not limited to any implied warranties of fitness for any purpose. As such, Contractor is advised and acknowledges that the content may not be suitable for Contractor's application, or may require substantial modification and independent verification by Contractor. The content may include limited resolution of models, not-to-scale schematic representations and symbols, use of notes to convey design concepts in lieu of

accurate graphics, approximations, graphical simplifications, undocumented intermediate revisions, and other devices that may affect subsequent reuse.

- b. Electronic Documents containing text, graphics, metadata, or other types of data that are provided by Engineer to Contractor under the request are only for convenience of Contractor. Any conclusion or information obtained or derived from such data will be at the Contractor's sole risk and the Contractor waives any claims against Engineer or Owner arising from use of data in Electronic Documents covered by the Request.
  - c. Contractor shall indemnify and hold harmless Owner and Engineer and their subconsultants from all claims, damages, losses, and expenses, including attorneys' fees and defense costs arising out of or resulting from Contractor's use, adaptation, or distribution of any Electronic Documents provided under the Request.
  - d. Contractor agrees not to sell, copy, transfer, forward, give away or otherwise distribute this information (in source or modified file format) to any third party without the direct written authorization of Engineer, unless such distribution is specifically identified in the Request and is limited to Contractor's subcontractors. Contractor warrants that subsequent use by Contractor's subcontractors complies with all terms of the Contract Documents and Owner's response to Request.
3. In the event that Owner elects to provide or directs the Engineer to provide to Contractor any Contractor-requested Electronic Document versions of Project information that is not explicitly identified in the Contract Documents as being available to Contractor, the Owner shall be reimbursed by Contractor on an hourly basis (at \$129 per hour) for any engineering costs necessary to create or otherwise prepare the data in a manner deemed appropriate by Engineer.

### **ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE**

**No suggested Supplementary Conditions in this Article.**

### **ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK**

#### **SC-4.01.A – Delete the last sentence of paragraph.**

4.05 *Delays in Contractor's Progress*

#### **SC-4.05 Paragraph is mandatory for WWD projects.**

SC-4.05 Amend Paragraph 4.05.C by adding the following subparagraphs:

- 5. *Weather-Related Delays*
  - a. If "abnormal weather conditions" as set forth in Paragraph 4.05.C.2 of the General Conditions are the basis for a request for an equitable adjustment in the Contract Times, such request must be documented by data substantiating each of the following: 1) that weather conditions were abnormal for the period of time in which the delay occurred, 2) that such weather conditions could not have been reasonably anticipated, and 3) that such weather conditions had an adverse effect

on the Work as scheduled. **Extreme or unusual weather that is typical for a given region, elevation, or season should not be considered abnormal weather conditions. Requests for time extensions due to abnormal weather conditions will be submitted to the Engineer within five days of the end of the abnormal weather condition event. It is the responsibility of the Contractor to provide the information listed in SC 4.05.C.5.b.**

## **ARTICLE 5—SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS**

### **5.03    *Subsurface and Physical Conditions***

SC-5.03    Add the following new paragraphs immediately after Paragraph 5.03.D:

- E.    The following table lists the reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data, and specifically identifies the Technical Data in the report upon which Contractor may rely:

<b>Report Title</b>	<b>Date of Report</b>	<b>Technical Data</b>
Subsurface Exploration and Pavement Design	12/8/22	<b>Pavement Design</b>

- F.    Contractor may examine copies of reports and drawings identified in SC-5.03.E and SC-5.03.F that were not included with the Bidding Documents electrically by requesting copies from Engineer.

## **ARTICLE 6—BONDS AND INSURANCE**

### **6.03    *Contractor's Insurance***

### **6.04    *Builder's Risk and Other Property Insurance***

SC-6.04    Supplement Paragraph 6.04 of the General Conditions with the following provision:

- G.    *Coverage for Completion Delays:* The builder's risk policy will include, for the benefit of Owner, loss of revenue and soft cost coverage for losses arising from delays in completion that result from covered physical losses or damage. Such coverage will include, without limitation, fixed expenses and debt service for a minimum of 12 months with a maximum deductible of 30 days, compensation for loss of net revenues, rental costs, and attorneys' fees and engineering or other consultants' fees, if not otherwise covered.

SC-6.04    Supplement Paragraph 6.04 of the General Conditions with the following provisions:

- H.    *Builder's Risk and Other Property Insurance Deductibles:* The purchaser of any required builder's risk, installation floater, or other property insurance will be responsible for costs not covered because of the application of a policy deductible.

## ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

### 7.03 *Labor; Working Hours*

SC-7.03 Add the following new subparagraphs immediately after Paragraph 7.03.C:

1. Regular working hours will be **7AM to 7PM**.
2. Owner's legal holidays are
  - a. New Year's Day
  - b. Martin Luther King, Jr. Day
  - c. Presidents Day
  - d. Memorial Day
  - e. Independence Day
  - f. Labor Day
  - g. Columbus Day
  - h. Veterans Day
  - i. Thanksgiving Day
  - j. Christmas Day
  - k. New Years Day

SC-7.03 Add the following new paragraph immediately after Paragraph 7.03.C:

- D. Contractor shall be responsible for the cost of any overtime pay or other expense incurred by the Owner for Engineer's services (including those of the Resident Project Representative, if any), Owner's representative, and construction observation services, occasioned by the performance of Work on Saturday, Sunday, any legal holiday, or as overtime on any regular work day. If Contractor is responsible but does not pay, or if the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

### 7.10 *Taxes*

SC-7.10 Add a new paragraph immediately after Paragraph 7.10.A:

- A. Owner is exempt from payment of sales and compensating use taxes of the State of **Colorado** and of cities and counties thereof on all materials to be incorporated into the Work.
  1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.
  2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

## ARTICLE 8—OTHER WORK AT THE SITE

No suggested Supplementary Conditions in this Article.

## ARTICLE 9—OWNER’S RESPONSIBILITIES

No suggested Supplementary Conditions in this Article.

## ARTICLE 10—ENGINEER’S STATUS DURING CONSTRUCTION

SC-10.03 Add the following new paragraphs immediately after Paragraph 10.03.B:

- C. The Resident Project Representative (RPR) will be Engineer's representative at the Site. RPR's dealings in matters pertaining to the Work in general will be with Engineer and Contractor. RPR's dealings with Subcontractors will only be through or with the full knowledge or approval of Contractor. The RPR will:
  1. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.
  2. *Safety Compliance:* Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.
  3. *Liaison*
    - a. Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.
    - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
    - c. Assist in obtaining from Owner additional details or information, when required for Contractor's proper execution of the Work.
  4. *Review of Work; Defective Work*
    - a. Conduct on-Site observations of the Work to assist Engineer in determining, to the extent set forth in Paragraph 10.02, if the Work is in general proceeding in accordance with the Contract Documents.
    - b. Observe whether any Work in place appears to be defective.
    - c. Observe whether any Work in place should be uncovered for observation, or requires special testing, inspection or approval.
  5. *Inspections and Tests*
    - a. Observe Contractor-arranged inspections required by Laws and Regulations, including but not limited to those performed by public or other agencies having jurisdiction over the Work.

- b. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Work.
- 6. *Payment Requests*: Review Applications for Payment with Contractor.
- 7. *Completion*
  - a. Participate in Engineer's visits regarding Substantial Completion.
  - b. Assist in the preparation of a punch list of items to be completed or corrected.
  - c. Participate in Engineer's visit to the Site in the company of Owner and Contractor regarding completion of the Work, and prepare a final punch list of items to be completed or corrected by Contractor.
  - d. Observe whether items on the final punch list have been completed or corrected.
- D. The RPR will not:
  - 1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).
  - 2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.
  - 3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
  - 4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction.
  - 5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
  - 6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
  - 7. Authorize Owner to occupy the Project in whole or in part.

## **ARTICLE 11—CHANGES TO THE CONTRACT**

No suggested Supplementary Conditions in this Article.

## **ARTICLE 12—CLAIMS**

No suggested Supplementary Conditions in this Article.

## **ARTICLE 13—COST OF WORK; ALLOWANCES, UNIT PRICE WORK**

### **13.01 *Cost of the Work***



SC-13.01 Supplement Paragraph 13.01.C.2 by adding the following definition of small tools and hand tools:

- a. For purposes of this paragraph, “small tools and hand tools” means any tool or equipment whose current price if it were purchased new at retail would be less than \$500.

**SC-13.02.C – Delete paragraph in its entirety and insert “Deleted”.**

#### **ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK**

No suggested Supplementary Conditions in this Article.

#### **ARTICLE 15—PAYMENTS TO CONTRACTOR, SET OFFS; COMPLETIONS; CORRECTION PERIOD**

15.01 *Progress Payments*

**SC-15.02.A – Amend paragraph by striking out the following text: “7 days after”.**

15.03 *Substantial Completion*

SC-15.03 Add the following new subparagraph to Paragraph 15.03.B:

1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, will be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under this Article 15.

#### **ARTICLE 16—SUSPENSION OF WORK AND TERMINATION**

No suggested Supplementary Conditions in this Article.

#### **ARTICLE 17—FINAL RESOLUTIONS OF DISPUTES**

17.02 *Arbitration*

SC-17.02 Add the following new paragraph immediately after Paragraph 17.01.

17.02 *Arbitration*

- A. All matters subject to final resolution under this Article will be settled by arbitration administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules (subject to the conditions and limitations of this Paragraph SC-17.02). Any controversy or claim in the amount of \$100,000 or less will be settled in accordance with the American Arbitration Association’s supplemental rules for

Fixed Time and Cost Construction Arbitration. This agreement to arbitrate will be specifically enforceable under the prevailing law of any court having jurisdiction.

- B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitration administrator, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the specific time required in Article 17, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event will any such demand be made after the date when institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations.
- C. The arbitrator(s) must be licensed engineers, contractors, attorneys, or construction managers. Hearings will take place pursuant to the standard procedures of the Construction Arbitration Rules that contemplate in-person hearings. The arbitrators will have no authority to award punitive or other damages not measured by the prevailing party's actual damages, except as may be required by statute or the Contract. Any award in an arbitration initiated under this clause will be limited to monetary damages and include no injunction or direction to any party other than the direction to pay a monetary amount.
- D. The Arbitrators will have the authority to allocate the costs of the arbitration process among the parties, but will only have the authority to allocate attorneys' fees if a specific Law or Regulation or this Contract permits them to do so.
- E. The award of the arbitrators must be accompanied by a reasoned written opinion and a concise breakdown of the award. The written opinion will cite the Contract provisions deemed applicable and relied on in making the award.
- F. The parties agree that failure or refusal of a party to pay its required share of the deposits for arbitrator compensation or administrative charges will constitute a waiver by that party to present evidence or cross-examine witness. In such event, the other party shall be required to present evidence and legal argument as the arbitrator(s) may require for the making of an award. Such waiver will not allow for a default judgment against the non-paying party in the absence of evidence presented as provided for above.
- G. No arbitration arising out of or relating to the Contract will include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:
  - 1. the inclusion of such other individual or entity will allow complete relief to be afforded among those who are already parties to the arbitration;
  - 2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration, and which will arise in such proceedings;
  - 3. such other individual or entity is subject to arbitration under a contract with either Owner or Contractor, or consents to being joined in the arbitration; and
  - 4. the consolidation or joinder is in compliance with the arbitration administrator's procedural rules.

- H. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.
- I. Except as may be required by Laws or Regulations, neither party nor an arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of both parties, with the exception of any disclosure required by Laws and Regulations or the Contract. To the extent any disclosure is allowed pursuant to the exception, the disclosure must be strictly and narrowly limited to maintain confidentiality to the extent possible.

17.03 *Attorneys' Fees*

SC-17.03 Add the following new paragraph immediately after Paragraph 17.02. [Note: If there is no Paragraph 17.02, because neither arbitration nor any other dispute resolution process has been specified here in the Supplementary Conditions, then revise this to state "Add the following new Paragraph immediately after Paragraph 17.01" and revise the numbering accordingly].

17.03 *Attorneys' Fees*

- A. For any matter subject to final resolution under this Article, the prevailing party shall be entitled to an award of its attorneys' fees incurred in the final resolution proceedings, in an equitable amount to be determined in the discretion of the court, arbitrator, arbitration panel, or other arbiter of the matter subject to final resolution, taking into account the parties' initial demand or defense positions in comparison with the final result.

## **ARTICLE 18—MISCELLANEOUS**

No suggested Supplementary Conditions in this Article.

**EXHIBIT A—SOFTWARE REQUIREMENTS FOR ELECTRONIC DOCUMENT EXCHANGE**

Item	Electronic Documents	Transmittal Means	Data Format	Note (1)
a.1	General communications, transmittal covers, meeting notices and responses to general information requests for which there is no specific prescribed form.	Email	Email	
a.2	Meeting agendas, meeting minutes, RFI's and responses to RFI's, and Contract forms.	Email w/ Attachment	PDF	(2)
a.3	Contractors Submittals (Shop Drawings, "or equal" requests, substitution requests, documentation accompanying Sample submittals and other submittals) to Owner and Engineer, and Owner's and Engineer's responses to Contractor's Submittals, Shop Drawings, correspondence, and Applications for Payment.	Email w/ Attachment	PDF	
a.4	Correspondence; milestone and final version Submittals of reports, layouts, Drawings, maps, calculations and spreadsheets, Specifications, Drawings and other Submittals from Contractor to Owner or Engineer and for responses from Engineer and Owner to Contractor regarding Submittals.	Email w/ Attachment or LFE	PDF	
a.5	Layouts and drawings to be submitted to Owner for future use and modification.	Email w/ Attachment or LFE	DWG	
a.6	Correspondence, reports and Specifications to be submitted to Owner for future word processing use and modification.	Email w/ Attachment or LFE	DOC	
a.7	Spreadsheets and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or LFE	EXC	
a.8	Database files and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or LFE	DB	
Notes				
(1)	All exchanges and uses of transmitted data are subject to the appropriate provisions of Contract Documents.			
(2)	Transmittal of written notices is governed by Paragraph 18.01 of the General Conditions.			
Key				
Email	Standard Email formats (.htm, .rtf, or .txt). Do not use stationery formatting or other features that impair legibility of content on screen or in printed copies			
LFE	Agreed upon Large File Exchange method (FTP, CD, DVD, hard drive)			
PDF	Portable Document Format			
DWG	Autodesk® AutoCAD .dwg format			
DOC	Microsoft® Word .docx format			
EXC	Microsoft® Excel .xls or .xml format			

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**EXHIBIT B—GEOTECHNICAL BASELINE REPORT SUPPLEMENT TO THE SUPPLEMENTARY CONDITIONS**

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**1.01 Definitions**

SC-1.01 Add to the list of definitions in Paragraph 1.01.A by inserting the following as numbered items in their proper alphabetical positions:

1. *Geotechnical Baseline Report (GBR)*—The interpretive report prepared by or for Owner regarding subsurface conditions at the Site, and containing specific baseline geotechnical conditions that may be anticipated or relied upon for bidding and contract administration purposes, subject to the controlling provisions of the Contract, including the GBR’s own terms. The GBR is a Contract Document.
2. *Geotechnical Data Report (GDR)*—The factual report that collects and presents data regarding actual subsurface conditions at or adjacent to the Site, including Technical Data and other geotechnical data, prepared by or for Owner in support of the Geotechnical Baseline Report. The GDR’s content may include logs of borings, trenches, and other site investigations, recorded measurements of subsurface water levels, the results of field and laboratory testing, and descriptions of the investigative and testing programs. The GDR does not include an interpretation of the data. If opinions, or interpretive or speculative non-factual comments or statements appear in a document that is labeled a GDR, such opinions, comments, or statements are not operative parts of the GDR and do not have contractual standing. Subject to that exception, the GDR is a Contract Document.

**5.03 Subsurface and Physical Conditions**

SC-5.03 Delete Paragraph 5.03 in its entirety and replace with the following:

**5.03 Subsurface and Physical Conditions**

- A. *Reports and Drawings:* The Supplementary Conditions hereby identify:
1. those reports of explorations and tests of subsurface conditions at or adjacent to the Site (other than any Geotechnical Data Report or Geotechnical Baseline Report) that contain Technical Data. Such reports are as follows:
    - a. *Report Title:* Subsurface Exploration and Pavement Design
    - b. *Date of Report:* **December 8, 2022**
  2. Contractor may examine copies of reports and drawings identified immediately above that were not included with the Bidding Documents electronically,
- B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph SC-5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.
- C. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no

such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

- D. *Limitations of Other Data and Documents:* Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
  2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
  3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
  4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

SC-5.04 Delete Paragraph 5.04 in its entirety and replace with the following:

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice:* If Contractor believes that any subsurface condition that is uncovered or revealed at the Site:
1. differs materially from conditions shown or indicated in the GBR; or
  2. differs materially from conditions shown or indicated in the GDR, to the extent the GBR is inapplicable; or
  3. differs materially from conditions shown or indicated in Contract Documents other than the GBR or GDR, to the extent the GBR and GDR are inapplicable; or
  4. to the extent the GBR and GDR are inapplicable, is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
  5. to the extent the GBR and GDR are inapplicable, is of such a nature as to require a change in the Drawings or Specifications; or
  6. to the extent the GBR and GDR are inapplicable, is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in

connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph SC-5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption or continuation of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption or continuation of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
  - 1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
    - a. such condition must fall within any one or more of the categories described in Paragraph SC-5.04.A;
    - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03 of the General Conditions; and
    - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
  - 2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
    - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the

submission of a Bid or becoming bound under a negotiated contract, or otherwise;  
or

- b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
  - c. Contractor failed to give the written notice as required by Paragraph SC-5.04.A.
- 3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment must be set forth in a Change Order.
  - 4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions:* Paragraph 5.05 of the General Conditions governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 of the General Conditions governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs SC-5.03 and SC-5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.



## **DIVISION 1**

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### **GENERAL REQUIREMENTS**

SECTION 01010  
SUMMARY OF WORK

PART 1 - GENERAL

1.01 SUMMARY

- A. This section includes a general project description.

1.02 EXISTING SYSTEM

- A. The Town of Wiggins, Colorado wishes to upgrade its storm drainage capabilities. The work for these improvements is described below.

1.03 WIGGINS MAIN STREET IMPROVEMENTS

- A. The area on Main St located from 3<sup>rd</sup> Avenue to 5<sup>th</sup> Avenue will have the following upgrades
1. The asphalt roadway on Main Street will be replaced
  2. Concrete sidewalks will be installed on the East side of Main Street
  3. Curb and gutter will be placed along the east side of Main Street
  4. Concrete ramps will be installed at sidewalk crossing locations
  5. Concrete cross pans will be installed at the crossing at 4<sup>th</sup> Ave
  6. Storm sewer lines will be installed and connected to existing infrastructure with new inlets structures
  7. A non-potable water line to be used for Irrigation will be installed.  
The pipe will not be connected to the existing system at this time.

- 1.04 FUNDING: This project is being funded by the Town of Wiggins.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01150  
MEASUREMENT AND PAYMENT

1.01 SUMMARY

- A. Section Includes
1. Description of bid items.
  2. Schedule of Value items.

1.02 MEASUREMENT AND PAYMENT

- A. All measurements will be based on completed Work performed in strict accordance with the Drawings and Specifications. Payment will be made for bid items only. Bid item amounts shall include, but not be limited to, items such as, site work, electrical work, piping and appurtenances, and equipment and labor necessary to complete the Work.

1.03 SCHEDULE OF VALUES

- A. Main Street Improvements: Unit Quantity. Refer to the Suggested Form of Agreement Between Owner and Contractor for Construction Contract and General Conditions for requirements pertaining to the submittal of the Schedule of Values. Subdivide each bid item into component parts that can be identified for the purpose of determining the percentage of work completed for calculation of partial payments.

1.04

BID ITEMS

1. Mobilization – LUMP SUM. Includes moving equipment, materials and supplies onsite, cost of permits, licenses, insurance, and bonding. Also includes costs of demobilization and remobilization if contractor elects to not work through the winter months.
2. Removal of Asphalt Mat – PER SQUARE YARD. Includes all costs associated with the removal of all asphalt and hauling and disposal of materials offsite.
3. Sawing Concrete (4-Inch) – PER LINEAL FOOT. Includes all sawing required to complete the demo as noted on the drawings.
4. Sawing Asphalt Mat (6 Inch) – PER LINEAL FOOT. Includes all sawing required to remove asphalt as noted on the drawings.
5. Concrete Washout Structure – PER EACH. Includes all cost associated with installation use, disposal, and removal at the end of project.
6. Vehicle Tracking Pad – PER EACH. Includes all cost associated with equipment, installation, and use.

7. Aggregate Base Course – PER TON. Includes supplying, hauling, and placing road base. Unit price also includes compaction and shaping of road.
8. Hot Mix Asphalt – PER TON. Includes all cost for furnishing and installation of 6-inch thick asphalt mat. Includes final preparation of subgrade and asphalt compaction.
9. Concrete Pavements (6-Inch Cross pans) – PER SQUARE YARD. Includes subgrade preparation including compaction and shaping, concrete forming, supplying, and placing concrete, installation of joints and finishing.
10. Inlet Type 16 (5ft) – PER EACH. Includes subgrade preparation including compaction and shaping, concrete forming, supplying, and placing concrete and subgrade materials, installation of joints and finishing. This item also includes all costs associated with precast inlets.
11. Concrete Sidewalk – PER SQUARE YARD. Includes subgrade preparation including compaction and shaping, concrete forming, supplying, and placing concrete and subgrade materials, installation of joints and finishing.
12. Concrete Curb Ramp – PER SQUARE YARD. Includes subgrade preparation including compaction and shaping, concrete forming, supplying, and placing concrete and subgrade materials, installation of joints and finishing.
13. Detectable Warning (Truncated Domes) – PER SQUARE FEET. Includes supplying and installing truncated domes as shown on plans and details.
14. Curb and Gutter Type 2 – PER LINEAL FOOT. Includes subgrade preparation including compaction and shaping, concrete forming, supplying, and placing concrete and subgrade materials, installation of joints and finishing.
15. Rectangular Rapid Flashing Beacon (RRFB)– PER EACH. Includes supplying and installation beacons and setup of equipment. RRFB's shall be powered with solar panels and batteries and have push button controls for pedestrian use.
16. 15" Polypropylene Storm Pipe – PER LINEAL FOOT. Includes supplying and installing pipe, removal of asphalt (or other material), excavation, bedding, installation of tracer wire, backfill, compaction, and clean up.
17. 48" Cylindrical Manhole – PER EACH. Includes supply and installation or casting (including rebar) structure with cover, removal of asphalt (or other material), excavation, bedding, backfill, compaction, and clean up.
18. 60" Cylindrical Manhole – PER EACH. Includes supply and installation or casting (including rebar) of structure with cover, removal of asphalt (or other material), excavation, bedding, backfill, compaction, and clean up.

- 1  
2 19. 8" C900 PVC Non-Potable Pipe – PER LF. Includes supply and installation of pipe,  
3 removal of asphalt (or other material), excavation, bedding, installation of tracer wire,  
4 backfill, compaction, and clean up.  
5  
6 20. 8" Gate Valve – PER EACH. Includes supply and installation of valve, removal of  
7 asphalt (or other material), excavation, bedding, installation of tracer wire, backfill,  
8 compaction and clean up.  
9  
10 21. 8" Cap – PER EACH. Includes supply and installation of fitting, removal of asphalt  
11 (or other material), excavation, bedding, installation of tracer wire, backfill,  
12 compaction and clean up.  
13  
14 22. Construction Surveying – LUMP SUM. Includes surveying and materials for the  
15 staking of all, structures, and other project related appurtenances. Surveying also  
16 includes verification of grade.  
17  
18 23. Traffic Control – LUMP SUM. Includes all cost associated with controlling traffic  
19 onsite. This includes the cost of signage, flagger, and all other relevant items required  
20 for flow of traffic.  
21  
22 24. Striping and Signage – LUMP SUM. Includes all costs associated with striping  
23 asphalt roadway and providing signage where necessary. Existing signage to be  
24 reused.  
25  
26 25. Topsoil and Finished Grading – LUMP SUM. Includes all cost associated with  
27 shouldering, placement of topsoil and reseeding.  
28

29  
30 PART 2 – PRODUCTS (NOT USED)  
31

32  
33 PART 3 – EXECUTION (NOT USED)  
34

35  
36 END OF SECTION

SECTION 01300  
SUBMITTALS

PART 1 – GENERAL

1.01 SUMMARY

A. General:

1. Provide the following items as indicated in accordance with provisions of Contract Documents.
  - a. Progress Schedules
  - b. Schedule of Values
  - c. Shop Drawings
  - d. Product Data
2. Completely coordinate with work of all trades.
3. See appropriate sections for specific items for which data and/or samples are required.
4. Refer to General Conditions Paragraph 2.05 for submittal of Progress Schedules and Schedule of Values.
5. Refer to General Conditions Paragraph 6.17 for submittal of Shop Drawings and Samples.

1.02 SUBMITTAL PROCEDURES

A. Transmit all submittals to:

Diamondback Engineering and Surveying  
12640 West Cedar Drive, Suite C  
Lakewood, Colorado 80228-2005  
303-985-4204  
ATTN: John Enochs, P.E. (johne@diamondbackeng.com)  
Mike Trbovich, E.I.T (miket@diamondbackeng.com)

B. Use two copies of the attached transmittal form (Appendix A) to transmit all submittals.

C. Provide submittal information defining specific equipment or materials for the project. Generalized product information not clearly defining specific equipment or materials to be provided will be rejected.

1.03 SHOP DRAWINGS

A. Transmittal Mechanics

1. Number transmittals consecutively, beginning with “1.”
2. Ensure resubmitted items retain the original number but have an added suffix letter, starting with “A.”

3. Ensure only one specification section is covered by one letter of transmittal.
4. Provide a break-out of each transmittal component on each transmittal form. Each component, thus defined, shall receive a specific action by the ENGINEER. Define the manufacturer, item, tag number, and drawing/specification reference.
5. Do not change the scope of any resubmittal from the original transmittal scope. If some components of the original transmittal are approved and others are not, the CONTRACTOR shall not resubmit the approved components in subsequent resubmittal packages. Provide a summary sheet containing all components of the original transmittal at the front of each resubmittal. Indicate each component as “approved,” “outstanding” or “submitted for action.” Items previously approved shall be referenced to the transmittal in which approval was received. “Outstanding” items are defined as items unapproved and not yet resubmitted for action. “Submitted for action” shall indicate items that are included for review in the transmittal.
6. For a 11 by 17-inch size sheet or smaller, provide four copies of each page for the ENGINEER plus the number required by the CONTRACTOR. The number of copies required by the CONTRACTOR shall not exceed four.
7. For items exceeding the 11 by 17-inch size, submit one reproducible transparency and one print of each drawing until approval is obtained. Use a mailing tube; do not fold. The reproducible shall be marked and returned to the CONTRACTOR for his reproduction and distribution. The submission of prints, only in sufficient quantity, is also acceptable.
8. Provide a clear space (3-inch square) for the ENGINEER stamping of each component.
9. Marks on the transmittal by the CONTRACTOR shall not be in red and shall be duplicated on all copies transmitted. Outline the CONTRACTOR marks on reproducible transparencies with a rectangular box.

B. Transmittal Contents

1. Coordinate and identify shop drawing contents so all items can be easily verified by the ENGINEER.
2. Identify equipment or material use, tag number, drawing detail reference, weight and other project specific information.
3. Provide sufficient information, together with technical cuts and technical data, to allow an evaluation to be made to determine that the item submitted complies with the Contract Documents.
4. Submit items, such as equipment brochures, cuts of fixtures, product data sheets or catalog sheets on 8-1/2 by 11-inch pages. Indicate exact item or model and all proposed options.
5. Include legible, scale details, sizes, dimensions, performance characteristics, capacities, test data, anchoring details, installation instructions, storage and handling instructions, color charts, layout

drawings, parts catalogs, rough-in diagrams, wiring diagrams, controls, weights and other pertinent data. Arrange data and performance information in a format similar to that provided in Contract Documents. Provide, at minimum, the detail provided in the Contract Documents.

6. If proposed equipment or materials deviate from the specifications or drawings in any way, clearly note the deviation and justify the said deviation, in detail, in a separate letter immediately following the transmittal sheet. If an explanation is not given, the shop drawings will be returned without action.

## PART 2 – PRODUCTS (NOT USED)

## PART 3 – EXECUTION

### 3.01 SUBMITTALS – APPROVAL OR REJECTION

- A. Transmittals will be reviewed for overall design intent and returned to Contractor with action “A”, “B”, “C” or “D”. Each component defined on the transmittal sheet will receive action.
- B. Transmittals returned with approval “A” or “B” are considered ready for fabrication and installation. If, for any reason, a transmittal that has an “A” or “B” approval is resubmitted, it must be accompanied by a letter defining the changes that have been made and the reason for the resubmittal. The Contractor shall assure that previously approved documents are destroyed when they are superseded by a resubmittal as such.
- C. Transmittals with Approval “A” or “B” combined with Action “C” (Revise and Resubmit) or “D” (Rejected) will be individually analyzed giving consideration as follows:
1. The portion of the transmittal given “C” or “D” will not be distributed (unless previously agreed to otherwise at the Preconstruction Conference). One (1) copy or the one (1) transparency of the “C” or “D” drawings will be marked up and returned to the Contractor. It shall be the Contractor’s responsibility to ensure that these items are corrected and resubmitted.
  2. Items marked “A” or “B” will be fully distributed.
  3. If a portion of the items or system proposed are acceptable; however, the major part of the individual drawings or documents are incomplete or require revision, the entire submittal may be given “C” or “D” action. This is at the sole discretion of the Engineer. In this case, some drawings may contain relatively few or no comments or the statement, “Resubmit to maintain a complete package.” Distribution to the Owner and field will not be made (unless previously agreed to otherwise).



D. Failure to include any specific information specified under the submittal paragraphs of the specifications shall result in the transmittal being returned to the Contractor unapproved.

END OF SECTION

## **DIVISION 2**

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SITE WORK

SECTION 02200  
EARTHWORK: GENERAL STATEMENT

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes

1. General site considerations
2. Materials classification
3. Compaction schedule
4. Testing
5. Grading

B. Related Sections

1. Section 02210 - Earthwork: Site Preparation
2. Section 02220 - Earthwork: Site
3. Section 02230 - Earthwork: Trenches
4. Section 02240 - Earthwork: Structures

1.02 REFERENCES

A. See Section 01060 – Special Conditions

B. Testing Standards

1. American Society for Testing and Materials (ASTM) C33 – Concrete Aggregates
2. ASTM D2487 – Classification of Soils for Engineering Purposes
3. ASTM D698 – Tests for the Moisture Density Relations of Soils and Soil Aggregate Mixtures using a 5.5-lb Rammer and a 12-inch Drop (Standard Proctor)
4. ASTM D1557 – Test for the Moisture Density Relations of Soils and Soil Aggregate Mixtures using a 10-lb. Rammer and an 18-inch Drop (Modified Proctor)
5. ASTM D4253 – Test Methods for Maximum Index Density of Soils using a Vibratory Table
6. ASTM D4254 – Test Methods for Minimum Index Density of Soils and Calculation of Relative Density

C. Occupational Safety and Health Administration (OSHA)

1.03 PERFORMANCE REQUIREMENTS

### A. Compaction Schedule

1. Unless specified otherwise on drawings or more stringently by other sections of these specifications, comply with following minimum compaction criteria:

LOCATION	MINIMUM COMPACTION DENSITY
<u>Sitework</u>	
• Under paved or other vehicular traffic areas	95 percent of maximum dry density by ASTM D698
• Unpaved areas	90 percent of maximum dry density by ASTM D698
<u>Trenches</u>	
• Under pavements or roadway surfaces, within highway right-of-way	95 percent of maximum dry density by ASTM D698
• Under turfed, sodded, or plant seeded non-traffic areas	90 percent of maximum dry density by ASTM D698
<u>Structures</u>	
• All	95 percent of maximum dry density by ASTM D698

- B. If cohesive fill material is used, moisture content at the time of compaction must be controlled between the range of two percent below and three percent above the optimum moisture content.

## 1.04 SUBMITTALS

- A. See Section 01300 - Submittals
- B. Submit, for approval, sources and samples of fill and backfill materials.

## 1.05 QUALITY ASSURANCE

- A. Perform all work in accordance with requirements of local and state codes, with requirements of OSHA, and in accordance with all Federal requirements.

1 B. By Owner, a qualified surveyor or civil engineer shall perform all horizontal and  
2 vertical layout work.

3  
4 C. Locate and protect property corners and other survey control monuments.

5  
6 D. Geotechnical engineer shall inspect and verify compaction testing results.  
7

8 1.06 SITE CONDITIONS  
9

10 A. Erosion Control

- 11 1. Conduct work to minimize erosion of site.  
12 2. Construct stilling areas to settle and detain eroded material.  
13 3. Remove eroded material washed off-site.  
14

15  
16 PART 2 – PRODUCTS  
17

18 2.01 MATERIALS  
19

20 A. Fill and Backfill

- 21 1. Clean, on-site soils from excavation, or selected, approved, imported  
22 materials may be used beneath slabs or as backfill.  
23 2. Frozen soils shall not be used as fill or backfill.  
24

25 B. Trench Backfill Material

- 26 1. Material shall be selected, approved material from on-site excavation or  
27 from off-site borrow, free of rocks four inches in diameter or greater,  
28 cobbles, roots, sod, organic matter, and frozen material.  
29

30 C. Subgrade Stabilization Materials

- 31 1. Provide subgrade stabilization material consisting of granular bedding  
32 material as specified under “Granular Bedding Materials.”  
33

34 D. Embedment Materials

- 35 1. Observe drawing notations for specifics regarding embedment conditions.  
36

37 E. Granular Bedding Materials

- 38 1. Provide granular trench bedding material consisting of well-graded,  
39 crushed gravel meeting requirements of ASTM C33, gradation size 67  
40 (3/4 inch to No. 4 sieve).  
41

42 F. Granular Fill Under Floor Slabs on Grade

- 43 1. Clean, crushed, nonporous rock, or crushed or uncrushed gravel  
44 complying with ASTM C33 gradation size 67 (3/4 inch to No. 4 sieve).  
45

46 G. Materials for Finishing Grading

1. Use approved material obtained from excavation. Material to be free of roots, branches, vegetation, debris, and stones larger than two inches in any direction.

## PART 3 – EXECUTION

### 3.01 PREPARATION

- A. Protect existing surface and subsurface features on site and adjacent to site as follows:
  1. Provide barricades, coverings, or other types of protection necessary to prevent damage to existing items indicated to remain in place.
  2. Protect and maintain benchmarks, monuments, or other established reference points and property corners. If disturbed or destroyed, replace at own expense to full satisfaction of Owner and controlling agency.
  3. Verify location and existence of utilities. Omission or inclusion of utility items does not constitute non-existence or definite location. Secure and examine local utility records for location data.
    - a. Take necessary precautions to protect existing utilities from damage due to any construction activity. Repair damages to utility items at own expense. Assess no cost to Owner, Engineer, or auxiliary party for any damages.
  4. Provide full access to public and private premises, fire hydrants, street crossings, sidewalks, and other points as designated by Owner to prevent serious interruption of travel.
  5. Maintain stockpiles and excavations in such a manner to prevent inconvenience or damage to structures on-site or adjoining property.
  6. Before performing any excavations, ensure compliance with Nebraska811.

### 3.02 COMPACTION

- A. Compaction Requirements
  1. Place and ensure backfill and fill materials to achieve an equal or “higher” degree of compaction than undisturbed materials adjacent to the work; however, in no case shall degree of compaction fall below “Minimum Compaction” specified in Paragraph 1.03.
- B. Perform compaction of soils and all work associated with that effort with equipment designed for and suitable to provide the compaction requirements.
- C. Obtain approval from Engineer concerning the suitability of soils and acceptable subgrade before subsequent operations.
- D. Provide dewatering system necessary to successfully complete excavation, compaction, and construction requirements.

- 1  
2 E. Remove frozen, loose, wet, or soft material and replace with suitable material as  
3 directed.  
4 F. Stabilize subgrade with well-graded granular materials as directed.  
5

6 3.03 FIELD QUALITY CONTROL  
7

8 A. Tests

- 9 1. Perform Proctor compaction tests to ensure backfill complies with  
10 specified requirements. Perform tests through recognized testing  
11 laboratory approved by Engineer and Owner.  
12 2. Where backfill compaction does not meet moisture density test  
13 requirements, after backfill has been removed as directed, and after the  
14 situation is corrected, perform additional tests as directed until compaction  
15 meets or exceeds requirements with cost borne solely by Contractor.  
16 3. Pay for all costs associated with corrective work and re-testing resulting  
17 from failing tests.  
18 4. Moisture density relations required for all materials that are to be  
19 compacted to be established before placement of materials.  
20 5. Extent of compaction testing to be as necessary to assure compliance with  
21 specifications.  
22 6. Give adequate notice when ready for compaction or subgrade testing and  
23 inspection. Minimum of 24 hours advance notice to be given.  
24 7. Costs for all required, passing soils test will be paid for by the Owner.  
25 Contractor is responsible for costs of all other soil tests.  
26

27 B. Safety

- 28 1. Ensure full compliance to applicable requirements of OSHA.  
29 2. Special attention is directed to Title 29 Labor, Part 1518, "Safety and  
30 Health Regulations for Construction" and detailed requirements of Subpart  
31 P "Excavations, Trenching, and Shoring."  
32 3. Comply with local requirements and specific requirements of State of  
33 Colorado.  
34

35 3.04 CLEANING  
36

- 37 A. Clean streets and sidewalks daily of any spillage of dirt, rocks, or debris.  
38  
39

40 END OF SECTION

1 SECTION 02210  
2 SITE PREPARATION  
3  
4

5 PART 1 – GENERAL  
6

7 1.01 SUMMARY  
8

- 9 A. Section Includes  
10 1. Site clearing  
11 2. Stripping topsoil  
12 3. Demolition  
13 4. Protection  
14

15 1.02 REFERENCES  
16

- 17 A. Occupational Safety and Health Administration (OSHA)  
18

19 1.03 QUALITY ASSURANCE  
20

- 21 A. Regulatory Requirements  
22 1. Perform all work in accordance with requirements of local and State  
23 codes, with requirements of OSHA, and in accordance with all Federal  
24 requirements.  
25  
26

27 PART 2 – PRODUCTS (NOT USED)  
28  
29

30 PART 3 – EXECUTION  
31

32 3.01 PREPARATION  
33

- 34 A. Provide barricades, coverings, and other protection necessary to prevent damage  
35 to existing improvements.  
36 1. Protect improvements on adjoining properties as well as those on Owner's  
37 property.  
38 2. Restore any improvements damaged by this work to original conditions, as  
39 acceptable to Owner or other parties or authorities having jurisdiction.  
40  
41 B. Protect all existing trees and other vegetation against damage.  
42 1. Do not smother trees by stockpiling construction materials or excavated  
43 materials within drip line.  
44 2. Avoid foot or vehicular traffic or parking within drip line.  
45 3. Provide temporary protection as required.  
46



- C. Repair or replace trees and vegetation damaged by construction operations.
  - 1. Repair to be performed by a qualified tree surgeon.
  - 2. Remove trees which cannot be repaired and restore to full growth.
  - 3. Replace with new trees of minimum four-inch caliper.

### 3.02 SITE CLEARING

- A. Upon Owner's approval, remove trees, shrubs, other vegetation, improvements, or obstructions that interfere with new construction.
  - 1. Removal includes stumps of trees and other roots.
  - 2. Removal also includes asphalt pavement and concrete pans and sidewalks.
  - 3. Carefully cut and protect roots and branches of trees to be left standing, where they obstruct new construction.
- B. Remove other items when specifically indicated.

### 3.03 CLEARING AND GRUBBING

- A. Clear from existing surfaces all rubbish, structures, and debris.
- B. Grub (remove) all stumps, roots, root mats, logs, and debris encountered within limits of construction.

### 3.04 REMOVAL OF IMPROVEMENTS

- A. Remove surfacing and pavements, including bases for pavements. Remove concrete slabs, concrete curb and gutter, valve boxes, concrete and masonry walls, posts, poles, manhole frames and covers, and other work as specifically indicated.

### 3.05 TOPSOIL REMOVAL

- A. Topsoil is defined as friable clay loam surface soil found in depth of no less than 4 inches. Satisfactory topsoil is reasonably free of subsoil, clay lumps, stones, and other objects over two inches in diameter, and without weeds, roots, or other objectionable material.
- B. Strip organic topsoil, including vegetation and the root zone, to whatever depths encountered and, in a manner, to prevent intermingling with underlying subsoil or other objectionable material. Remove heavy growths of grass from areas before stripping.
- C. Stockpile topsoil in storage piles. Construct storage piles to drain surface water freely. Seed or cover storage piles, if required, to prevent wind-blown dust or erosion.

### 3.06 DISPOSAL OF WASTE MATERIALS

- 1           A.     Do not burn combustible materials on-site.
- 2           B.     Remove all waste materials from site.
- 3           C.     Do not bury organic matter on-site.
- 4
- 5
- 6

END OF SECTION

1 SECTION 02230  
2 EARTHWORK: TRENCHES  
3  
4

5 PART 1 – GENERAL  
6

7 1.01 SUMMARY  
8

9 A. Section Includes:

- 10 1. Trench Excavation  
11 2. Trench Backfill  
12 3. Trench Wall Stabilization  
13

14 B. Work included in the project consists of, but is not limited to, methods of  
15 installation of the following:

- 16 1. Process Piping  
17 2. Electrical Conduits and Direct Burial Cables  
18 3. All Related Utility and Process Appurtenances  
19

20 C. Related Sections:

- 21 1. See Section 02200 – Earthwork: General Statement  
22 2. See Section 15100 – Piping Systems: General Statement  
23

24 1.02 REFERENCES  
25

26 A. ASTM D698 – Test Method for Laboratory Compaction Characteristics of Soil  
27 Using Standard Effort  
28

29 B. OSHA 29 Code of Federal Regulations (CFR) 1926 Subpart P, “Excavations,  
30 Trenching, and Shoring”  
31

32 1.03 DEFINITIONS  
33

34 A. Excavation:

- 35 1. All excavation will be defined as unclassified. No separate payments will  
36 be made for rock excavation or removal of unsuitable materials.  
37  
38

39 PART 2 – PRODUCTS  
40

41 2.01 See Section 02200 – Earthwork: General Statement  
42  
43

44 PART 3 – EXECUTION  
45

46 3.01 EXCAVATION

- A. Excavate trench, backfill, and compact for all underground utility lines, structures, bases, and appurtenant items.
- B. Excavation for Appurtenances:
  1. Excavate for appurtenant structures to provide at least 12 inches (minimum) clear distance between the outer surface and the embankment, and in full observation to OSHA safety rules.
  2. See Section 02200 for applicable requirements of excavation, filling, backfilling, and grading.
- C. Trench Excavation:
  1. Unless indicated or given permission to do otherwise, excavate trenches by open cut method to depth shown on Drawings and necessary to accommodate work. Permission may be granted for tunnel work for crossing under existing utility lines; however, such tunnels are limited to 10 feet in length.
  2. Open trench widths outside buildings, units, and structures shall be no more than 50 lineal feet. Trenching limitations may be field adjusted, as weather conditions dictate.
  3. Do not open greater length of trench than can be effectively utilized under existing conditions. Schedule work and order materials so that trenches are not left open for a longer period than is reasonably necessary. Any trench or portion of trench, which is opened and remains idle for seven calendar days or longer, as determined by the Owner or Engineer, may be directed to be immediately refilled, without completion of work, at no additional cost to Owner. Said trench may not be reopened until Engineer is satisfied that work associated with trench will be prosecuted with dispatch.
  4. Observe following trenching criteria:
    - a. Trench size. Excavate only sufficient width to accommodate free working space. In no case shall trench width at top of pipe or conduit exceed outside diameter of utility service by following dimensions:

<u>Overall Diameter of Utility Service</u>	<u>Excess Dimension</u>
33 inches and less	16 inches
    - b. Cut trench walls vertically from bottom of trench to one foot above top of pipe, conduit, or utility service.
    - c. Keep trenches free of water. Include all costs of dewatering in bid.
    - d. Brace and sheet trenches as soil conditions dictate and in full observation of OSHA requirements. Do not remove sheeting until backfilling has progressed to stage that no damage to piping, utility service, or conduit will result due to removal.

- e. Brace trenches running near walls or columns to prevent any settlement or other disturbance of walls or columns. Make trench excavation that runs parallel to footing bottom with maximum slope of one to one.
- 5. Dewatering:
  - a. Where groundwater is encountered during excavation, install a dewatering system to prevent softening and disturbance of material below and on the side of trenches to allow piping and utilities to be placed in the dry and to maintain a stable excavation side slope.
  - b. Keep system in operation until trench is completely backfilled and compaction requirements are verified. Dispose of groundwater at the location shown on the Drawings or in accordance with Owner's requirements. Transport and discharge water so that it will not interfere with construction operations, damage existing construction, or cause any damage to off-site properties.
  - c. Conform to all Local, State of Colorado, and Federal government rules and regulations in the discharge of dewatering wells. Shut-off dewatering system at such a rate to prevent a quick upsurge of water that might weaken the subgrade. Obtain discharge permit from the Colorado Department of Public Health and Environment (CDPHE) and conform to all requirements of the permit.
  - d. All costs associated with dewatering shall be the responsibility of the Contractor and shall be included in the Guaranteed Maximum Price.

D. Trenching for Electrical Installations:

- 1. Observe "Part C: Trench Excavation" with the following modifications for electrical installations.
  - a. Do not open more than 600 lineal feet of trench in exterior locations for trenches more than 12 inches but not more than 30 inches wide.
  - b. Any length trench may be opened in exterior locations for trenches that are 12 inches wide or less.
  - c. Do not over excavate.
  - d. Trenching depths for electrical work are not stated on Drawings. Cut trenches for electrical runs with minimum 30 inches cover, unless otherwise specified (see Division 16 for additional requirements).

3.02 PREPARATION OF FOUNDATION FOR PIPE LAYING

- A. If over-excavation occurs, backfill and compact to 95 percent of maximum dry density per ASTM D698 or backfill with granular bedding material.
- B. Subgrade Stabilization:

1. Provide subgrade stabilization when directed in accordance with these specifications and details when shown. Observe the following requirements when unstable trench bottom materials are encountered:
  - a. Notify Owner when unstable materials are encountered and define by drawing locations and limits.
  - b. Remove unstable trench bottom caused by Contractor's operations. Replace with subgrade stabilization with no additional compensation.

### 3.03 BACKFILLING

- A. Do not backfill until tests to be performed on system show system is in full compliance to specified requirements.
- B. Provide backfill and compaction methods in accordance with the following:
  1. Place backfill in loose lifts, capable of being compacted to densities specified.
  2. Observe specific pipe or conduit manufacturer's recommendations regarding methods of backfilling and compaction.
  3. Exercise extreme care in backfilling operations to avoid displacing joints and appurtenances or causing any horizontal or vertical misalignment, separation, or distortion. Repair damages, distortions, or misalignments to full satisfaction of Engineer.
- C. Water flushing for consolidation is not permitted.
- D. Backfilling for Electrical Installations:
  1. Observe this entire part for electrical installations.
  2. Observe notes and details on electrical drawings for fill in the immediate vicinity of direct burial cables.

### 3.04 FIELD QUALITY CONTROL

- A. Perform in-place moisture density tests beginning at a point one foot above top of pipe of utility service and perform test at three-foot intervals to finish grade. Test as directed, at least every 25 lineal feet, with one test minimum per trench. Required proctor curves will be obtained by the Contractor, at no additional cost to the Owner.

END OF SECTION

SECTION 02240  
EARTHWORK: STRUCTURES

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Structural Excavation and Backfill
2. Underground Obstructions
3. Undesirable Materials

B. Related Section:

1. See Section 02200 – Earthwork: General Statement

1.02 REFERENCES

A. See Section 01060 – Special Conditions

B. ASTM D698 – Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort

C. ASTM D1557 – Moisture Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb. Rammer and 18-inch Drop

1.03 DEFINITIONS

A. Foundations:

1. Footings, base slabs, foundation walls, mat foundations, grade beams, piers, and any other support placed directly on soil.

B. Soil:

1. Includes any type of rock subgrade that may be present at or below existing subgrade levels.

PART 2 – PRODUCTS

2.01 See Section 02200 – Earthwork: General Statement

1 PART 3 – EXECUTION

2  
3 3.01 GENERAL

- 4
- 5 A. In general, work includes, but is not necessarily limited to, excavation for  
6 structures, removal of underground obstructions and undesirable material,  
7 backfilling and fill, backfill and subgrade compaction.  
8
- 9 B. Obtain fill and backfill materials necessary to produce grades required. Materials  
10 and source to be approved by Engineer. Excavated material that is approved by  
11 Engineer or Geotechnical Engineer may be used for fill and backfill.  
12
- 13 C. Dewatering:
- 14 1. Where groundwater is encountered during excavation, install a dewatering  
15 system to prevent softening and disturbance of material below and on the  
16 side of foundations and fill material, to allow foundations and fill material  
17 to be placed in the dry and to maintain a stable excavation side slope.  
18 2. Keep system in operation until dead load of structure exceeds possible  
19 buoyant uplift force on structure.  
20 3. Transport and discharge water so that it will not interfere with  
21 construction operations, damage existing construction, or cause any  
22 damage to off-site properties.  
23 4. Conform to all Local, State of Colorado, and Federal Government Rules  
24 and Regulations in the discharge of dewatering wells. Shut-off dewatering  
25 system at such a rate to prevent a quick upsurge of water that might  
26 weaken the subgrade. Obtain discharge permit from the Colorado  
27 Department of Public Health and Environment and conform to all  
28 requirements of the permit.  
29 5. All costs associated with dewatering shall be the responsibility of the  
30 Contractor and shall be included in the Guaranteed Maximum Price.  
31
- 32 D. Subgrade:
- 33 1. Subgrade stabilization:
- 34 a. If subgrade under foundations, fill material, floor slabs on grade, or  
35 equipment support pads is in a frozen, loose, wet, or soft condition  
36 before construction is placed thereon, remove frozen, loose, wet, or  
37 soft material as directed by the Engineer.  
38 b. Provide compaction density of replacement material as stated in  
39 Section 02200. Loose, wet, or soft materials, when approved, may  
40 be stabilized by a compacted working mat of well-graded crushed  
41 stone. Compact stone mat thoroughly into subgrade to avoid  
42 future migration of fines into the stone voids.
- 43 2. Do not place floor slabs on grade including equipment support pads until  
44 subgrade below has been approved, piping has been tested and approved,  
45 reinforcement placement has been approved, and Contractor receives  
46 approval to commence slab construction. Do not place building floor



1 slabs on grade including equipment support pads when temperature of air  
2 surrounding the slab and pads is or is expected to be below 40 °F before  
3 structure is completed and heated to a temperature of at least 50 °F.  
4

5 E. Protection of Structures: Prevent new and existing structures from becoming  
6 damaged due to construction operations or other reasons. Prevent subgrade under  
7 new and existing foundations from becoming wet and undermined during  
8 construction due to presence of surface or subsurface water or due to construction  
9 operations.  
10

11 F. Shoring: Shore, sheet pile, slope, or brace excavations, as required, preventing  
12 them from collapsing. Remove shoring as backfilling progresses, but only when  
13 banks are stable and safe from caving or collapsing.  
14

15 G. Drainage: Control grading around structures so that ground is pitched to prevent  
16 water from running into excavated areas or damaging structures. Maintain  
17 excavations where foundations, floor slabs, equipment support pads, or fill  
18 materials are to be placed free of water. Provide pumping, as required, keeping  
19 excavated spaces clear of water during construction. Should any water be  
20 encountered in the excavation, notify Engineer. Provide free discharge of water  
21 by trenches, pumps, wells, well points, or other means as necessary and drain to  
22 point of disposal that will not damage existing or new construction or interfere  
23 with construction operations.  
24

25 H. Frost Protection:

26 1. Do not place foundations, slabs on grade, equipment support pads, or fill  
27 material on frozen ground. When freezing temperatures may be expected,  
28 do not excavate to full depth indicated, unless foundations, floor slabs,  
29 equipment support pads, or fill material can be placed immediately after  
30 excavation has been completed and approved. Protect excavation from  
31 frost if placement of concrete or fill is delayed.

32 a. Where a concrete slab is a base slab on grade located under and  
33 within a structure that will not be heated, protect subgrade under  
34 the slab from becoming frozen until final acceptance of the project  
35 by the Owner.

36 b. Protect subgrade under foundations of a structure from becoming  
37 frozen until structure is completed and heated to a temperature of  
38 at least 50 °F.  
39  
40

1 3.02 EXCAVATION

2  
3 A. Excavation Requirements for Structures:

4 1. General:

5 a. Do not commence excavation for foundations of structures until:

6 i) Approval is obtained when all topsoil and other unsuitable  
7 and undesirable materials have been removed from existing  
8 subgrade.

9 ii) Approval is obtained that density and moisture content of  
10 site area's compacted fill material meets requirements of  
11 specifications.

12 iii) Engineer grants approval to begin excavations.

13 2. Dimensions:

14 a. Excavate to elevations and dimensions indicated or specified;  
15 allow additional space, as required, for construction operations and  
16 inspection of foundations.

17 3. Removal of obstructions and undesirable materials in excavation includes,  
18 but is not necessarily limited to, removal of old foundations, existing  
19 construction, unsuitable subgrade soils, expansive type soils, and any other  
20 materials which may be concealed beneath present grade, as required to  
21 execute work indicated on drawings. If undesirable material and  
22 obstructions are encountered during excavation, remove material and  
23 replace as directed.

24 4. Level bottoms of excavations to receive foundations, floor slabs,  
25 equipment support pads, or compacted fill. Remove loose materials and  
26 bring excavations into approved condition to receive concrete or fill  
27 material. Do not carry excavations lower than shown for foundations,  
28 except as directed by Engineer. If any part of the excavation is carried  
29 below required depth without authorization, maintain excavation and start  
30 foundation from excavated level with concrete of same strength as  
31 required for superimposed foundation and no extra compensation will be  
32 made to Contractor.

33 5. Make excavations large enough for working space, forms, damp proofing,  
34 waterproofing, and inspection.

35 6. Notify Engineer as soon as excavation is completed in order that subgrade  
36 may be inspected. Do not commence further construction until subgrade  
37 under compacted fill material, under foundations, under floor slabs on  
38 grade, and under equipment support pads, has been inspected and  
39 approved as being free of undesirable material, being of compaction  
40 density required by this specification, and being capable of supporting the  
41 foundation design bearing pressure and superimposed foundation, and fill  
42 and building loads to be placed thereon. Therefore, fill material,  
43 foundations, floor slabs on grade, and equipment support pads shall not be  
44 placed until subgrade directly below has been inspected and approved by  
45 Engineer or Engineer's Consultant.

- a. Place fill material, foundations, floor slabs on grade, and equipment support pads as soon as weather conditions permit after excavation is completed, inspected and approved, and after forms and reinforcing are inspected and approved. Before concrete or fill material is placed, protect approved subgrade from becoming loose, wet, frozen, or soft due to weather, construction operations, or any other reasons.

### 3.03 BACKFILL INSIDE STRUCTURES

- A. Fill and backfill inside of structure and below foundations, base slabs, floor slabs, equipment support pads, and piping:
  1. Subgrade to receive fill or backfill shall be free of undesirable material, as approved. Surface may be stepped at no more than eight inches per step or may be sloped at no more than two percent. Do not place any fill or backfill material until subgrade under fill or backfill has been inspected and approved.
  2. Obtain approval of fill and backfill material and source before placing the material.
  3. Granular fill under floor slabs on grade. Place floor slabs on grade on a minimum of six inches of granular fill. Compact to 95 percent dry density as determined by ASTM D698.
  4. Vapor barrier:
    - a. Install a continuous vapor barrier under floor slabs on grade.
  5. Fill and backfill placement:
    - a. Before placing fill and backfill material, obtain optimum moisture and maximum density properties for proposed material. Place fill and backfill material in thin lifts, as necessary, to obtain required compaction density. Compact material by means of equipment of sufficient size and proper type to obtain specified density. Use hand operated equipment for filling and backfilling next to walls. Do not place fill and backfill when the temperature is less than 40 °F or when subgrade to receive fill and backfill material is frozen, wet, loose, or soft. Use vibratory equipment to compact granular material – DO NOT USE WATER.
  6. Where fill material is required below foundations, place fill material, conforming to the required density and moisture content, outside the exterior limits of foundations located around perimeter of structure the following horizontal distance, whichever is greater:
    - a. As required to provide fill material to indicated finish grade;
    - b. Five feet;
    - c. Distances equal to depth of compacted fill below bottom of foundations;
    - d. As otherwise directed.

1 3.04 BACKFILL OUTSIDE STRUCTURES

2  
3 A. This paragraph applies to fill and backfill placed outside of structures above  
4 bottom level of both foundations and piping but not under paving. Provide  
5 material, as approved, for filling and backfilling outside of structures.

6 1. Fill and backfill placement:

7 a. Place fill and backfill material in thin lifts, as necessary, to obtain  
8 required compaction density. Compact material with equipment of  
9 proper type and size to obtain density specified. Use only hand  
10 operated equipment for filling and backfilling next to walls. Do  
11 not place fill or backfill material when temperature is less than 40  
12 °F and when subgrade to receive material is frozen, wet, loose, or  
13 soft. Use vibratory equipment for compacting granular material;  
14 do not use water.

15 2. Backfilling against walls:

16 a. Do not backfill around any part of structures until backfill material  
17 has been approved. Do not start backfilling until concrete forms  
18 have been removed, trash removed from excavations, concrete  
19 finishing, damp proofing, and waterproofing have been completed.  
20 b. Do not place fills against walls until floor slabs at top, bottom, and  
21 at intermediate levels of walls are in place and have reached the  
22 28-day required compressive strength to prevent wall movement.  
23 c. Bring backfill and fill uniformly around the structures and  
24 individual walls, piers, or columns.

25 3. Backfilling outside of structures under piping or paving:

26 a. When backfilling outside of structures requires placing backfill  
27 material under piping or paving, the material shall be placed from  
28 bottom of excavation to underside of piping or paving at the  
29 density required for fill, as indicated in this section. This  
30 compacted material shall extend transversely to the centerline of  
31 piping or paving a horizontal distance each side of the exterior  
32 edges of piping or paving equal to the depth of backfill measured  
33 from bottom of excavation to underside of piping or paving.  
34 Provide special compacted bedding or compacted subgrade  
35 material under piping or paving as required by other sections of  
36 these Specifications.

37  
38 3.05 FIELD QUALITY CONTROL

39  
40 A. See Section 02200 – Earthwork: General Statement  
41  
42

43  
END OF SECTION

1 SECTION 02250  
2 TOPSOILING AND FINISHED GRADING  
3  
4

5 PART 1 – GENERAL  
6

7 1.01 SUMMARY  
8

9 A. Section Includes

- 10 1. Top soiling  
11 2. Finished Grading  
12

13 B. Related Sections

- 14 1. Section 02200 – Earthwork: General Statement  
15 2. Section 02210 – Earthwork: Site Preparation  
16

17 1.02 DEFINITIONS  
18

19 A. Finish Grading Tolerance: Required elevation plus or minus one-tenth of one  
20 foot.  
21

22 B. Location of Work: All areas within limits of grading and all areas outside limits of  
23 grading which are disturbed in the course of the work.  
24

25 1.03 JOB CONDITIONS  
26

27 A. Verify amount of topsoil stockpiles and determine amount of additional topsoil, if  
28 necessary, to complete work.  
29

30  
31 PART 2 – PRODUCTS  
32

33 2.01 MATERIALS  
34

35 A. See Section 02200 – Earthwork: General Statement.  
36

37 B. All costs associated with topsoil shall be the responsibility of the Contractor and  
38 shall be included in the contract price.  
39  
40

41 PART 3 – EXECUTION  
42

43 3.01 ROUGH GRADE REVIEW  
44

45 A. Rough grading to be reviewed by Engineer.  
46

1 3.02 PREPARATION

- 2
- 3 A. Correct, adjust, and/or repair rough graded areas.
- 4 1. Cut off mounds and ridges.
- 5 2. Fill gullies and depressions.
- 6 3. Perform other necessary repairs.
- 7 4. Bring all subgrades to specified contours, even and properly compacted.
- 8
- 9 B. Loosen surface to depth of two inches, minimum.
- 10
- 11 C. Removal all debris over two inches in any dimension.
- 12

13 3.03 PLACING TOPSOIL

- 14
- 15 A. Do not place topsoil when subgrade is either wet or frozen enough to cause
- 16 clodding.
- 17
- 18 B. Spread topsoil to compacted depth of four inches for all disturbed earth areas.
- 19
- 20 C. Make finished surface free of stones, sticks or other material one inch or more in
- 21 any dimension.
- 22
- 23 D. Make finished surface smooth and true to required grades.
- 24
- 25 E. Restore areas occupied by stockpiles to condition of rest of finished work.
- 26

27 3.04 ACCEPTANCE

- 28
- 29 A. Upon completion of top soiling, obtain Engineer's acceptance of grade and
- 30 surface.
- 31
- 32 B. Prepare test holes where directed by Engineer to verify proper placement and
- 33 thickness of topsoil.
- 34

35

36 END OF SECTION

SECTION 02511  
HOT MIX ASPHALT PAVING

PART 1 - GENERAL

- 1.01 Installer Qualifications: Engage an experienced installer who has completed hot-mix asphalt paving similar in material, design and extent to that indicated for this Project and with a record of successful in-service performance.
- 1.02 Manufacturer Qualifications: Manufacturer of hot-mix asphalt shall be a registered and approved paving mix manufacturer with authorities having jurisdiction or with the Colorado Department of Transportation (CDOT).
- 1.03 Submittals: Product Data, material certificates, and the following:
- A. Job-Mix Designs: Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.
  - B. Job-Mix Designs: For each job mix proposed for the Work.
- 1.04 Regulatory Requirements: Conform to applicable standards of authorities having jurisdiction for asphalt paving work on public property.
- 1.05 Asphalt-Paving Publication: Comply with AI's "The Asphalt Handbook," except where more stringent requirements are indicated.
- 1.06 Limitations: Do not apply asphalt materials if substrate is wet or excessively damp or if the following conditions are not met:
- A. Prime and Tack Coats: Minimum surface temperature of 60 °F.
  - B. Asphalt Base Course: Minimum surface temperature of 40 °F and rising at time of placement.
  - C. Asphalt Surface Course: Minimum surface temperature of 60 °F at time of placement.
- 1.07 Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 °F for oil-based materials, 50 °F for water-based materials, and not exceeding 95 °F.

PART 2 - PRODUCTS

- 2.01 Coarse Aggregate: Sound; angular crushed stone; crushed gravel; or properly cured, crushed blast-furnace slag; complying with ASTM D 692.

- 1 2.02 Fine Aggregate: Sharp-edged natural sand or sand prepared from stone; gravel, properly  
2 cured blast-furnace slag, or combinations thereof; complying with ASTM D 1073.  
3
- 4 2.03 Mineral Filler: Rock or slag dust, hydraulic cement, or other inert material complying  
5 with ASTM D 242.  
6
- 7 2.04 Asphalt Cement: ASTM D 3381 for viscosity-graded material; ASTM D 946 for  
8 penetration-graded material.  
9
- 10 2.05 Prime Coat: ASTM D 2027; medium-curing cutback asphalt; MC-30, MC-70, or MC-  
11 250. Asphalt emulsion prime conforming to CDOT requirements.  
12
- 13 2.06 Tack Coat: ASTM D 977, emulsified asphalt or ASTM D 2397, cationic emulsified  
14 asphalt, slow setting, factory diluted in water, of suitable grade and consistency for  
15 application.  
16
- 17 2.07 Herbicide: Commercial chemical for weed control, registered by Environmental  
18 Protection Agency (EPA). Provide granular, liquid or wettable powder form.  
19
- 20 2.08 Pavement-Marking Paint: Alkyd-resin type, ready-mixed, complying with FS TT-P-115,  
21 Type I, or AASHTO M-248, Type N.  
22
- 23 2.09 Pavement-Marking Paint: Latex, water-base emulsion, ready-mixed, complying with FS  
24 TT-P-1952.  
25
- 26 2.10 Wheel Stops: Precast, air-entrained concrete, 2500-psi minimum compressive strength,  
27 approximately 6 inches high, 9 inches wide, and 84 inches long. Provide chamfered  
28 corners and drainage slots on underside and provide holes and galvanized steel dowels  
29 for anchoring to substrate.  
30
- 31 2.11 Hot-Mix Asphalt: Provide dense, hot-laid, hot-mix asphalt plant mixes approved by  
32 authorities having jurisdiction; designed according to procedures in AI's "Mix Design  
33 Methods for Asphalt Concrete and Other Hot-Mix Types".  
34

### 35 PART 3 - EXECUTION

36

- 37 3.01 Proof-roll subbase using heavy, pneumatic-tired rollers to locate areas that are unstable or  
38 that require further compaction. Before placing asphalt materials, remove loose and  
39 deleterious material from substrate surfaces.  
40
- 41 3.02 Herbicide Treatment: Apply herbicide according to manufacturer's recommended rates  
42 and written application instructions.  
43
- 44 3.03 Prime Coat: Apply uniformly over surface of compacted-aggregate base at a rate of 0.15  
45 to 0.50 gallons per square yard (gal/yd<sup>2</sup>). Apply enough material to penetrate and seal,  
46 but not flood, surface. Allow prime coat to cure for 72 hours minimum.



- 1  
2 3.04 Tack Coat: Apply uniformly to existing surfaces of previously constructed asphalt or  
3 Portland cement concrete paving and to surfaces abutting or projecting into new, hot-mix  
4 asphalt pavement. Apply at a uniform rate of 0.05 to 0.15 gal/yd<sup>2</sup> of surface. Allow tack  
5 coat to cure undisturbed before paving. Avoid smearing or staining adjoining surfaces,  
6 appurtenances and surroundings. Remove spillage and clean affected surfaces.  
7  
8 3.05 Machine place base and surface courses of hot-mix asphalt on prepared surface, spread  
9 uniformly and strike off. Place asphalt mix by hand to areas inaccessible to equipment in  
10 a manner that prevents segregation of mix. Place each course to required grade, cross  
11 section and thickness, when compacted.  
12  
13 3.06 Promptly correct surface irregularities in paving course behind paver. Remove excess  
14 material and fill depressions with hot-mix asphalt.  
15  
16 3.07 Construct joints to ensure continuous bond between adjoining paving sections. Construct  
17 joints free of depressions with same texture and smoothness as other sections of hot-mix  
18 asphalt course.  
19  
20 3.08 Compact paving as soon as placed hot-mix asphalt will bear roller weight. Compact hot-  
21 mix paving with hot, hand tampers or vibratory-plate compactors in areas inaccessible to  
22 rollers. Complete compaction before mix temperature cools to 185 °F.  
23  
24 3.09 Compact each hot-mix asphalt course to an average density of 96 percent of reference  
25 laboratory density according to ASTM D 1559, but not less than 94 percent nor greater  
26 than 100 percent and to the following tolerances:  
27  
28 A. Thickness: Base course, plus or minus 1/2 inch; surface course, plus 1/4 inch, no  
29 minus.  
30  
31 B. Surface Smoothness: Base course, 1/4 inch; surface course, 1/8 inch.  
32  
33 3.10 Repairs: Remove paved areas that are defective or contaminated with foreign materials  
34 and replace with fresh, hot-mix asphalt compacted by rolling to specified density and  
35 surface smoothness.  
36  
37 3.11 Apply pavement-marking paint with mechanical equipment to produce pavement  
38 markings of dimensions indicated with uniform, straight edges. Apply at manufacturer's  
39 recommended rates to provide a minimum wet film thickness of 15 mils.  
40  
41 3.12 Securely attach wheel stops into pavement with not less than 2 galvanized steel dowels  
42 embedded in precast concrete at one-third points. Firmly bond each dowel to wheel stop  
43 and to pavement.  
44  
45  
46

END OF SECTION

1 SECTION 02605  
2 MANHOLES AND COVERS  
3  
4

5 PART 1 – GENERAL  
6

7 1.01 SUMMARY  
8

- 9 A. Section includes pre-cast manholes and manhole covers.  
10  
11 B. Products:  
12 1. Pre-cast, reinforced concrete risers, tops, and adjustment rings, with  
13 frames and covers  
14

15 1.02 REFERENCES  
16

- 17 A. ASTM C478 – Standard Specification for Pre-Cast Reinforced Concrete Inlets  
18

19 1.03 DESCRIPTION OF WORK  
20

- 21 A. Furnish and install pre-cast or cast in place manholes, inlets and grates according  
22 to requirements of these Specifications and in locations and at elevations  
23 indicated on Drawings.  
24

25 1.04 SUBMITTALS  
26

- 27 A. See Section 01300 – Submittals  
28  
29 B. Product Data  
30  
31 C. Shop Drawings  
32  
33

34 PART 2 – PRODUCTS  
35

36 2.01 INLETS  
37

- 38 A. Inlet Body:  
39 1. If provided for installation, pre-cast reinforced concrete risers, tops, and  
40 adjustment rings shall adhere to requirements listed in ASTM C478 with  
41 minimum diameter of 48, 54, 60 inches unless noted otherwise on  
42 drawings.  
43 2. Reinforced concrete for pre-cast concrete inlet risers, cone sections and  
44 tops shall be “Class FL 60M.”

3. Joints shall be of material specified and approved for reinforced concrete pipe joints or preformed flexible joint sealant material applied in accordance with manufacturer's specifications.
4. Manholes shall conform to requirements of Drawings.

B. Frame and Lid:

1. Use standard manhole frames and lids indicated on Drawings or approved equal:
  - a. Minimum weight of frame and lid: 355 pounds
  - b. Minimum opening through frame: 22 inches
  - c. Each manhole shall include machine bearing surface and self-sealing manhole lid with machine groove for continuous gasket

C. Manhole-to-Pipe Connections:

1. Unless otherwise noted on drawings, standard manhole-to-pipe connections shall be finished using "A-Lok Products" sealant products or approved equal. Shop drawings of manholes, including all openings, seals, and procedures for installation shall be furnished and approved before delivery of such products to project site.

## PART 3 – EXECUTION

### 3.01 JOINT CONSTRUCTION

- A. To assure watertight installation, construction joints between pre-cast concrete manhole wall sections shall be installed with Tylox rubber gaskets, Ram-Nek plastic gaskets, waterproofing mastic, or other product; with any or all to be pre-approved before their procurement or delivery to site.
- B. Any space not otherwise smooth finished in installation process shall be filled with mortar and smooth finished.

END OF SECTION

SECTION 02720

STORM DRAINAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Additional information concerning storm sewer systems may be found on the Civil Drawings. In case of conflict between the drawings and the information specified herein, the more stringent requirements shall govern.

1.2 SUMMARY

- A. This Section includes storm drainage outside the building.
- B. Related Sections include the following:
  - 1. Division 2 Section "Excavating, Backfilling and Compacting for Utilities".
  - 2. Division 3 Section "Cast-in-Place Concrete" for concrete structures.
- C. Permits and Fees:
  - 1. Obtain and pay for all permits required for the work of this Section.
  - 2. Pay all fees for inspections by local authorities and utility agency for work specified in this section.
- D. Existing Utilities
  - 1. It shall be the Contractor's responsibility to excavate and verify the location (depth, horizontal alignment, etc.) of all existing utilities that may affect construction of the proposed storm drainage line. All exploratory excavations shall occur far enough in advance to permit any necessary relocation to be made with minimum delay and to verify existing vertical and horizontal location to determine alignment for the proposed storm drainage line. All costs incurred by the Contractor in making exploratory excavations shall be considered to be included in the unit price bid for construction each section of storm drainage line or the associate structures.

1 1.3 REFERENCES

- 2
- 3 A. State of Colorado, Department of Transportation (CDOT): State Department of Highways
- 4 Standard Construction Specifications for Road and Bridge Construction, 2021.
- 5
- 6 B. City Standard Specifications for Design and Construction, Latest Edition.
- 7
- 8 C. Reference Standards: Comply with the requirements of the reference standards noted
- 9 herein, except where more stringent requirements are listed herein or otherwise required
- 10 by the Contract Documents.
- 11

12 1.4 DEFINITIONS

- 13
- 14 A. PVC: Polyvinyl chloride plastic.
- 15
- 16 B. RCP: Reinforced concrete pipe.
- 17

18 1.5 SUBMITTALS

- 19
- 20 A. Product Data: For the following:
- 21
- 22 1. Channel drainage systems.
- 23 2. Pipe.
- 24 3. Cleanouts, inlets and drains.
- 25
- 26 B. Shop Drawings: Include plans, elevations, details, and attachments for the following:
- 27
- 28 1. Precast concrete manholes and other structures, including frames, covers, and grates.
- 29 2. Cast-in-place concrete manholes and other structures, including frames, covers, and
- 30 grates.
- 31
- 32 C. Design Mix Reports and Calculations: For each class of cast-in-place concrete.
- 33
- 34 D. Field Test Reports: Indicate and interpret test results for compliance with performance
- 35 requirements.
- 36

37 1.6 DELIVERY, STORAGE, AND HANDLING

- 38
- 39 A. Do not store plastic structures, pipe, and fittings in direct sunlight.
- 40
- 41 B. Protect pipe, pipe fittings, and seals from dirt and damage.
- 42
- 43 C. Deliver piping in manufacturer's original bundles, securely strapped, and with protective
- 44 blocking as required. Label or tag each bundle with type, size and quality of material.
- 45

- D. Exercise care to prevent damage to materials during loading, transportation and unloading. Do not drop pipe or fittings.

## 1.7 PROJECT CONDITIONS

- A. Site Information: Perform site survey, research public utility records, and verify existing utility locations.
- B. Locate existing structures and piping to be closed and abandoned.
- C. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
1. Notify Architect not less than two days in advance of proposed utility interruptions.
  2. Do not proceed with utility interruptions without Architect's written permission.

## PART 2 - PRODUCTS

### A.1 PIPES AND FITTINGS

- A. Polypropylene Sewer Pipe and Fittings: According to the following:

1. See Section 15105 for more details.

- B. PVC Sewer Pipe and Fittings: According to the following:

1. PVC Sewer Pipe and Fittings, NPS 15 and Smaller: ASTM D 3034, SDR 35, for gasketed joints.
  - a. Gaskets: ASTM F 477, elastomeric seals.

- C. RCP Sewer Pipe and Fittings: According to the following:

1. ASTM C 76, and ASTM C 506 and ASTM C 507 for circular, arch, and vertical and horizontal elliptical pipe, respectively. Pipe shall be Class III, Wall B, unless otherwise noted.
2. Joints: Water tight joints meeting ASTM C 443 Standard Specification for joints in circular concrete sewer and culvert pipe, using rubber gaskets.

- D. Reinforced-Concrete Sewer Pipe and Fittings: R4 gasketed pipe jointing, ASTM C 76 and ASTM C 506 and ASTM C 507 for circular, arch, and vertical and horizontal elliptical pipe, respectively. Pipe shall be Class III, Wall B, unless otherwise noted.

### 2.2 MANHOLES

A. Precast Concrete Manholes: ASTM C 478, precast, reinforced concrete, of depth indicated.

1. Ballast: Increase thickness of precast concrete sections or add concrete to base section, as required to prevent flotation.
2. Riser Sections: Minimum thickness as noted on plans, and lengths to provide depth indicated.
3. Top Section: Eccentric-cone type, unless flat-slab-top type is indicated or approved. Top of cone of size that matches grade rings.
4. Steps: Fiberglass, individual steps. Include width that allows worker to place both feet on one step and is designed to prevent lateral slippage off step. Cast or anchor into base, riser, and top section sidewalls with steps at 12- to 16-inch intervals.

B. Manhole Frames and Covers: Cast iron, ASTM A48. Ring and cover shall have combined weight greater than 400 lbs., shall be machined to fit securely with non-rocking cover, and shall be hot-dipped in asphalt.

## 2.3 STORM WATER INLETS

A. Gutter Inlets: Type as indicated on plans, in accordance with Town Standard Details.

## 2.4 STORM WATER DETENTION STRUCTURES

A. Cast-in-Place Concrete, Stormwater Detention Structures: Construct of reinforced-concrete bottom, walls, and top; designed according to ASTM C 890 for A-16, heavy-traffic, structural loading; of depth, shape, dimensions, and appurtenances indicated.

1. Ballast: Increase thickness of concrete, as required to prevent flotation.

## 2.5 CONCRETE

A. Portland Cement Design Mix: Approved laboratory design 4000 psi minimum mix, with 0.45 maximum water-cementitious ratio, 5-7% entrained air and maximum 4" slump. Refer to 03300 for additional information.

## 2.6 CLEANOUTS

A. PVC Cleanouts: PVC body with PVC threaded plug. Include PVC sewer pipe fitting and riser to cleanout of same material as sewer piping.

# PART 3 - EXECUTION

## 3.1 PREPARATION

A. Piping: Prior to installation, verify that insides of pipe and pipe joints are clean and free of dirt, mud, oil, shavings from cutting, or other deleterious materials.

1  
2 3.2 INSTALLATION  
3

4 A. General: Completed storm sewer system shall comply with City. In case of conflict  
5 between the City requirements and the requirements specified herein, the City  
6 requirements shall govern.  
7

8 B. Piping – General:  
9

- 10 1. Use only undamaged material.  
11 2. Lay pipe on firm bedding with full length of barrel fully supported. Maintain straight  
12 lines and uniform grades between invert elevations shown. Inside of pipe shall be  
13 smooth and clean.  
14 3. Begin all pipe installation at downstream end of pipe run, with lower segment of pipe  
15 in contact with specified bedding. Place bell or groove ends facing upstream.  
16 4. Plug ends temporarily during installation, until connections are made to adjoining  
17 pipe or to manholes or inlet structures.  
18 5. Trench excavation and placement and compaction of bedding and backfill is specified  
19 in Section 02225.  
20

21 C. Manholes:  
22

- 23 1. Construct manholes in accordance with drawings and applicable public works  
24 standards. Carry pipe through manhole with split pipe. Extend cast-in-place concrete  
25 manhole base at least 8” below pipe barrel.  
26 2. Slope floor of manhole from centerline of pipe to maximum of 2” above top of pipe  
27 at face of manhole. Shape invert when manhole base is poured to conform exactly to  
28 lower half of pipe.  
29 3. Form or shape inverts smooth and clean, with no obstructions. Allow insertion of an  
30 expandable plug in pipe. Construct side branches with radii as large as possible to  
31 connect to main invert.  
32 4. Extend concrete base ring minimum 3” above top of pipe.  
33 5. Place future extension of pipe from manholes in manhole base. Shape invert with  
34 pipe extended to outside face of manhole base and terminated with bell of pipe as  
35 close as practical to manhole base.  
36 6. Do not place precast manhole sections on manhole base for two days minimum after  
37 placement of concrete base. Thoroughly clean top of formed concrete base ring prior  
38 to placing manhole barrel sections.  
39 7. Place a complete and continuous roll of sealant in groove or keyway of concrete base  
40 ring in sufficient quantity that when precast manhole barrel is placed there will be no  
41 voids. Join each succeeding precast manhole barrel in similar manner. Install sealant  
42 in groove side of tongue and groove joints.  
43 8. Trim away all excess material and repair all lifting holes.  
44

45 D. Manhole Ring and Covers:  
46



1. Set ring and cover at same grade as road or other finished surface.
2. Where finished surface will be completed after manhole construction, set top of cone where a maximum of two courses of brick will be required to adjust ring and cover to final grade. Final elevations of lid will be adjusted with bricks, mortar or precast concrete rings not to exceed 6".

E. Inlets, Outlets, and Catch Basins:

1. Cast-in-place or precast concrete in accordance with drawings and applicable public works standards. Comply with applicable requirements of Section 03300.
2. Construct inverts of pipe or concrete smoothed inverts same size as pipe up to centerline of pipe. Form perimeter bench as indicated.
3. Embed steel angles or other accessories as indicated or required to anchor and support frames, grates, or covers.

F. Frames, Grates, Covers and Steps: Install accurately to placement dimensions shown on drawings. Anchor castings in place and set in adjustment mortar to assure a firm foundation.

G. Connection to Existing Structures:

1. Cut and patch or rebuild existing manhole, catch basins, or other drainage structures as required to receive new drain lines.
2. Core drill openings to receive new pipe. Chip existing bench to provide sufficient thickness for mortar bed to form new invert.
3. Seal around new pipe penetration with expandable waterstop sealant, completely filling space between pipe and cut opening to provide a watertight repair.

3.3 FIELD QUALITY CONTROL

A. Clear interior of piping and structures of dirt and superfluous material as work progresses.

1. In large, accessible piping, brushes and brooms may be used for cleaning.
2. Place plug in end of incomplete piping at end of day and when work stops.
3. Flush piping between manholes and other structures to remove collected debris.

B. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.

1. Submit separate reports for each system inspection.
2. Defects requiring correction include the following:
  - a. Alignment: Less than full diameter of inside of pipe is visible between structures.
  - b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.

- c. Crushed, broken, cracked, or otherwise damaged piping.
  - d. Infiltration: Water leakage into piping.
  - e. Exfiltration: Water leakage from or around piping.
  3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
  4. Reinspect and repeat procedure until results are satisfactory.
- C. Test new piping systems for leaks and defects.
1. Do not enclose, cover, or put into service before inspection and approval.
  2. Test completed piping systems according to authorities having jurisdiction.
    - a. Testing: Hydrostatic pressure tests on joints shall be made on an assembly of two section of pipe, properly connected in accordance with the joint design. Suitable bulkheads shall be provided either within the pipe adjacent to and on either side of the joint, or at the outer ends of the two joined pipe sections. No mortar or concrete coatings, fillings, or packings shall be placed prior to watertightness tests. After the pipe sections are fitted together with the gaskets or gaskets in place, the assembly shall be subjected to an internal hydrostatic pressure of 13 psi (30 ft.) pressure head for 10 minutes. Moisture or beads of water appearing on the surface of the joint will not be considered as leakage. If leakage of joints should initially occur, the Contractor shall have the option to extend the test period up to 24 hours.
  3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
  4. Submit separate reports for each test.
  5. Leaks and loss in test pressure constitute defects that must be repaired.
  6. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

END OF SECTION

## **DIVISION 3**

---

CONCRETE

SECTION 03300  
CONCRETE

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes

1. This section covers cast-in-place concrete and precast concrete, including furnishing materials, transporting, placing, finishing, curing and other pertinent items of construction.

B. Inform Engineer at least 24 hours in advance of time(s) and place(s) at which Contractor intends to place concrete.

C. Related Sections

1. Section 03400 – Concrete

1.02 REFERENCES

A. Except as noted or modified in this section, all concrete materials, transporting, placing, finishing, curing and sealing shall conform to requirements of following standard specifications:

1. American Concrete Institute Standards (ACI):
  - a. 301 - Specifications for Structural Concrete.
  - b. 304 - Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete.
  - c. 305 - Hot Weather Concreting.
  - d. 306 - Cold Weather Concreting.
  - e. 309 - Consolidation of Concrete.
  - f. 315 - Details of Concrete Reinforcement.
  - g. 318 - Building Code Requirements for Reinforced Concrete.
  - h. 350R - Environmental Engineering Concrete Structures.
2. Contractor shall keep at least one copy of above listed ACI publications, latest edition, in project field office at all times.

B. The latest edition of all the ASTM Standards listed in this Specification shall be conformed to, including but not limited to, C94, C127, C128, C171, C260, C309, C494, C618, D1190, D1850, D2475.

1.03 SUBMITTALS

A. Test Results. Perform and submit test reports for following products in accordance with above general reference standards and specific standards of these specifications.

- 1 B. Proposed Mix Design. Prior to commencing concrete work, submit and obtain  
2 Engineer's approval of certified test reports describing proposed concrete mix  
3 design, which shall be prepared in compliance with ACI Standard 301, Section  
4 3.8, Method #1 under Paragraph 3.8.1.1, or Method #2, Paragraph 3.8.1.2, also  
5 including:
- 6 1. Fine aggregates: Source, type, gradation, deleterious substances and bulk  
7 specific gravity on basis of weight of saturated surface-dry aggregate,  
8 ASTM C128.
  - 9 2. Coarse aggregate: Source, type, gradation, deleterious substances, and  
10 bulk specific gravity on basis of weight of saturated surface-dry aggregate,  
11 ASTM C127.
  - 12 3. Ratio of fine to total aggregates.
  - 13 4. Weight (surface dry) of each aggregate per cubic yard.
  - 14 5. Total water content in gallons per cubic yard and proposed source.
  - 15 6. Slump on which design is based.
  - 16 7. Brand, type and quantity of cement.
  - 17 8. Brand, type and quantity of admixtures.
  - 18 9. Air content.
  - 19 10. Fly ash class and content.
  - 20 11. Copies of tests conducted in Section 3.10 of this Section.
- 21
- 22 C. Cylinder Compression Test Reports. Submit two copies of certified test reports to  
23 Engineer.
- 24
- 25 D. Ready-Mix Delivery Tickets. Submit delivery tickets to the Construction  
26 Observer for each load at time of delivery indicating following:
- 27 1. Quantity delivered.
  - 28 2. Quantity of each material in batch.
  - 29 3. Outdoor temperature in shade.
  - 30 4. Time at which water was added.
  - 31 5. Elapsed time between when water was added and concrete load was in  
32 place.
  - 33 6. Amounts of initial and supplemental water added.
  - 34 7. Name of individual authorizing supplemental water.
  - 35 8. Numerical sequence of delivery by indicating cumulative yardage  
36 delivered on each ticket.
  - 37 9. Portion of structure into which concrete was placed.
- 38

39 1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

40

- 41 A. Cementitious Materials
- 42 1. Store in weather tight enclosures, protect against dampness,  
43 contamination, and warehouse set.
  - 44 2. Do not use cement that has become caked or lumpy.
- 45
- 46 B. Aggregates

1. Stockpile to prevent excessive segregation, or contamination with other materials or other sizes of aggregates.
2. Use only one supply source for each aggregate stockpile.
3. The bottom six inches of all aggregate piles in contact with ground shall not be used.

C. Admixtures

1. Store to prevent contamination, evaporation or damage.
2. Protect liquid admixtures from freezing or harmful temperature ranges.
3. Agitate emulsions before use.

D. Rubber and Plastic Materials

1. Store in cool place away from direct sunlight.

E. Mixing and Transporting Ready-Mixed Concrete

1. Maximum elapsed time from time water is added to mix until concrete is in place shall not exceed 1.5 hours or shall not exceed 1.0 hours during hot weather placement when concrete is transported in revolving drum truck bodies.

1.05 JOB CONDITIONS

A. Environmental Requirements

1. Do not place concrete during rain, sleet, or snow unless adequate protection is provided, and Engineer's approval is obtained.
2. Do not allow rainwater to increase mixing water or damage surface finish.

B. Cold Weather Concreting. Conform to ACI 306, "Recommended Practice for Cold Weather Concreting."

1. Temperature of concrete when placed shall not be less than following:

Minimum Concrete Temp. (°F)

Air Temp. °F	Sections with least dimension Under 12"	12" and Over
30 to 45	60	50
0 to 30	65	55
Below 0	70	60

2. When placed, heated concrete shall not be warmer than 80°F.
3. Before placing concrete, all ice, snow, surface and subsurface frost shall be removed, and temperature of surfaces to be in contact with new concrete shall be raised to temperature specified for placing.
4. Protect concrete from freezing during specified curing period.
5. Heated enclosures shall be strong and windproof to ensure adequate protection of corners, edges and thin sections.
6. Do not permit heating units to locally heat or dry concrete.

7. Do not use combustion heaters during first 24 hours unless concrete is protected from exposure to exhaust gases that contain carbon dioxide.
8. Refer to ACI 306 for further requirements.

C. Hot Weather Concreting. Conform to ACI 305, "Recommended Practice for Hot Weather Concreting."

1. Take precautions when ambient air temperature is 90°F or above.
2. Temperature of concrete when placed shall not exceed 85°F.
3. Cool forms and reinforcing to a maximum of 90°F by spraying water before placing concrete.
4. Do not use cement that has reached a temperature of 170°F or more.
5. Prevent plastic shrinkage cracking due to rapid evaporation of moisture.
6. Do not place concrete when evaporation rate (actual or anticipated) equals or exceeds 0.20 pounds per square foot per hour, as determined by Figure 2.1.4 of ACI 305.
7. Set-retarding and water-reducing admixtures may be used with Engineer's approval when ambient air temperature is 90°F or above to offset accelerating effects of high temperature.
8. Refer to ACI 305 for further requirements.

## PART 2 – PRODUCTS

### 2.01 CONCRETE MATERIALS

- A. Cement - ASTM, Type I may be used on all above grade structures.
- B. Aggregates
1. Provide well-graded aggregates in concrete mixture in conformance with ACI-301 and use largest aggregate size practical.
- C. Water
1. Shall be clean, fresh and free from injurious amounts of oils, acids, alkalis, salts, organic materials, chloride ions or other substances that may be deleterious to concrete reinforcement.
- D. Admixtures
1. Use only as specified or approved in writing by Engineer.
  2. Do not use admixtures that cause accelerated setting of cement without prior approval of the Engineer.
  3. Calcium chloride is not permitted.
  4. Air-entrainment: 6%  $\pm$ 1.5%
  5. Fly ash: ASTM C618. Use of fly ash (20 to 40%) is highly recommended, and Engineer reserves the right to reject any cast-in-place concrete with no fly ash.

2.02 CONCRETE PRODUCTION

A. Ready-Mixed Concrete. Mixed and delivered, ASTM C94.

B. Batching and Mixing Equipment. "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete," ACI 304.

C. Proportioning

1. Proportion ingredients to produce a well-graded mix of high density and maximum workability consistent with approved mix design.

2. Entrained air for all concrete exposed to the environment or freezing temperatures:

a. Six percent  $\pm 1$  percentage for concrete in the forms. Concrete samples for air content tests shall be taken at the end of the concrete truck chute or the output of the concrete pump, whichever applies. A reduction in air content of pumped concrete should be expected. Contractor shall be responsible to coordinate with the concrete supplier to provide the specified air content of the in-place concrete.

b. Refer to Table 3.4.1 of ACI 301 for further requirements.

c. Concrete to be hand troweled. Finish shall have a maximum air content of 3-percent.

3. Fly ash: 15 percent minimum to 40 percent maximum by weight of cementitious material shall be used. The contractor shall provide the Engineer with the chemical and physical analyses of the fly ash.

4. Strength:

a. Design and proportion concrete to meet the following minimum compressive strengths:

Specified Strength		28-Day Test		Water/Cementitious Material Ratio
<u>Location</u>		<u>Test</u>		<u>Ratio</u>
Storm Water				
4,500 psi	Transport/Containment Structures	4,500 psi		0.42
4,000 psi	All Other Structures	4,000 psi		0.41

b. Always use moderate to high range water reducers and do not increase cement content to reduce water/cementitious material ratio.

5. Slump:

a. Keep as low as possible consistent with proper handling and thorough compaction.

b. Shall not exceed four inches unless otherwise authorized by Engineer.



c. A tolerance of one inch above maximum will be allowed provided average for all batches or most recent 10 batches, whichever is fewer, does not exceed the maximum.

6. Mixing - minimum time:

a. Central mixed concrete, one minute for mixer capacities of one cubic yard or less, plus 15 seconds for each cubic yard or fraction thereof of additional capacity.

b. Truck mixed concrete, 100 revolutions after introduction of all ingredients.

7. Corrosion inhibiting admixtures, epoxy coated reinforcing, shrinkage reducing admixtures and fiber reinforcing shall be used in all water containment structures.

8. Fiber reinforcing shall be used in place of wire fabric in all exterior flatwork. Any steel reinforcing in exterior concrete shall be epoxy coated.

### PART 3 – EXECUTION

#### 3.01 INSPECTION

##### A. General

1. Assure that excavations and formwork are completed.
2. Assure that dirt, mud, encrusted concrete, debris, and excess water has been removed.
3. Check that reinforcement is properly positioned and secured in place.
4. Verify that expansion joint material, anchors and other embedded items are secured in proper position.
5. Verify that all required tests for pipes under slabs have been completed.

#### 3.02 PREPARATION

##### A. General

1. Remove any hardened concrete and foreign material from inner surface of conveying equipment.
2. Prepare slab subgrade in accordance with ACI 301, Chapter 11.
3. Moisten subgrade before placement, but do not cause water to pond, nor muddy or soft spots to appear.
4. Designate limits of each placement and obtain Engineer's approval of entire installation before proceeding.

#### 3.03 PLACEMENT

##### A. Conveying

1. Convey concrete from mixer to final position as rapidly as practicable without segregation or loss of material.

2. Use only metal or metal lined chutes with maximum length of 20 feet, having a maximum slope of one vertical to two horizontal, and a minimum slope of one vertical to three horizontal.

B. Depositing

1. Deposit concrete in a continuous operation until section is completed.

3.05 DURABILITY

- A. Concrete shall be proportioned to resist destructive exposure as follows: Constant exposure to ambient weather conditions.

3.06 QUALITY CONTROL

A. Concrete Tests

1. Tests shall be in accordance with requirements of ACI 301, Chapter 16 - Testing, except as noted or modified in this section.

a. Strength test:

- 1) Mold and cure four cylinders from each sample.
- 2) Test one at seven days for information and two at 28 days for acceptance.
- 3) Hold fourth cylinder for future consideration 3.10.C of this section.

Quantity

Number of Samples

50 cubic yards or less

one

50 to 100 cubic yards

two

100 cubic yards or more

two plus one sample for each additional 100 cubic yards

b. Minimum samples:

- 1) Collect the following minimum samples for each 28-day strength concrete used in the work for each days placing

c. Sample marking:

- 1) Mark or tag each sample of compression test cylinders with date and time of day cylinders were made.
- 2) Identify location in work where concrete represented by cylinders was placed.
- 3) Identify delivery truck or batch number, air content, and slump.
- 4) Slump test:
- 5) Conduct test for each strength test sample and whenever consistency of concrete appears to vary.

d. Air content:

- 1) Conduct test from one of first three batches mixed each day and for each strength test sample.

2. The costs of testing during construction shall be borne by the Owner. Test specimens will be taken by an independent testing agency approved by the Owner and Engineer. The Contractor shall coordinate concrete placements with the Engineer to ensure proper testing in compliance with the Drawings and Specifications. The Contractor shall furnish all concrete for tests without cost to the Owner.
3. The use of Owner furnished testing services shall in no way relieve the Contractor of his responsibility to furnish materials and construction in full compliance with the Drawings and Specifications. The Contractor is free to take additional specimens for his own information.

B. Acceptance of Concrete. Strength level of concrete will be considered satisfactory so long as average of all sets of three consecutive strength test results equals or exceeds specified 28-day strength and no individual strength test result falls below specified strength by more than 500 psi.

C. Failure of Test Cylinder Results. Upon failure of test cylinder results, Engineer may require Contractor, at his expense, to test remaining cylinder after curing for a period specified by the Engineer. If strength level of this cylinder is not greater than specified 28-day strength, Engineer may require contractor to obtain and test at least three 2-inch diameter cored samples from area in question.

1. Conform to ASTM C42.
2. Concrete will be considered adequate if average of three cores is at least 85 percent of, and if no single core is less than 75 percent of specified 28-day strength.
3. Upon failure of core test results, Engineer may require Contractor, at his expense, to perform load tests as specified in ACI 318, Chapter 20.
4. Fill all core holes as specified for repairing defective concrete.

D. Completed Work

1. Completed concrete work that fails to meet one or more requirements, but which has been repaired to bring it into compliance will be accepted without qualification.
2. Completed concrete work that fails to meet one or more requirements, and which cannot be brought into compliance shall be rejected as provided in these Contract Documents. In this event, modifications shall be required to assure that concrete work complies with requirements. Modifications, as directed by Engineer, to be made at no additional cost to Owner.

END OF SECTION

MECHANICAL

**DIVISION 15**

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SECTION 15100  
PIPING SYSTEMS: GENERAL STATEMENT

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes

1. Non-potable and process piping systems.
2. Exterior utilities.
3. Interior service and plumbing piping.

B. Related Sections

1. 15105 Pipe: Plastic
2. 15110 Pipe: Specialties

1.02 REFERENCES

- A. Products supplied under this specification shall meet the requirements of the latest revision of applicable guidelines and standards documents commonly used in the piping system industry. Where there is a conflict between these specifications and the standard documents, the requirements of these specifications shall prevail.

Organizations providing these documents include the following:

1. American National Standards Institute (ANSI)
2. American Water Works Association (AWWA)
3. American Society for Testing and Materials (ASTM)
4. Manufacturer's Standardization Society of the Valve and Fitting Industry (MSS)
5. National Sanitation Foundation (NSF)

1.03 SUBMITTALS

- A. See Section 01300.

- B. Verify on shop drawings; dimensions, schedule of pipe, fittings, hangers, supports and miscellaneous appurtenances. When special fittings are necessary, verify locations of items and include complete details.

- C. Copies of any manufacturer's written directions regarding material handling, delivery, storage and installation.

- D. As work progresses and again when work is complete, submit "As-Recorded" drawings of piping systems in project including project items and pre-existing items. Identify complete location, elevation and description of piping systems. Relate piping systems to identified structures and appurtenances. Submit four (4) copies.

1  
2 E. Submit written verification of required pressure testing.

3  
4 F. Submit copies of Welder's Certifications.

5  
6 G. Submit written results of specified pressure and leakage tests.

7  
8 1.04 QUALITY ASSURANCE

9  
10 A. Regulatory Requirement

11 1. Perform work in accordance with local and state building codes.

12  
13 1.05 DELIVERY, STORAGE AND HANDLING

14  
15 A. Protect pipe coating during handling using methods recommended by  
16 manufacturer. Use of bare cables, chains, hooks, metal bars or narrow skids in  
17 contact with coated pipe is not permitted.

18  
19 B. Prevent damage to pipe during transit. Repair abrasions, scars and blemishes. If  
20 repair of satisfactory quality cannot be achieved, replace damaged material  
21 immediately.

22  
23  
24 PART 2 - PRODUCTS - NOT USED

25  
26  
27 PART 3 - EXECUTION

28  
29 3.01 PREPARATION - CLEANING

30  
31 A. General

- 32 1. Clean interior of piping systems thoroughly before installing. Maintain  
33 pipe in clean condition during installation.
- 34 2. Before jointing pipe, thoroughly clean and wipe joint contact surfaces and  
35 then properly dress and make joint.
- 36 3. Immediately prior to pressure testing, clean and remove grease, metal  
37 cuttings, dirt or other foreign materials which may have entered the  
38 system.
- 39 4. At completion of work and prior to final acceptance, thoroughly clean  
40 work installed under these specifications. Clean equipment, fixtures, pipe,  
41 valves and fittings of grease, metal cuttings and sludge which may have  
42 accumulated by operation of system, from testing or from other causes.  
43 Repair any stoppage, discoloration, or other damage to parts of building,  
44 its finish, or furnishings, due to failure to properly clean piping system,  
45 without cost to Owner.
- 46

1           B.    Non-Potable Water Piping Installation

- 2           1.    Install drain tees with capped nipples at low points. If low point occurs in  
3                concealed piping, provide approved flush access panel. These drains are  
4                not shown on drawings.
- 5           2.    Slope water lines down to drain points not less than 1 inch per 60 feet.
- 6           3.    Wherever threaded piping is installed, it shall have clean-cut tapered  
7                threads with ends thoroughly reamed after cutting to remove burrs. Pipe  
8                joint cement permitted only on external threads. For screwed nipples for  
9                connections to flush valves, lavatory supplies and other equipment with  
10              threaded connections use iron, copper or brass pipe.
- 11          4.    Install ball, butterfly and plug valves where indicated or required to  
12              adequately service all parts of system and equipment. Unless otherwise  
13              indicated, install valves on each branch serving rest room. Install valves  
14              on inlet and outlet connections of heat exchangers and on other equipment  
15              connected to water lines.
- 16          5.    Install unions between valves and connections to each piece of equipment,  
17              and install sufficient number of unions throughout piping system to  
18              facilitate installation and servicing.
- 19          6.    Construct and equip plumbing fixtures and equipment with anti-siphon  
20              devices as to entirely eliminate any danger of siphoning waste material  
21              into potable water supply system.
- 22          7.    Where exposed pipes, 6 inches and smaller, pass through floors, finished  
23              walls, or finished ceilings, fit with stainless steel plates large enough to  
24              completely close hole around pipes. Secure plates to pipe by set screw in  
25              approved manner.
- 26          8.    Size supply branches to individual fixtures as scheduled or indicated on  
27              drawings.
- 28          9.    Install piping so as to be free to expand with proper loops, anchors and  
29              joints without injury to system or structure.
- 30          10.   Provide branches to wall hydrants or hose bibs in exterior locations with  
31              interior shutoff and drain valves.
- 32          11.   Provide approved type vacuum breaker installations indicated or as  
33              required by Code.
- 34

35   3.05    PIPING OUTSIDE BUILDINGS AND STRUCTURES

36

- 37          A.    Minimum bury. Unless otherwise shown on the drawings, provide a minimum of  
38              four and a half (4.5) feet earth cover over exterior buried piping systems and  
39              appurtenances conveying water, fluids or solutions subject to freezing.
- 40
- 41          B.    Install piping as shown on drawings with ample clearance and allowance for  
42              expansion or contraction.
- 43
- 44          C.    Install flexible joint within two (2) feet of point where pipe enters or leaves  
45              structure. Install second flexible joint not more than six (6) feet nor less than four

(4) feet from first joint. Provide balance of piping with standard laying lengths and in accordance with drawings.

D. Buried copper piping joints to be flare or silver solder.

### 3.06 LAYING PIPE IN TRENCH

A. Excavate and backfill trench in accordance with Section 02230. Provide pipe bedding incorporated in Section 02230 and in accordance with drawings.

B. Grade trench bottom and excavate for pipe bell and lay pipe on trench bottom. Install gasket or joint material according to manufacturer's directions after joints have been thoroughly cleaned and examined.

C. Except for first two joints, before making final connections of joints, two (2) full sections of pipe shall have been previously installed with earth tamped along side of pipe or final bedding material placed.

D. Lay pipe in only suitable weather with good trench conditions. Never lay pipe in water except where approved by Engineer or where intended for water crossing.

### 3.07 LINING-UP PUSH-ON JOINT PIPING

A. Lay piping on route lines shown. Deflect from straight alignments or grades by vertical or horizontal curves or offsets. Maximum offset between extended centerlines of any two (2) adjacent pipe lengths is shown in table.

<u>Size of Pipe</u>	<u>Offset Allowance</u>
---------------------	-------------------------

All sizes	4/D
-----------	-----

1. Where D is diameter of pipe in inches. Offset distance is expressed as inches per lineal foot of pipe.

B. Provide special bends when specified or where required alignment exceeds allowable deflections stipulated. Install shorter lengths of pipe in such length and number that angular deflection of any joint, as represented by specified maximum deflection, is not exceeded.

### 3.08 ANCHORAGE AND BLOCKING

A. Block, anchor or harness exposed piping subjected to internal pressure, in which mechanical, push on, flexible or similar joints are installed, to prevent separation of joints.



- 1 B. Provide reaction blocking, anchors, joint harnesses or other acceptable means for  
2 preventing movement of piping caused by internal pressure in buried piping tees,  
3 wye branches, plugs or bends.  
4
- 5 C. Place concrete blocking so that it extends from fitting into solid undisturbed earth  
6 wall. Concrete blocks shall not cover pipe joints. Provide bearing area of concrete  
7 in accordance with drawings. In event that adequate support cannot be achieved  
8 against undisturbed soil, install restrained piping joints.  
9
- 10 D. Provide reaction blockings, anchorages, or other supports for fittings as shown on  
11 drawings for piping installed in fills, unstable ground, above grade or exposed  
12 within structures.  
13

### 14 3.09 LOCATION OF BURIED OBSTACLES 15

- 16 A. Furnish exact location of buried utilities encountered and any below grade  
17 structures. Reference items to definitive reference point locations such as found  
18 property corners, entrances to buildings, existing structure lines, fire hydrants and  
19 related fixed structures. Include such information as location, elevation, coverage,  
20 supports and additional pertinent information which will be required by future  
21 contractors for replacement servicing or adjacent construction around any buried  
22 facility.  
23
- 24 B. Incorporate information to “As-Recorded” drawings.  
25

### 26 3.10 CONNECTIONS WITH EXISTING PIPING 27

- 28 A. Where connection between new work and existing work is made, use suitable and  
29 proper fittings to suit conditions encountered. Make connections in thorough and  
30 workmanlike manner. Perform connections with existing piping at time and under  
31 conditions which will least interfere with service to customers affected by such  
32 operation. Undertake connections in fashion which will disturb system as little as  
33 possible.  
34
- 35 B. Provide suitable equipment and facilities to dewater, drain and dispose of liquid  
36 removed without damage to adjacent property.  
37
- 38 C. Where connections to existing systems necessitate employment of past installation  
39 methods not currently part of trade practice, utilize necessary special piping  
40 components.  
41

### 42 3.11 SPECIAL REQUIREMENTS AND PIPING SPECIALTIES 43

- 44 A. Insulating Joints. Provide insulating joints where dissimilar metals are joined  
45 together and where specifically indicated on drawings. Type of joint shall be as  
46 detailed and in accordance with following requirements.

1. Insulating flanges. Provide each unit to consist of flat faced 1/8 inch thick dielectric asbestos for temperatures up to 700 °F; 1/32 inch wall thickness spiral wound mylar bolt sleeves; 1/8 inch thick high strength phenolic insulating washers.
2. Insulating unions. Provide “Dielectric” union by Epco or approved equal.
3. Insulating couplings. When joining larger diameter dissimilar metal pipe, use insulating coupling equal to Rockwell No. 416 or Dresser Style 39. When pipes have different outside diameters, use insulating reducing couplings equal to Rockwell No. 417 or Dresser Style 39-62.

B. Dirt Strainers

1. Provide Y-type strainers to locations shown on drawings and/or schedule.
2. Furnish composition bronze strainers rated for 150 psi work pressure at 450 °F. Provide a 20 mesh monel screen. Install a threaded bronze plug in the blowoff outlet. Furnish threaded NPT end connections.
3. Subject to compliance with these specifications, furnish Mueller No. 351 strainers or equal.

C. Welding

1. Have each welding operator affix an assigned symbol to all his welds. Mark each longitudinal joint at the extent of each operator’s welding. Mark each circumferential joint, nozzle or other weld in two places 180 degrees apart.
2. Use only certified welders meeting procedures and performance outlined in Section 9 of the ASME or other codes and requirements per local building and utility requirements.
3. Have all welds conform to highest industrial practice in accordance to ANSI B31.3 and ANSI B31.1 or other codes and requirements per local building and utility requirements.

3.12 TESTING AND INSPECTION

- A. Perform testing and inspection prior to cleaning and final acceptance. Acknowledge satisfactory performance of tests and inspections in writing to Engineer prior to final acceptance.
- B. Types of testing and inspection to be employed for the piping systems include:
  1. Hydrostatic pressure testing.
  2. Cylinder water pumped compressed air or cylinder nitrogen.
  3. Low pressure air test.
- C. Test and inspect all pipes and joints in designated sections. Provide all necessary equipment and perform all work required in connection with the tests and inspections.
- D. Bear the cost of all testing and inspecting, locating and remedying of leaks and any necessary retesting and re-examination.

E. Hydrostatic Pressure Testing

1. All joints, including welds, are to be left exposed for examination during the test. Provide additional temporary supports for piping systems designed for vapor or gas to support the weight of the test water.
2. Provide temporary restraints for expansion joints for additional pressure load under test. Equipment in piping system with rated pressure, shall be isolated by valves or blind flanges.
3. Test piping to hydrostatic test pressure scheduled on drawings. When not included on drawing schedule, test pressures are as follows:

<u>Piping System</u>	<u>Application</u>	<u>Test Pressure (psig)</u>
Steel	General	50
Ductile Iron	General	150
Plastic	General	150

3. Test soil, waste, drain and vent piping at completion of installation of each stack or selection of piping by filing system with water to highest point and checking joints and fittings for leaks. Leaks must be eliminated before proceeding with work or concealing piping. Minimum test heights shall be 10 feet.
4. Maintain test pressure for 24 hours. Acceptable performance of pressure test shall mean maintenance of test pressure for 24 hours without pressure drop. Do not paint or insulate exposed piping until successful performance of pressure test.
5. Repair defective joints, welds, pieces of pipe, jointing material, valves or to their defective areas and repeat pressure testing until pipe system meets test criteria. Pay for any additional cost associated with retesting and repairs.

END OF SECTION

SECTION 15105  
PIPE: PLASTIC

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes pipe and fittings made with following plastics:

1. Polyvinyl Chloride (PVC)

B. Related Sections:

1. 15100: Piping Systems: General Statement
2. 15110: Piping Specialties

1.02 SUBMITTALS

A. See Section 01300 - Submittals.

B. Submit

1. Product data
2. Manufacturer's instructions
3. Material certificates indicating materials meet specifications

1.03 QUALITY ASSURANCE

A. Certifications

1. Clearly mark each length of pipe with manufacturer's name and trademark. Include nominal size of pipe, performance specifications and NSF approvals when applicable.

1.04 DELIVERY, STORAGE AND HANDLING

A. See Section 01610 - Product Delivery, Storage and Handling.

PART 2 – PRODUCTS

2.01 PVC PIPE

A. Materials - PVC material for pipe and fittings shall conform to ASTM D1784.

B. Pipe and fittings

1. Pressure pipe shall conform to ASTM D1785 for schedule pipe or ASTM D2241 for standard dimension ratio (SDR) pipe.
3. Drain, waste and vent pipe shall conform to ASTM D2665.

4. Fittings shall be rated for use with specified class of PVC pipe.

C. Joining Methods

1. Push-on joints using neoprene gaskets shall conform to ASTM F477.
2. Solvent welded socket connections. Use PVC solvent weld cement conforming to ASTM D2564.
3. Flange connections use flanged adapters to match mating flanges.
  - a. Socket and spigot: ASTM D 2467
  - b. Bolthole patten: ANSI B 16.5 ASTM D 4024
  - c. Material: ASTM D 1784
  - d. Use flat, full faced natural rubber gaskets for flat faced flanges.
  - e. Use flat ring gaskets and filler gaskets supplied by manufacturer when mating raised faced flanges.
  - f. Use Type 316 stainless steel heavy hex head bolts each with heavy hex head nut.
  - g. Flanges shall be Iron Pipe Size (IPS)
4. Threaded connection. Do not field thread PVC. Use threaded adapter fittings where required.
5. Mechanical joint coupler (gland type).
6. Compression coupler see Section 15110 - Piping Specialties.
7. Pipe Restraints: Where required, restrained joints shall conform to AWWA C900 for DR18 Pressure Class 235.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. See Section 15100 - Piping System: General Statement.
- B. Install piping and fittings in full compliance with manufacturer's instruction.
- C. Use lubricants and accessories supplied by manufacturer.
- D. Cutting
  1. Cut in neat workmanlike manner to avoid damage to pipe.
  2. Use abrasive wheel cutters or saws to cut plastic pipe.
  3. Make cuts square to centerline of pipe and thoroughly clean and swab off foreign matter before installing in work.
  4. Bevel free cut ends of sharp edges after cutting.
  5. Taper bevel (chamfer angle) approximately 15 degrees with centerline of pipe and approximately 1/4-inch back.
  6. Mark plain end of pipe to show required depth of penetration for making joint.

3.02 TESTING

1  
2  
3  
4  
5

- A. Perform pressure and leakage testing in accordance with Section 15100 - Piping System: General Statement.

END OF SECTION

SECTION 15110  
PIPE: SPECIALTIES

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

1. Mechanical couplers for grooved end and shoulder piping.
2. Compression couplers for plain end piping.
3. Flanged adaptor couplings.

1.02 SUBMITTALS

A. See Section 01300 – Submittals.

B. Product Data

1. Catalog cuts with part highlighted.
2. Installation.

1.03 DELIVERY STORAGE AND HANDLING

A. See Section 01620 – Product Delivery, Storage and Handling.

PART 2 - PRODUCTS

2.01 JOINT COUPLERS

A. Mechanical Joint Coupling (groove type)

Use of mechanical couplings and fittings in lieu of flanged fittings is acceptable.  
Furnish material and equipment as described.

1. Use mechanical couplings.
  - a. Victaulic couplings and fittings by Victaulic Co.
  - b. Gruvagrip couplings and fittings by Gustin Bacon Division of Aeroquip.
2. Construct housing in two or more parts of malleable iron in full accordance with ASTM 47, Grade 32510. Ductile iron in compliance to ASTM A536; Grade 60-45-10 is acceptable alternate.
3. Provide coupling gaskets of molded synthetic rubber. Use synthetic material compound that assures maximum gasket life for service intended.
4. Provide bolts of steel, oval neck, track head type with hexagonal nuts per ASTM A183 and A194.

B. Compression Sleeve Coupling

Furnish and install straight couplings and flexible couplings of steel coupling compression-sleeve type. Incorporate units conforming to follow criteria:

1. Use compression sleeve couplings equal to Rockwell No. 411 or Dresser Style 38.
2. Provide sleeves constructed of carbon steel having minimum yield of 30,000 psi. Ensure ends are smooth inside tapered for uniform gasket seating.
3. Provide followers made of malleable iron ASTM A47 Grade 35018 or 32510 or ductile iron ASTM A536.
4. Provide gaskets of special compounded natural or GRS rubber with no reclaimed materials and with good resistance ratings for service intended.
5. Install high-strength low-alloy double-radius head bolts with heavy semi-finished hexagon nuts.

C. Flanged Adapters.

1. Provide flange adapters equal to Rockwell No. 913 or Dresser Style 128 complete with anchor studs.
2. Use follower constructed of malleable iron conforming to ASTM A47-61, Grade 35018 or 32510 or ductile iron ASTM A536 through 12 inches with rolled steel used on larger sizes.
3. Gasket shall be specially compounded natural or GRS rubber with no reclaimed materials.
4. Supply flanges meeting standard of adjoining flanges.

PART 3 - EXECUTION

3.01 PIPING ENDS

- A. Ensure outside diameter and out-of-round tolerances are within limits required by coupling manufacturers.

3.02 JOINING METHODS

A. Mechanical Coupling Joint (groove type)

1. Groove and shoulder ends of piping in accordance with manufacturer's recommendation.
2. Ensure cut grooves do not reduce piping wall thickness to exceed maximum design stresses.

B. Compression Sleeve

1. Finish cast parts with lacquer finish compatible with (bitumastic, coal tar, and painted) finish coating.
2. Install coupling to allow space of no less than 1/4 inch but no more than 1 inch.



3. Harness joint unless otherwise specified or shown on drawings. Use joint harness equivalent to Dresser Style 440.

C. Flange Adapters.

1. Pipe size 12 inches and less. Locate and drill holes for anchor studs after pipe is in place and bolted tight. Drill holes no more than 1/8 inch larger than diameter of stud projection.
2. Pipe size - 14 inches and greater. Anchor adapters by installing harness assemblies equivalent to Dresser Style 440.

END OF SECTION

SECTION 15200  
VALVES: GENERAL STATEMENT

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes shut off and flow control valves.
- B. Refer to valve type sections for specific requirements.

1.02 REFERENCES

- A. Reference Standards
  - 1. AGMA - American Gear Manufacturers Association
  - 2. ANSI - American National Standards Institute
  - 3. ASTM - American Society for Testing and Materials
  - 4. AWWA - American Water Works Association
  - 5. MSS - Manufacturers Standardization Society of the Valve and Fittings Industry
  - 6. NEC - National Electric Code
  - 7. NEMA - National Electric Manufacturer Association

1.03 SUBMITTALS

- A. Submit shop drawings in compliance with Section 01300.
- B. Furnish affidavit of compliance with specification. Information contained in submittals shall include, but is not necessarily limited to the following:
  - 1. Valve pressure/temperature rating.
  - 2. Flange rating.
  - 3. Valve body material.
  - 4. Valve trim.
  - 5. Operator and actuators.
  - 6. Inner lining material.
  - 7. Lining pressure and temperature.
  - 8. Indicator attachments.
  - 9. Valve dimensions and weights.
  - 10. Valve class.
  - 11. Quantity.
  - 12. Maximum non-shock shutoff.
  - 13. Valve flow coefficient  $C_v$ .
- C. For valves with automatic actuators, furnish instrument loop diagrams verifying operation as control element fully coordinated with instrument power supply and

control signals. Describe operational sequence through automatic and manual control.

#### 1.04 QUALITY ASSURANCE

- A. Verify drawings for valve designations and descriptions.

### PART 2 - PRODUCTS

#### 2.01 OPERATORS

##### A. Manual Operators

1. Handwheels: Provide handwheels for all valves, except those specified otherwise. Ensure direction of rotation to open each valve counter-clockwise. Furnish valve body or operator with impression cast showing word "OPEN" and arrow indicating open direction. Limit force required to operate handwheel to 80 pounds maximum.
2. Lever operators: Provide lever operators for plug valves, butterfly valves and ball valves less than 4 inches in size.
  - a. Design operators to produce required torque with maximum pull of 80 pounds at end of lever.
  - b. Provide butterfly valve lever capable of being locked in at least five intermediate positions between fully open and fully closed.
3. Bevel gear operators: Furnish plug valves, butterfly valves and ball valves 4 inches and larger with bevel geared operators with totally enclosed worm gears. Equip geared operator with handwheel or chainwheel.
4. Provide extended bevel gear operators for all buried plug valves. Locate bevel gear above grade 42 inches.

#### 2.02 VALVE ACCESSORY EQUIPMENT

##### A. Valve Boxes

1. Provide service boxes of cast-iron construction. Extend service boxes to required length using "Buffalo" screw adjustment installed at service box locations. Provide boxes with housings of sufficient size to completely cover top of valve and complete with identifying covers. Design valve boxes so that traffic load on top of the box is not transmitted to the valve.

#### 2.03 VALVE CONNECTIONS

- A. Furnish valves with end connections as shown upon drawings and ensure types comply with following specifications:

<u>End Type</u>	<u>Specification Reference</u>
Soldered	ANSI B176.18
Screwed	ANSI B2.1
Flanged	Cast-Iron ANSI B16.1; Steel ANSI B16.5
Bell and Spigot	ANSI 21.11 (AWWA C111)
Mechanical (Gland) Type	ANSI A21.11 (AWWA C111)
Mechanical Coupling	See Section 15110 Piping Specialties

### PART 3 - EXECUTION

#### 3.01 SPECIAL CONSIDERATIONS

- A. Provide dissimilar metal precautions and protection specified in Section 15100.
- B. For valves 2 inches and smaller, provide union on one side at most accessible location to facilitate removal for repairs or replacement.

#### 3.02 INSTALLATION

- A. Setting outside valves: Locate valves installed in trenches where indicated on drawings. Set valves and valve boxes plumb. Place valve boxes directly over valves with top of box being brought to surface of finished grade.

END OF SECTION

SECTION 15210  
VALVES: GATE

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes
  - 1. Gate valves

1.02 DEFINITIONS

- A. Following definitions of abbreviated terms apply:
  - 1. RS - Rising Stem
  - 2. NRS - Nonrising Stem
  - 3. OS & Y - Outside Screw and Yoke

1.03 SUBMITTALS

- A. See Section 01300 - Submittals.

PART 2 - PRODUCTS

2.01 GATE VALVES

- A. Water, service water and nonpotable water:
  - 1. Exposed and buried valves (3.5inches to 12 inches): Furnish gate valves meeting MSS SP 70 and AWWA C500 and rated for minimum 200 psi working pressure and 400 psi test pressure.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Observe manufacturer's directions.
- B. Support exposed gate valves to minimize bending of valve end connections as result of pipe loading.
- C. Install valves in closed position.
- D. To prevent corrosion, protect all bolts with suitable paint or polyethylene wrapping.

3.02 TESTING

1  
2 A. Test valves constructed in accordance with AWWA C500. Perform following  
3 tests described in AWWA C500:

- 4 1. Operation test.  
5 2. Hydrostatic test.  
6

7 B. Test valves constructed in accordance with AWWA C509. Perform following  
8 tests described in AWWA C509:

- 9 1. Operation test.  
10 2. Shell test.  
11 3. Seal test.  
12 4. Hydrostatic test.  
13 5. Torque test.  
14 6. Leakage test.  
15 7. Pressure test.  
16

17 3.03 PAINTING

18  
19 A. See Section 09900 – Painting and Coating Systems.  
20  
21

22  
END OF SECTION

## **APPENDIX A**

---

TRANSMITTAL FORM

## **APPENDIX B**

---

DRAWING SET



**Diamondback  
Engineering**

12640 West Cedar Drive, Suite C,  
Lakewood, CO 80228  
Office: 303-985-4204  
Fax: 303-985-4214  
www.diamondbackeng.com

SHOP DRAWING TRANSMITTAL NO. \_\_\_\_\_

PROJECT: Main Street Improvements

Diamondback Engineering  
12640 West Cedar Drive, Suite C  
Lakewood, Colorado 80228  
Phone: (303) 985-4204  
Fax: (303) 985-4214

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

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

Contractor: \_\_\_\_\_  
Address: \_\_\_\_\_  
City, State Zip: \_\_\_\_\_  
Attention: \_\_\_\_\_

Owner: \_\_\_\_\_  
Address: \_\_\_\_\_  
City, State Zip: \_\_\_\_\_  
Attention: \_\_\_\_\_

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

Specification Section: \_\_\_\_\_

Number of Copies	Description	Manufacturer	Drawing or Data Number	Action Taken

Remarks: \_\_\_\_\_  
\_\_\_\_\_

The "Action Taken" designated above corresponds with the following legend:

A - Furnish as SubmittedD - RejectedB - Furnish as NotedE - Engineer's Review not RequiredC - Revise and Resubmit

1. Inadequate information
2. No reproducibles submitted
3. Copies illegible
4. Not enough copies submitted
5. Wrong sequence number
6. Wrong resubmittal suffix
7. See comments

1. Submittal not required
2. Submittal retained for informational purposes
3. Information reviewed and approved on prior submittal
4. See comments

Comments: \_\_\_\_\_  
\_\_\_\_\_  
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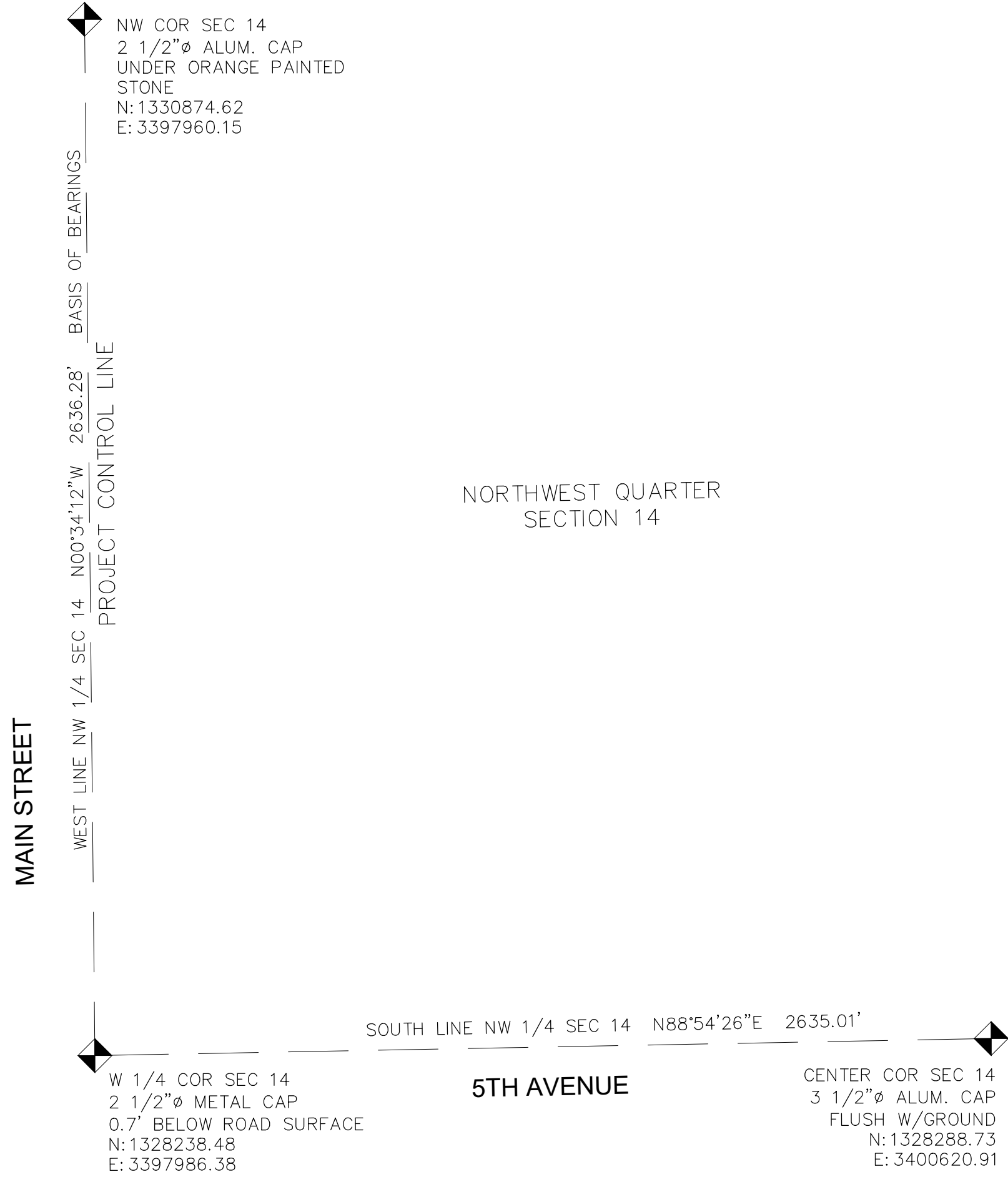
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# HORIZONTAL CONTROL DIAGRAM

NO SCALE



# PROJECT LOCATION

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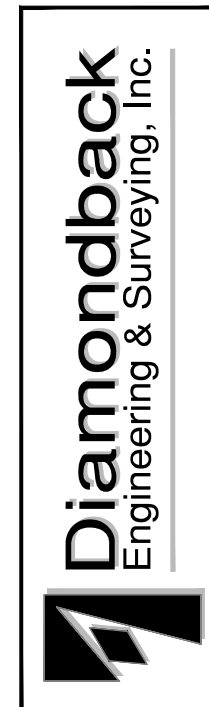


DRAWING INDEX	
Sheet Number	Sheet Title
G1	COVER SHEET
G2	GENERAL NOTES & TYPICAL ROADWAY SECTION
C1	PLAN AND PROFILE 1 OF 3
C2	PLAN AND PROFILE 2 OF 3
C3	PLAN AND PROFILE 3 OF 3
C4	STORM SEWER PLAN & PROFILE 1 OF 2
C5	STORM SEWER PLAN & PROFILE 2 OF 2
C6	WATER LINE PLAN & PROFILE 1 OF 3
C7	WATER LINE PLAN & PROFILE 2 OF 3
C8	WATER LINE PLAN & PROFILE 3 OF 3
C9	DEMO 1 OF 3
C10	DEMO 2 OF 3
C11	DEMO 3 OF 3
C11	STRIPING 1 of 3
C12	STRIPING 2 of 3
C13	STRIPING 3 of 3
C14	STRIPING AND PARKING DETAILS
C15	MAIN ST AND CHAMPAN RIGHT TURN LANE
C16	SNGL 16 INLET
C17	CDOT DETAILS
C18	RRFB DETAIL





project  
job no.  
sheet no.



plot date  
xref file

CAD FILE INFO  
main file

GENERAL NOTES:

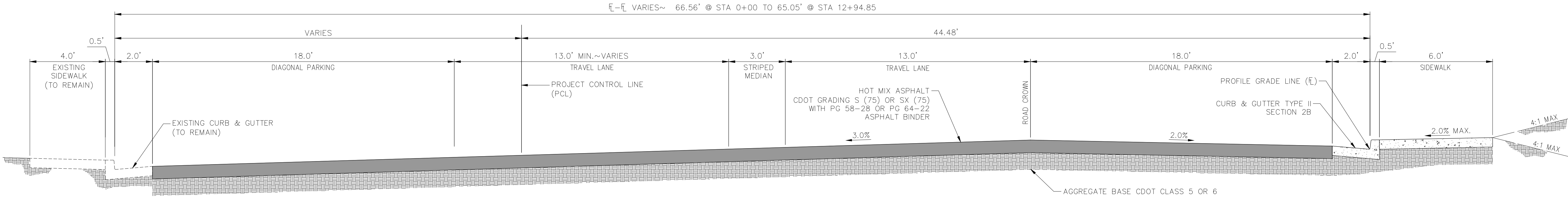
- CAUTION: LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY CONTRACTOR PRIOR TO DATE OF CONSTRUCTION. FOR INFORMATION CONTACT: UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) 811. THE CONTRACTOR SHALL FIELD VERIFY SIZE, HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING FACILITIES, AND NOTIFY THE ENGINEER AND CITY OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION .
- ALL MATERIALS AND CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE PROJECT MANUAL AND LATEST EDITION OF RULES AND REGULATIONS. IF A CONFLICT SHALL ARISE THEN THE MOST STRINGENT REQUIREMENT SHALL APPLY. ALL CONSTRUCTION SHALL BE SUBJECT TO INSPECTION.
- CONTRACTOR SHALL SUBMIT A SCHEDULE TO THE TOWN A MINIMUM OF 5 WORKING DAYS PRIOR TO THE NOTICE TO PROCEED. AN UPDATED SCHEDULE SHALL BE SUBMITTED EVERY TWO WEEKS.
- CONTRACTOR SHALL OBTAIN PERMITS AS NECESSARY INCLUDING BUT NOT LIMITED TO THOSE LISTED IN THE SPECIFICATIONS. CONTRACTOR SHALL COORDINATE WITH THE TOWN TO REVIEW ALL PERMITS AND INCLUDE COSTS IN THE BID TO COMPLY WITH ALL PERMIT REQUIREMENTS. CONTRACTOR SHALL OBTAIN ALL PERMITS FOR STREET CUTS, UTILITY INTERFERENCES AND TRAFFIC CONTROL.
- CONTRACTOR AND SUBCONTRACTOR SHALL POSSESS A CURRENT LICENSE AND BE BONDED TO WORK WITHIN THE TOWN OF WIGGINS.
- CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF THE TOWN OF WIGGINS WHEN WORKING WITHIN RIGHTS-OF-WAY UNDER THEIR JURISDICTION PARTICULARLY PERTAINING TO PAVEMENT REPLACEMENT, TRAFFIC CONTROL AND TRAFFIC BARRIERS, IF APPLICABLE.
- ALL TRENCHES SHALL BE ADEQUATELY SUPPORTED AND THE SAFETY OF WORKERS PROVIDED FOR AS REQUIRED BY THE MOST RECENT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION". THESE REGULATIONS ARE DESCRIBED IN SUBPART P, PART 1926 OF THE CODE OF FEDERAL REGULATIONS. SHEETING AND SHORING SHALL BE UTILIZED WHERE NECESSARY TO PREVENT ANY EXCESSIVE WIDENING OR SLOUGHING OF THE TRENCH WHICH MAY BE DETRIMENTAL TO HUMAN SAFETY, TO THE PIPE BEING PLACED, TO TREES, OR TO ANY EXISTING STRUCTURE WHERE EXCAVATIONS ARE MADE UNDER SEVERE WATER CONDITIONS. THE CONTRACTOR MAY BE REQUIRED TO USE AN APPROVED PILING INSTEAD OF SHEETING AND SHORING.
- NO COLD MIX OR ASPHALT MILLINGS WILL BE ALLOWED FOR TEMPORARY PATCH MATERIAL; ONLY HOT MIX ASPHALT, UNIQUE PAVING MATERIAL (UPM), OR HIGH PERFORMANCE COLD MIX (HPM) TYPE PATCHING WILL BE ALLOWED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE PATCH IS PROPERLY MAINTAINED AND IN A SAFE CONDITION AT ALL TIMES.
- NIGHT AND WEEKEND WORK IS NOT ALLOWED WITHOUT PRIOR APPROVAL FROM THE TOWN.
- CONTRACTOR SHALL FOLLOW ALL APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REQUIREMENTS FOR CONFINED SPACE ENTRY AS NECESSARY FOR THIS PROJECT.
- COMPACTION OF ALL TRENCHES MUST BE ATTAINED AND COMPACTION TEST RESULTS SUBMITTED TO THE ENGINEER PRIOR TO FINAL ACCEPTANCE.
- AN INDEPENDENT TESTING FIRM IS REQUIRED TO PERFORM AND PROVIDE CERTIFICATION FOR ALL REQUIRED MATERIAL SAMPLING AND TESTING AT THE COST OF THE CONTRACTOR. COPIES OF ALL TEST RESULTS SHALL BE FORWARDED TO THE ENGINEER AS SOON AS THEY BECOME AVAILABLE.
- THE CONTRACTOR SHALL HAVE ONSITE AT ALL TIMES ONE (1) SIGNED COPY OF PLANS AND THE PROJECT MANUAL.
- CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE TOWN OF WIGGINS AT LEAST FORTY EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION. A PRE— CONSTRUCTION MEETING SHALL BE SCHEDULED WITH THE ENGINEERING INSPECTOR AT LEAST 72 HOURS PRIOR TO START OF WORK. THE CONTRACTOR SHALL NOTIFY THE CITY A MINIMUM OF 48 HOURS PRIOR TO THE PRE— CONSTRUCTION CONFERENCE.
- THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES AT ALL TIMES DURING CONSTRUCTION. THE PLAN MAY BE MODIFIED WITH APPROPRIATE APPROVALS FROM THE TOWN.
- ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE STATE OF COLORADO PERMITTING PROCESS FOR "STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY" AND ALL CDPHE REGULATIONS.

GENERAL NOTES CONTINUED:

- IF DEWATERING IS REQUIRED, A STATE CONSTRUCTION DEWATERING DISCHARGE PERMIT IS REQUIRED FOR DISCHARGES TO A STORM SEWER, CHANNEL, IRRIGATION DITCH, ANY STREET THAT IS TRIBUTARY TO THE AFOREMENTIONED FACILITIES, OR ANY WATERS OF THE UNITED STATES. CONTRACTOR IS RESPONSIBLE EOR DETERMINING IF A STATE CONSTRUCTION DEWATERING DISCHARGE PERMIT.
- REPAIR OF ANY DAMAGE TO EXISTING IMPROVEMENTS OR LANDSCAPING IS THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR MUST TAKE ALL PRECAUTIONS NECESSARY WHEN WORKING AROUND EXISTING OVERHEAD ELECTRIC LINES TO PREVENT DAMAGE BY CONSTRUCTION CREW. SHOULD CONTRACTOR DAMAGE ELECTRIC FACILITIES, HE MUST CONTACT UTILITY OWNER, WHO WILL REPAIR THE FACILITIES, WITH CONTRACTOR LIABLE FOR ALL ASSOCIATED COSTS.
- CONTRACTOR SHALL AT ALL TIMES TAKE PRECAUTIONS FOR PROTECTION OF EXISTING PUBLIC AND PRIVATE UTILITIES THAT MAY BE ENCOUNTERED DURING CONSTRUCTION. ANY DAMAGED INSTALLATIONS, PUBLIC OR PRIVATE, SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO ORIGINAL OR BETTER CONDITION.
- THE TYPE, SIZE, LOCATION AND NUMBER OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THE DRAWINGS. MUCH OF THE EXISTING LOCATIONS ARE TAKEN FROM MAPS SHOWING OLDER CONSTRUCTION, AND THEREFORE MAY ONLY BE AN APPROXIMATION OF THE ACTUAL LOCATION. MANY OF THE DEPTHS MAY NOT BE ACCURATE DUE TO IMPROVEMENTS; SOME OF THE LINES MAY BE SHALLOWER. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR UNKNOWN CIRCUMSTANCES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION, THE CONTRACTOR SHALL CONTACT ALL UTILITIES TO COORDINATE SCHEDULES. IMPROVEMENTS WITHIN PROXIMITY TO EXISTING SYSTEMS WILL REQUIRE PLANNING AND PRE-CONSTRUCTION MEETINGS WITH THE RESPECTIVE UTILITY DISTRICT.
- CONTRACTOR SHALL NOTIFY ALL RESIDENTS IN WRITING AT LEAST 48 HOURS PRIOR TO ANY SHUT-OFF IN SERVICE. THE NOTICES MUST HAVE CONTRACTOR'S PHONE NUMBER AND NAME OF CONTACT PERSON, AND EMERGENCY PHONE NUMBER FOR AFTER HOUR CALLS. ALL SHUTOFF'S MUST BE APPROVED BY THE ENGINEER.
- ALL WORK, INCLUDING CORRECTION WORK, SHALL BE INSPECTED BY APPROPRIATE TOWN REPRESENTATIVE WHO SHALL HAVE THE AUTHORITY TO HALT CONSTRUCTION WHEN STANDARD CONSTRUCTION PRACTICES ARE NOT BEING ADHERED TO.
- THE CONTRACTOR SHALL WARRANT ALL WORK TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE-YEAR FROM THE DATE OF ACCEPTANCE INTO THE WARRANTY PERIOD OF ALL CONSTRUCTION CALLED FOR BY THE PROJECT DOCUMENTS AND IF APPLICABLE.
- UNLESS OTHERWISE SPECIFIED, WORK IS RESTRICTED TO THE HOURS OF 7:00 AM - 7:00PM.
- THE CONTRACTOR SHALL FURNISH THE TOWN WITH A SET OF RECORD PLANS PRIOR TO ENTERING INTO THE ONE-YEAR WARRANTY PERIOD. THESE PLANS SHALL SHOW LOCATION OF FITTINGS, PIPE SIZE, PIPE LENGTH, PIPE MATERIAL AND MANHOLES.
- THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
- THE DUTY OF THE TOWN/ENGINEER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON OR NEAR THE CONSTRUCTION SITE.
- PROPERTY LINES SHOWN ON DRAWINGS ARE ONLY APPROXIMATE. CONTRACTOR SHALL VERIFY PROPERTY LINES AND ROW AND REMAIN WITHIN PUBLIC WAYS OR EASEMENTS FOR THE PROJECT.

GENERAL NOTES FOR EROSION & SEDIMENT CONTROL:

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO OR, ACCUMULATE IN, THE FLOWLINES, STORM DRAINAGE APPURTENANCES, AND PUBLIC RIGHTS OF WAYS AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS CONSTRUCTION PROJECT. SAID REMOVAL SHALL BE CONDUCTED IN A TIMELY MANNER.
- CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND ALL OTHER POLLUTANTS FROM ENTERING THE STORM SEWER SYSTEM DURING ALL EXCAVATION, TRENCHING, OR OTHER CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT.
- THE CONTRACTOR SHALL ENSURE THAT ALL LOADS OF CUT AND FILL MATERIAL IMPORTED TO OR EXPORTED FROM THIS SITE SHALL BE PROPERLY COVERED TO PREVENT LOSS OF THE MATERIAL DURING TRANSPORT ON PUBLIC RIGHTS OF WAY.
- THE USE OF REBAR TO ANCHOR BEST MANAGEMENT PRACTICES IS PROHIBITED.
- APPROVED EROSION AND SEDIMENT CONTROL 'BEST MANAGEMENT PRACTICES' SHALL BE MAINTAINED AND KEPT IN GOOD REPAIR FOR THE DURATION OF THIS PROJECT.
- THE CONTRACTOR SHALL PROTECT ALL STORM SEWER FACILITIES ADJACENT TO ANY LOCATION WHERE WORK IS OCCURRING.
- PAVED ROADWAYS WHICH ARE ADJACENT TO CONSTRUCTION SITES MUST BE SWEEPED AS NEEDED WHEN SEDIMENT AND OTHER MATERIALS ARE TRACKED OR DISCHARGED ONTO THEM



ROADWAY TYPICAL SECTION

LOOKING STATION AHEAD  
NOT TO SCALE

NOTE:  
OPTION A - 5" HOT MIX ASPHALT CDOT GRADING S (75) OR SX (75)  
WITH PG 58-28 OR PG 64-22 ASPHALT BINDER AND 7" AGGREGATE  
BASE CDOT CLASS 5 OR CLASS 6

-OR-

OPTION B - 7" HOT MIX ASPHALT CDOT GRADING S (75) OR SX (75)  
WITH PG 58-28 OR PG 64-22 ASPHALT BINDER



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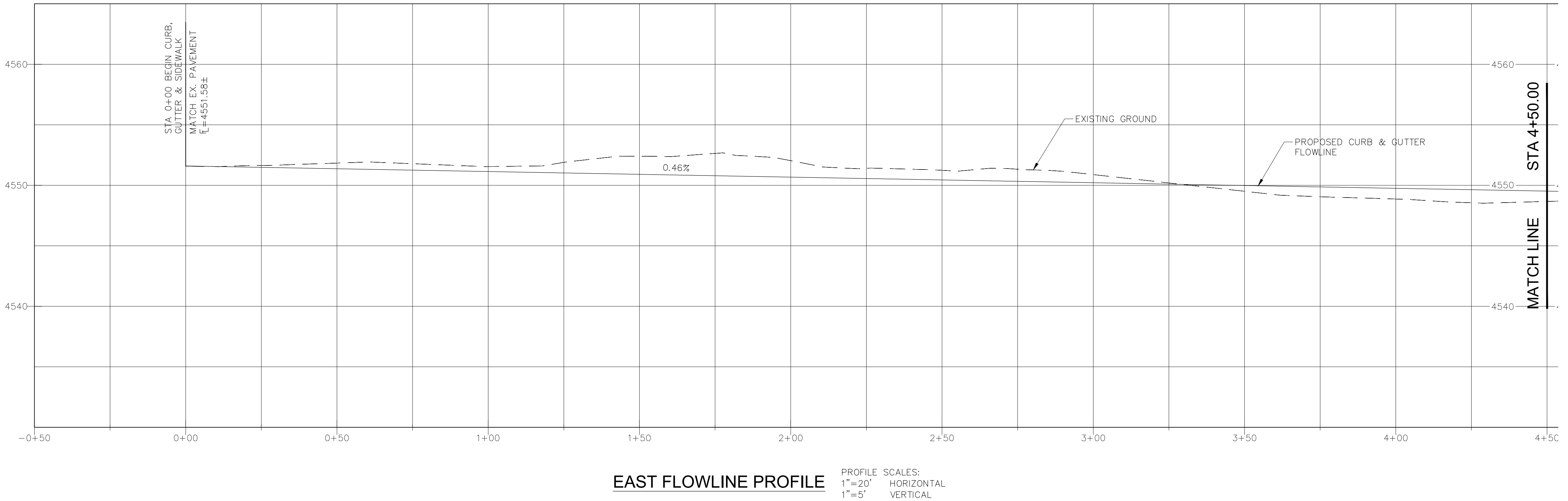
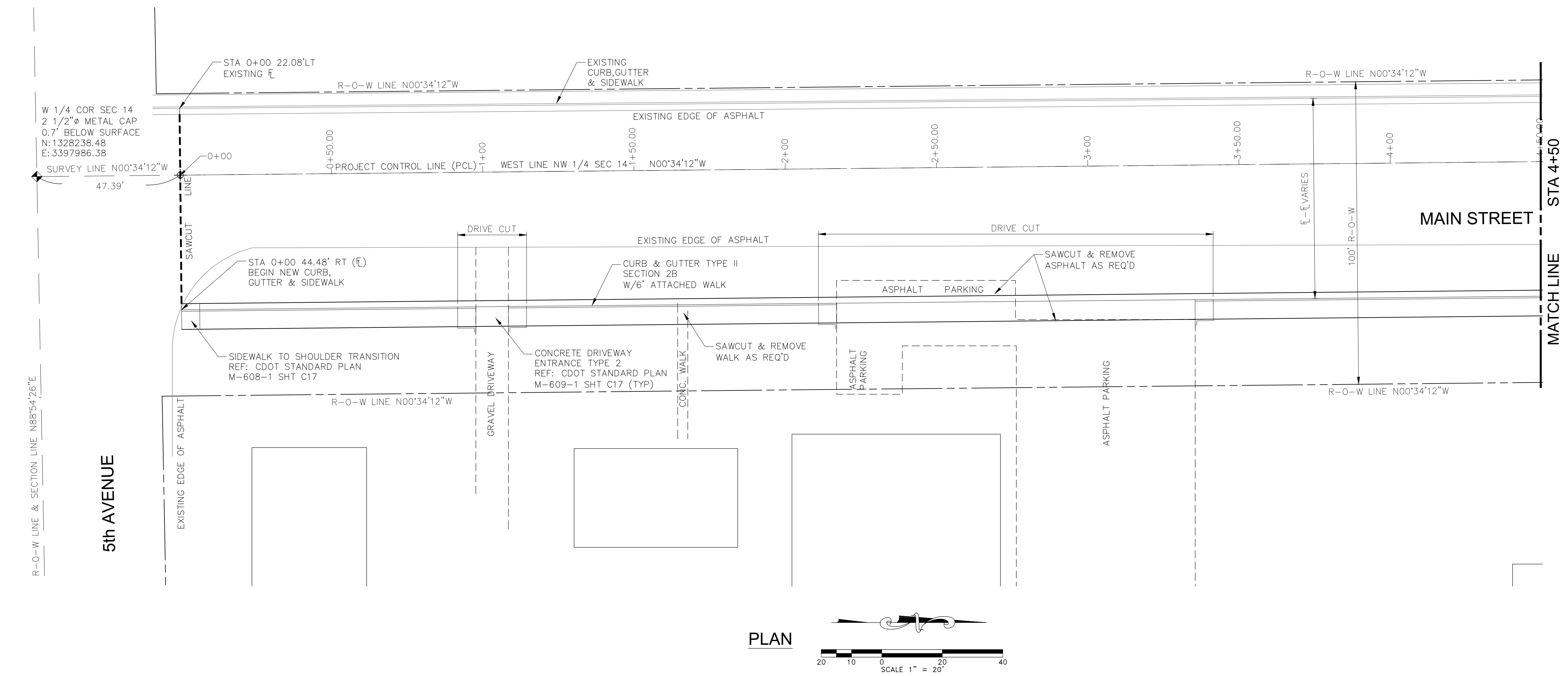
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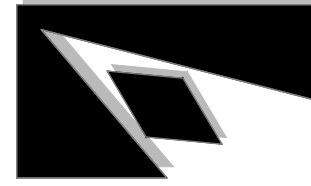
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G2


TOWN OF WIGGINS, CO  
MAIN STREET IMPROVEMENTS  
GENERAL NOTES & TYPICAL ROADWAY SECTION







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12640 West Cedar Drive, Suite C,  
Lakewood, CO 80228-2030  
Office: 303-985-4204  
Fax: 303-985-4214  
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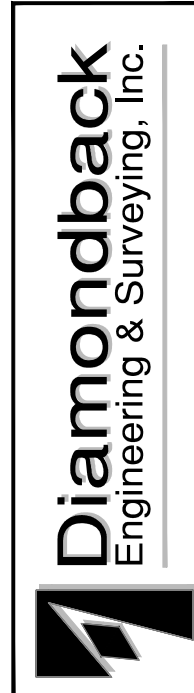
TOWN OF WIGGINS, CO  
MAIN STREET IMPROVEMENTS  
PLAN & PROFILE  
STA 0+00 - STA 4+50

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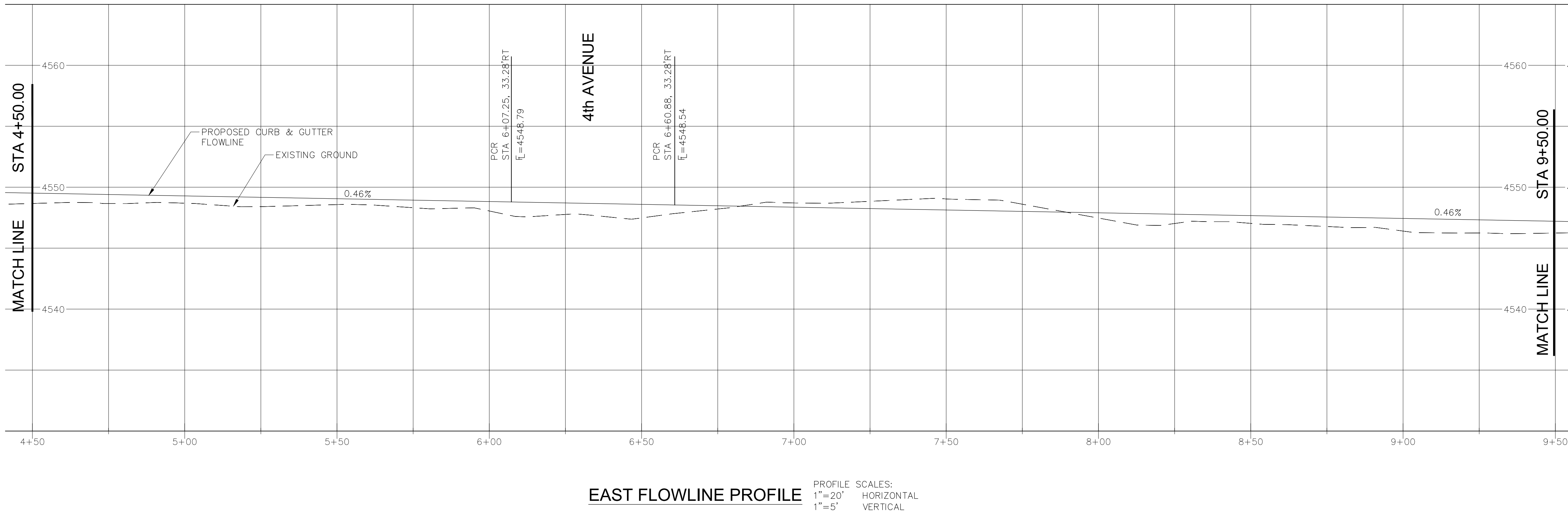
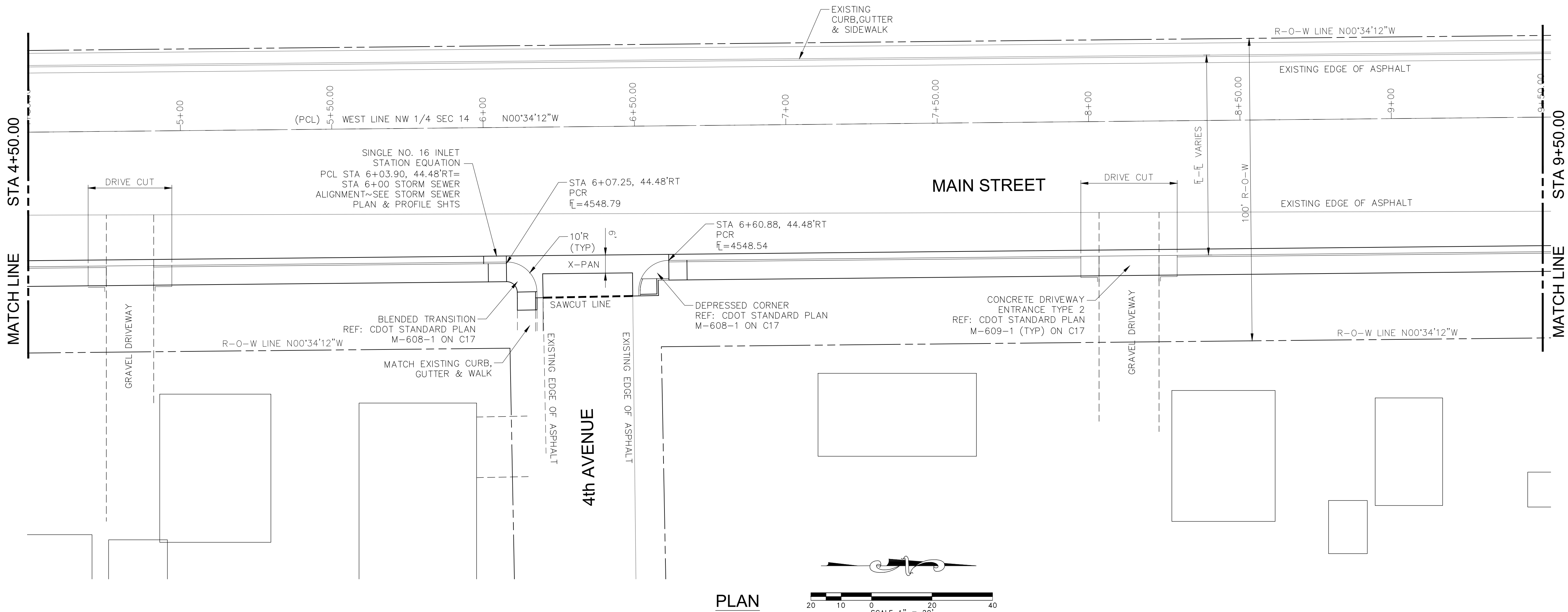
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JULY 2022		JS	JS	JE

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project \_\_\_\_\_  
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sheet no. \_\_\_\_\_



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main file \_\_\_\_\_  
plot date \_\_\_\_\_  
xref file \_\_\_\_\_





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Engineering & Surveying, Inc.  
12540 West Cedar Drive, Suite C,  
Lakewood, CO 80228-2030  
Office: 303-985-4204  
Fax: 303-985-4214  
[www.diamondbackeng.com](http://www.diamondbackeng.com)

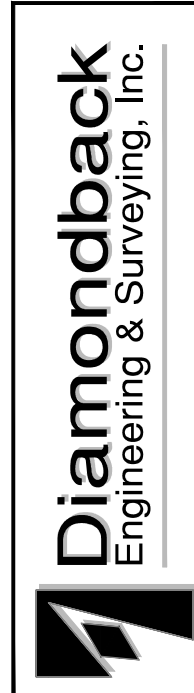


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MAIN STREET IMPROVEMENTS  
PLAN & PROFILE  
STA 4+50 - STA 9+50

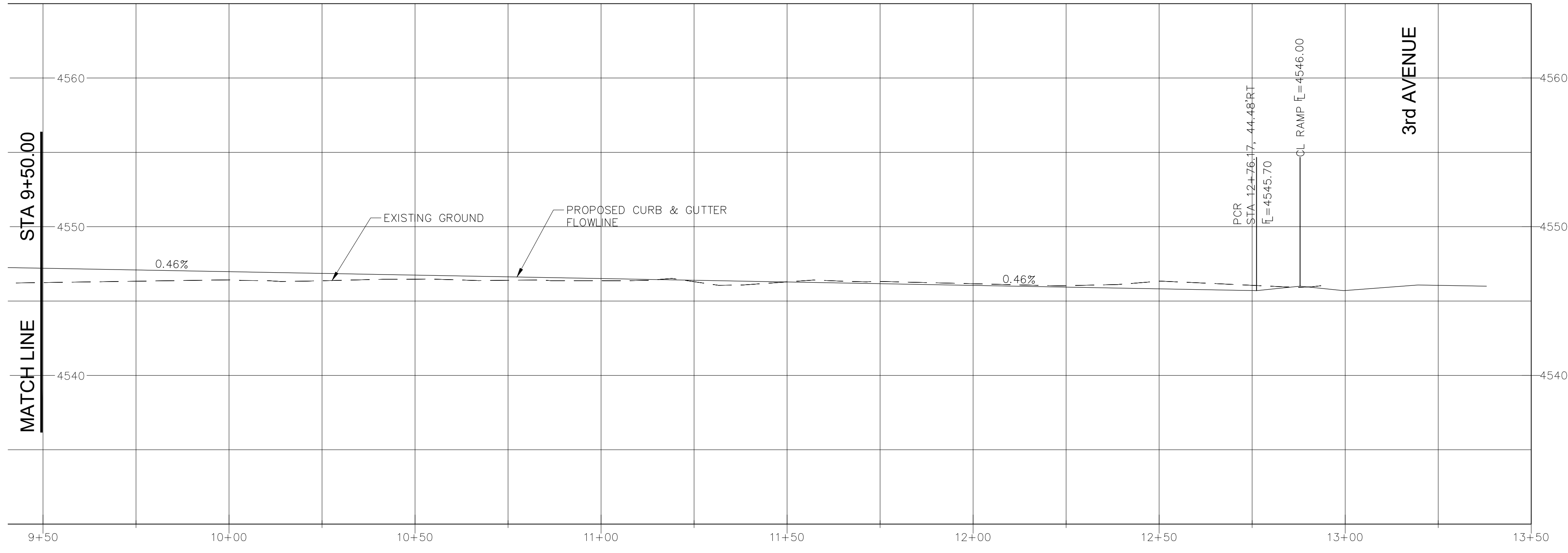
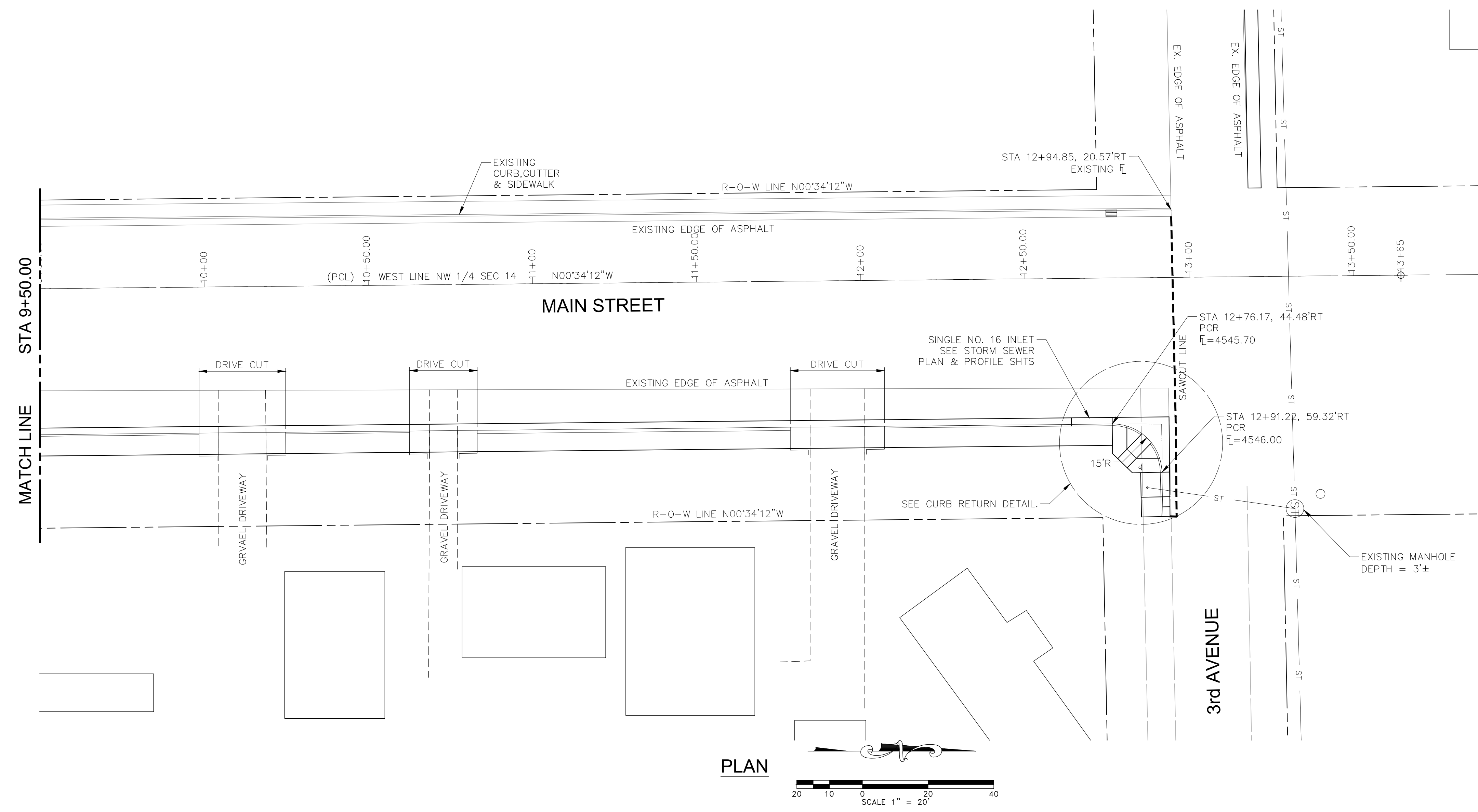
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date	JULY 2022
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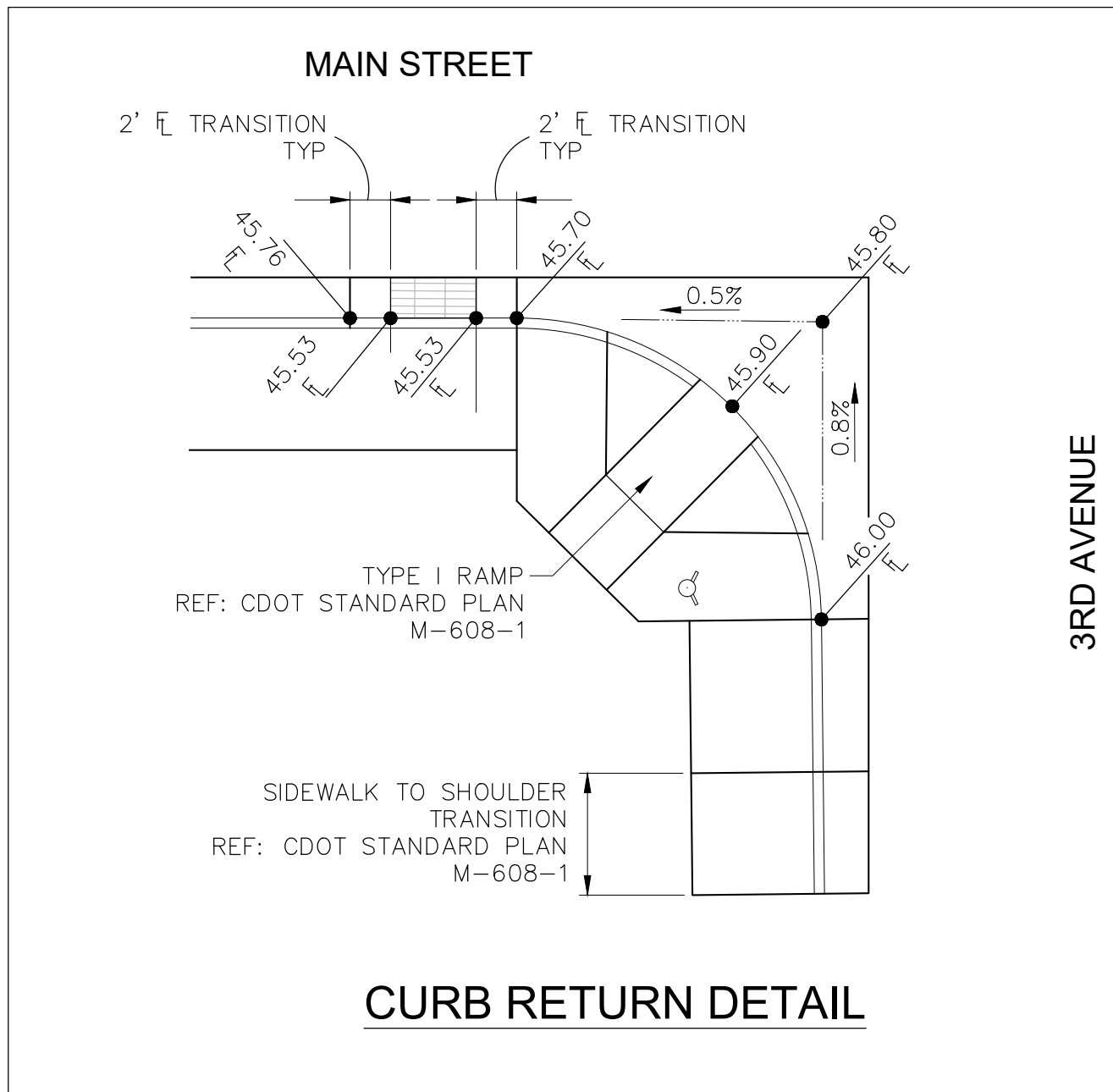
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EAST FLOWLINE PROFILE  
PROFILE SCALES:  
1"=20' HORIZONTAL  
1"=5' VERTICAL



TOWN OF WIGGINS, CO  
MAIN STREET IMPROVEMENTS  
PLAN & PROFILE  
STA 9+50 - STA 13+50

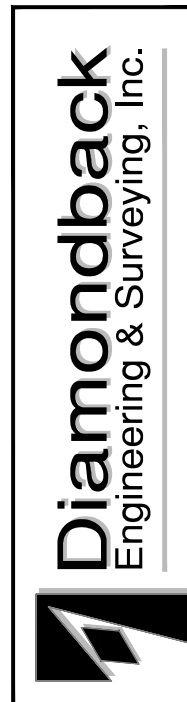
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date	JULY 2022
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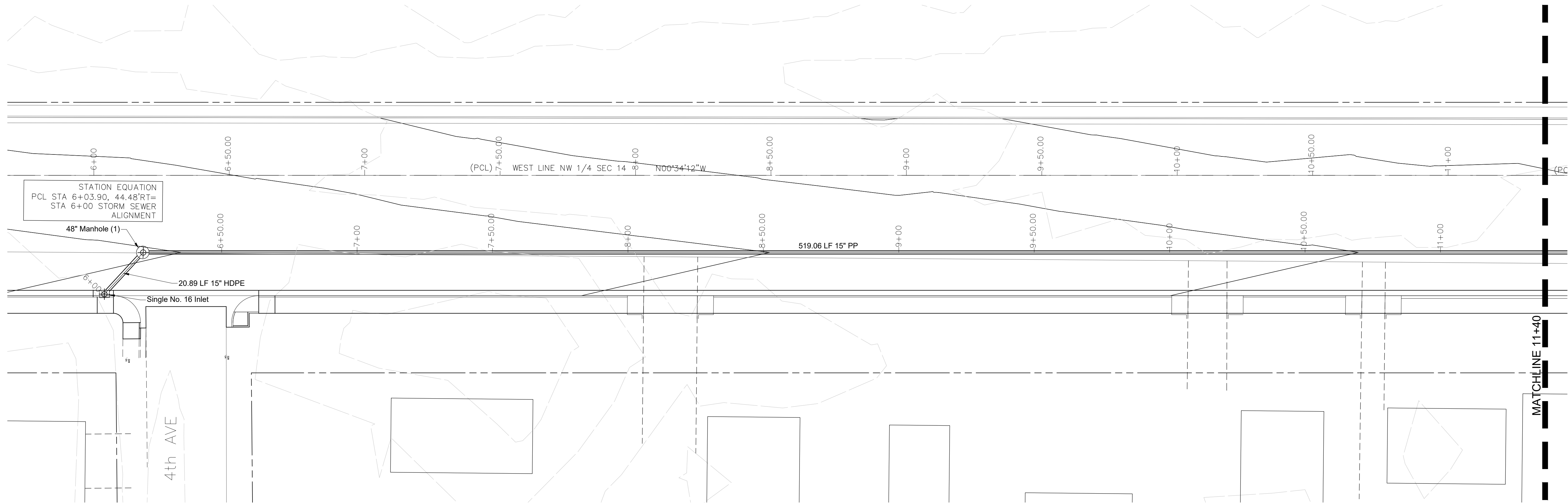
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Engineering & Surveying, Inc.  
12640 West Cedar Drive, Suite C,  
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Office: 303-985-4204  
Fax: 303-985-4214  
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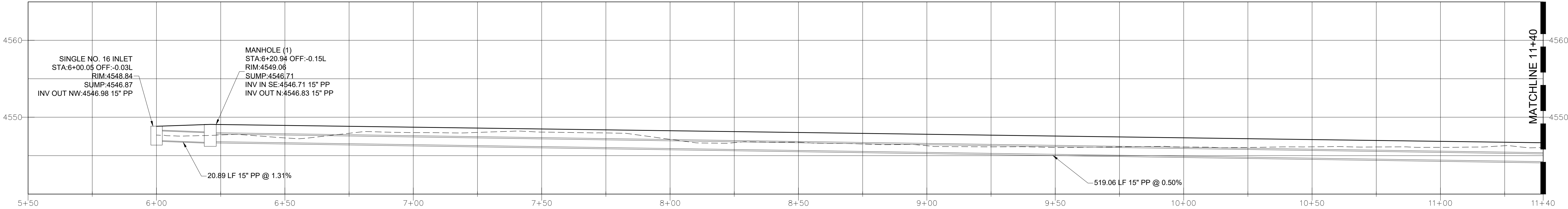
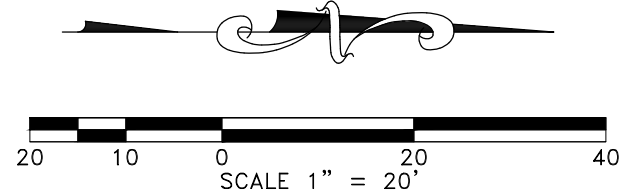
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PLAN



EAST FLOWLINE PROFILE

PROFILE SCALES:  
1"=20' HORIZONTAL  
1"=5' VERTICAL

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Engineering & Surveying, Inc.  
12540 West Cedar Drive, Suite C,  
Lakewood, CO 80228-2030  
Office: 303-985-4204  
Fax: 303-985-4214  
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TOWN OF WIGGINS, CO  
MAIN STREET IMPROVEMENTS

STORM SEWER PLAN & PROFILE (1 OF 2)

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drawn by	
checked by	

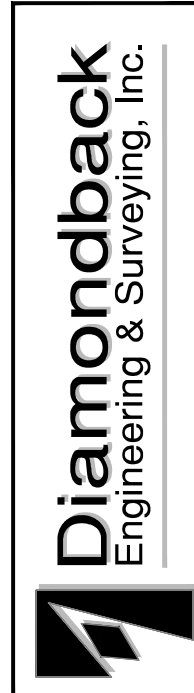
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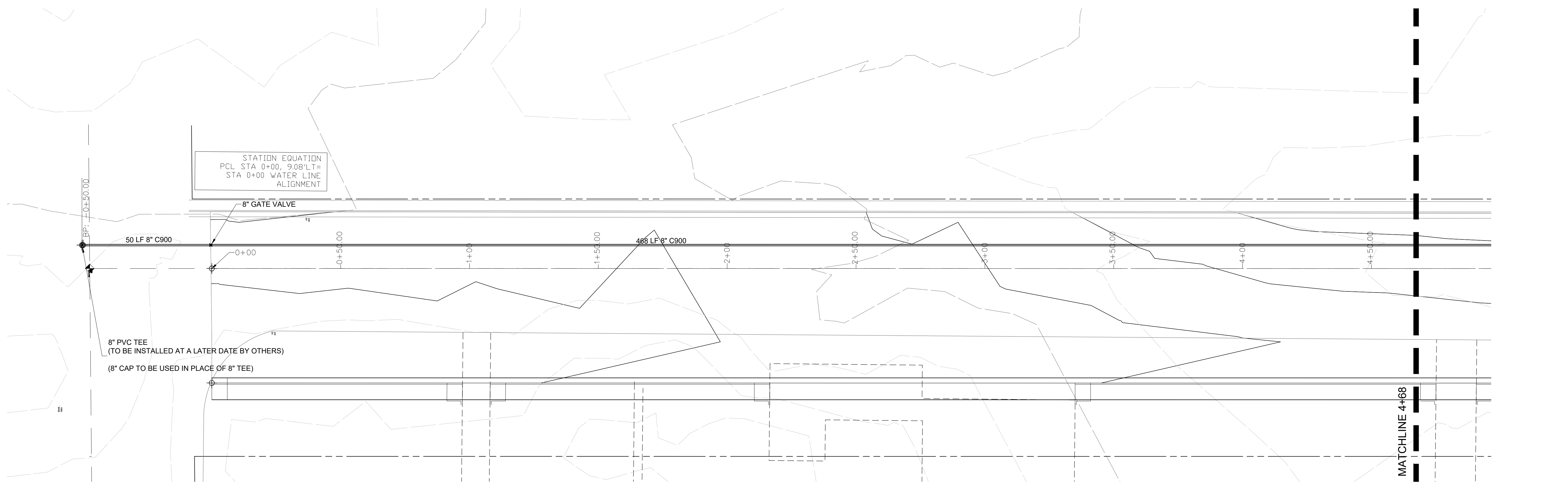
## EAST FLOWLINE PROFILE



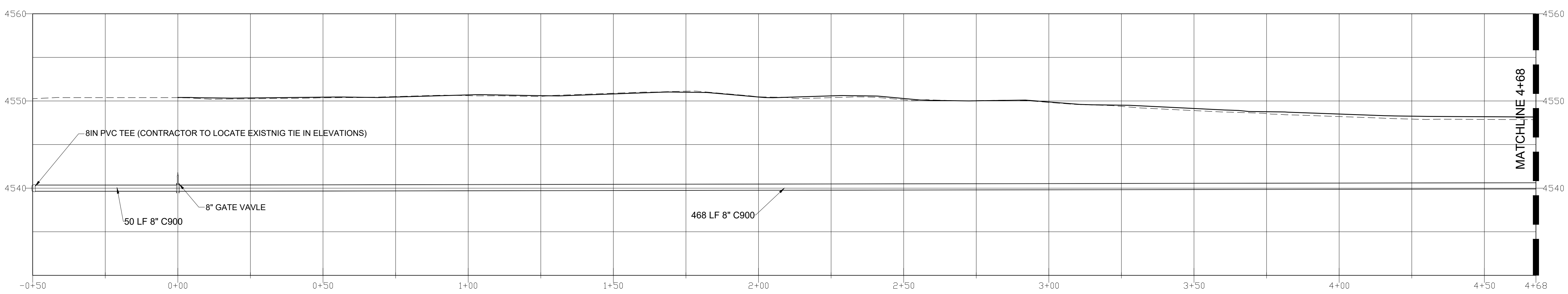
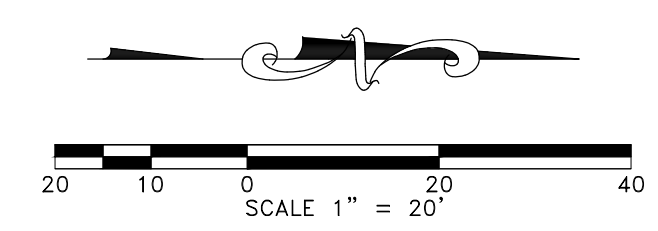
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sheet no. \_\_\_\_\_



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main file \_\_\_\_\_  
plot date \_\_\_\_\_  
xref file \_\_\_\_\_



PLAN



IRRIGATION LINE PROFILE  
PROFILE SCALES:  
1"=20' HORIZONTAL  
1"=5' VERTICAL

NOTE - MIN 4.5' COVER

**Diamondback**  
Engineering & Surveying, Inc.  
12640 West Cedar Drive, Suite C,  
Lakewood, CO 80228-2030  
Office: 303-985-4204  
Fax: 303-985-4214  
www.diamondbackeng.com

PROFESSIONAL ENGINEER  
NO. 2503  
02/03/23

TOWN OF WIGGINS, CO  
MAIN STREET IMPROVEMENTS

-----  
WATER LINE PLAN & PROFILE (1 OF 3)

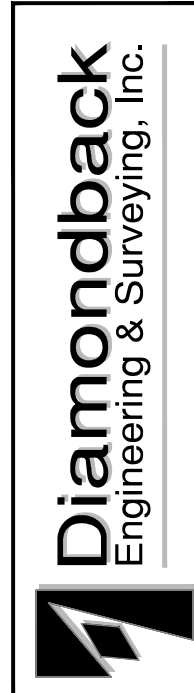
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job number	
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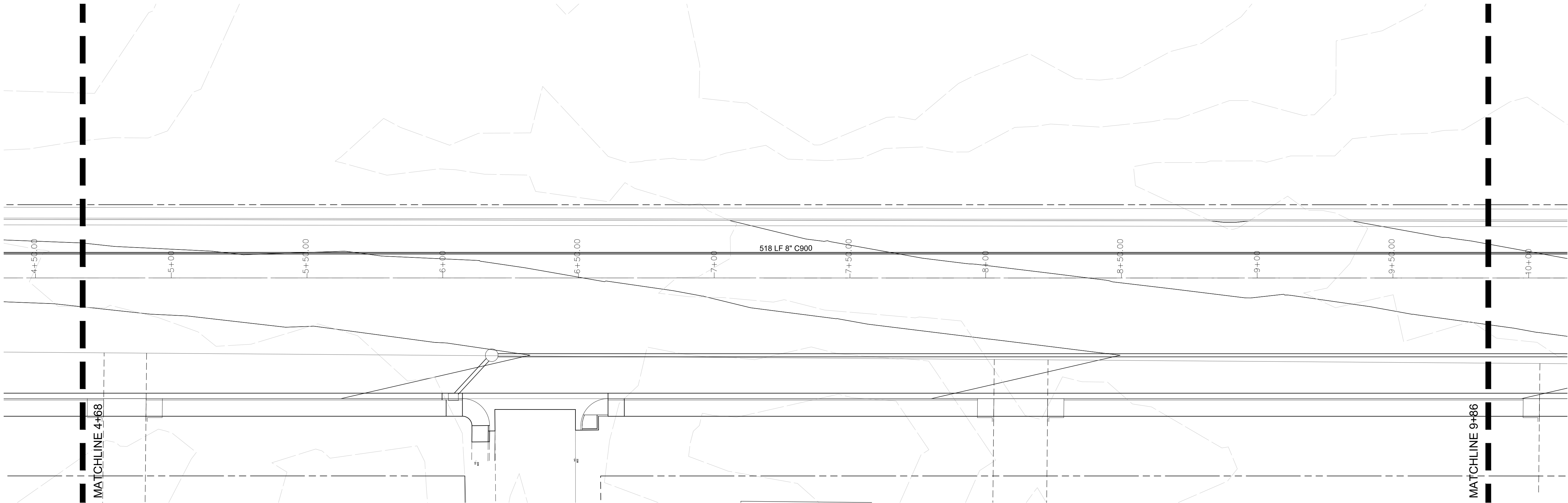
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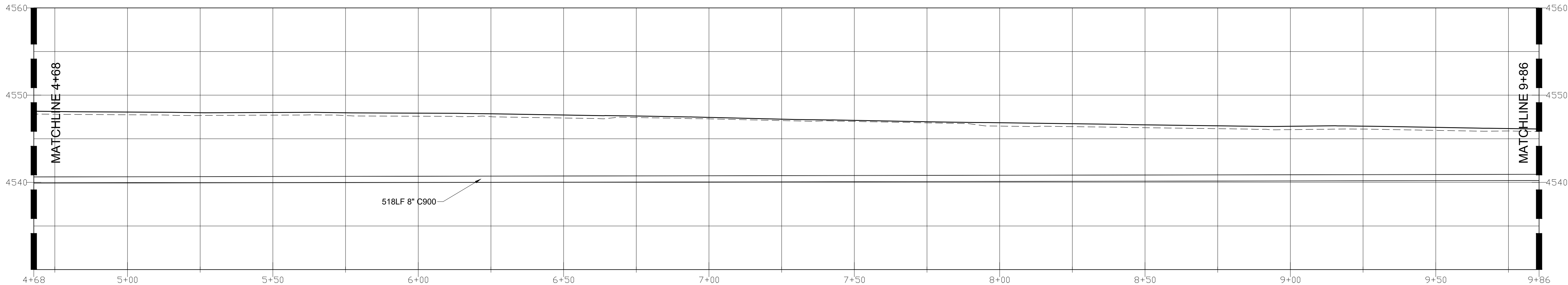
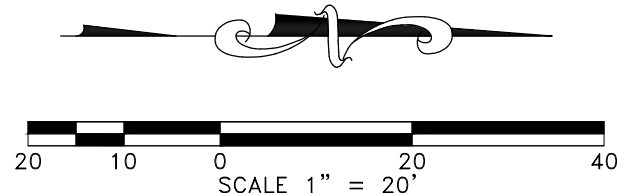
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job no. \_\_\_\_\_  
sheet no. \_\_\_\_\_



CAD FILE INFO  
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PLAN



IRRIGATION LINE PROFILE  
PROFILE SCALES:  
1"=20' HORIZONTAL  
1"=5' VERTICAL

NOTE - MIN 4.5' COVER

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12540 West Cedar Drive, Suite C,  
Lakewood, CO 80228-2030  
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TOWN OF WIGGINS, CO  
MAIN STREET IMPROVEMENTS

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WATERLINE PLAN & PROFILE (2 OF 3)

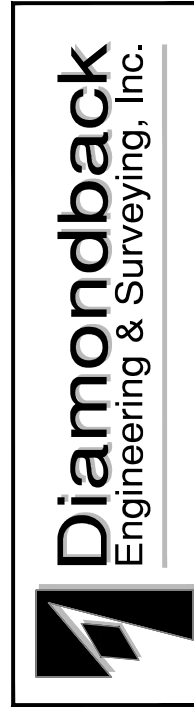
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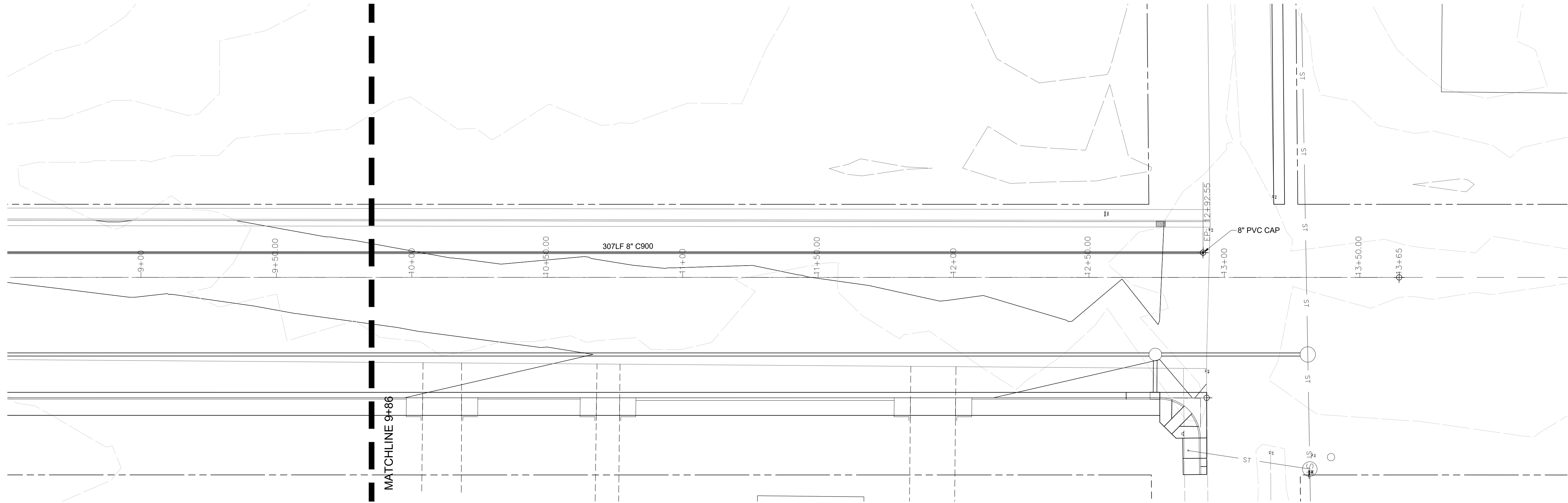
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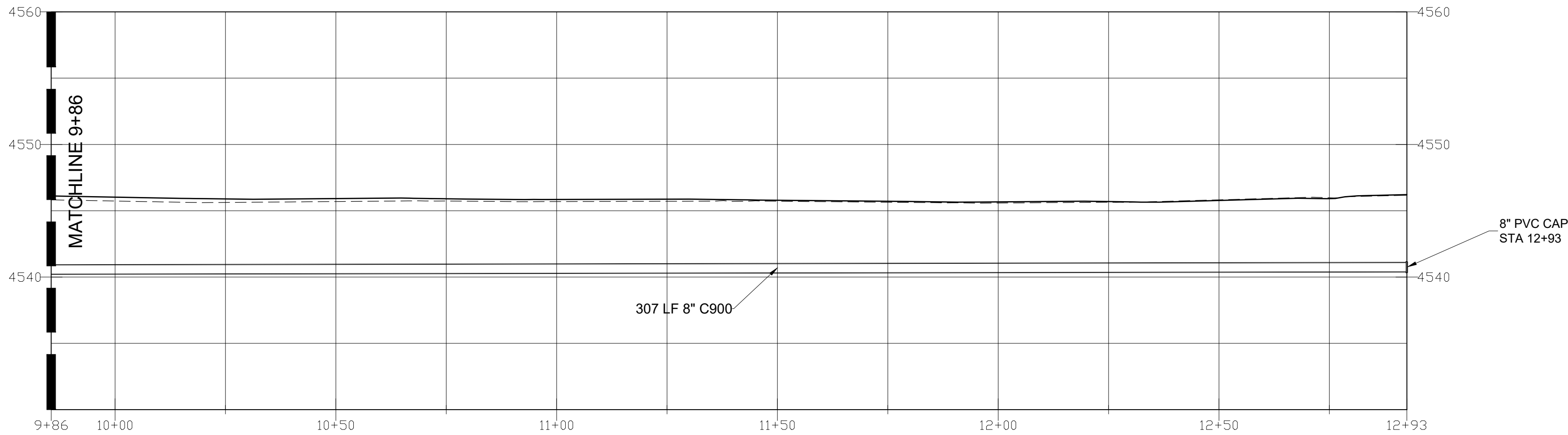
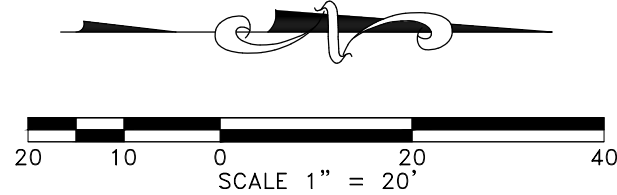
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CAD FILE INFO  
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xref file \_\_\_\_\_



PLAN



IRRIGATION LINE PROFILE

PROFILE SCALES:  
1"=20' HORIZONTAL  
1"=5' VERTICAL

NOTE - MIN 4.5' COVER

**Diamondback**  
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TOWN OF WIGGINS, CO  
MAIN STREET IMPROVEMENTS

WATER LINE PLAN & PROFILE (3 OF 3)

REVISIONS		
no	description of revisions	date by

date 2/3/23

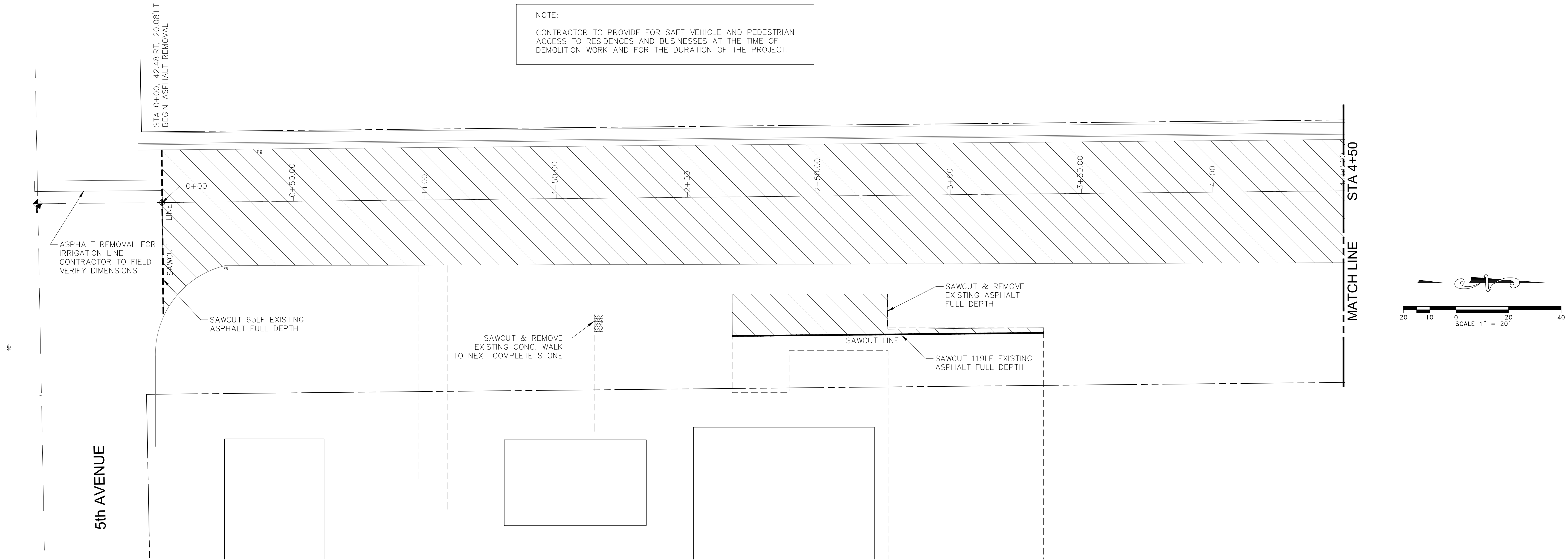
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drawn by \_\_\_\_\_

checked by \_\_\_\_\_


sheet number  
**C8**




NOTE:

CONTRACTOR TO PROVIDE FOR SAFE VEHICLE AND PEDESTRIAN ACCESS TO RESIDENCES AND BUSINESSES AT THE TIME OF DEMOLITION WORK AND FOR THE DURATION OF THE PROJECT.

PLAN



ASPHALT REMOVAL



CONCRETE REMOVAL



**Diamondback**  
Engineering & Surveying, Inc.

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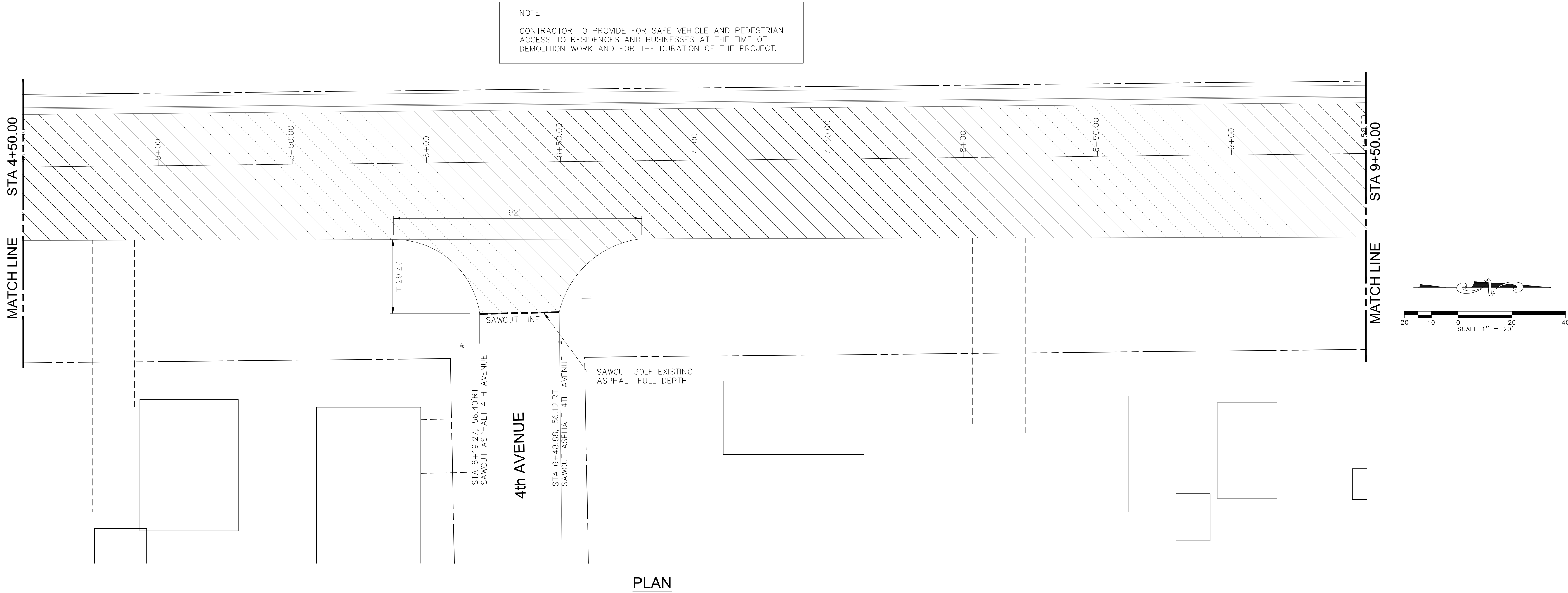
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Lakewood, CO 80228-2030  
Office: 303-985-4204  
Fax: 303-985-4214  
[www.diamondbackeng.com](http://www.diamondbackeng.com)

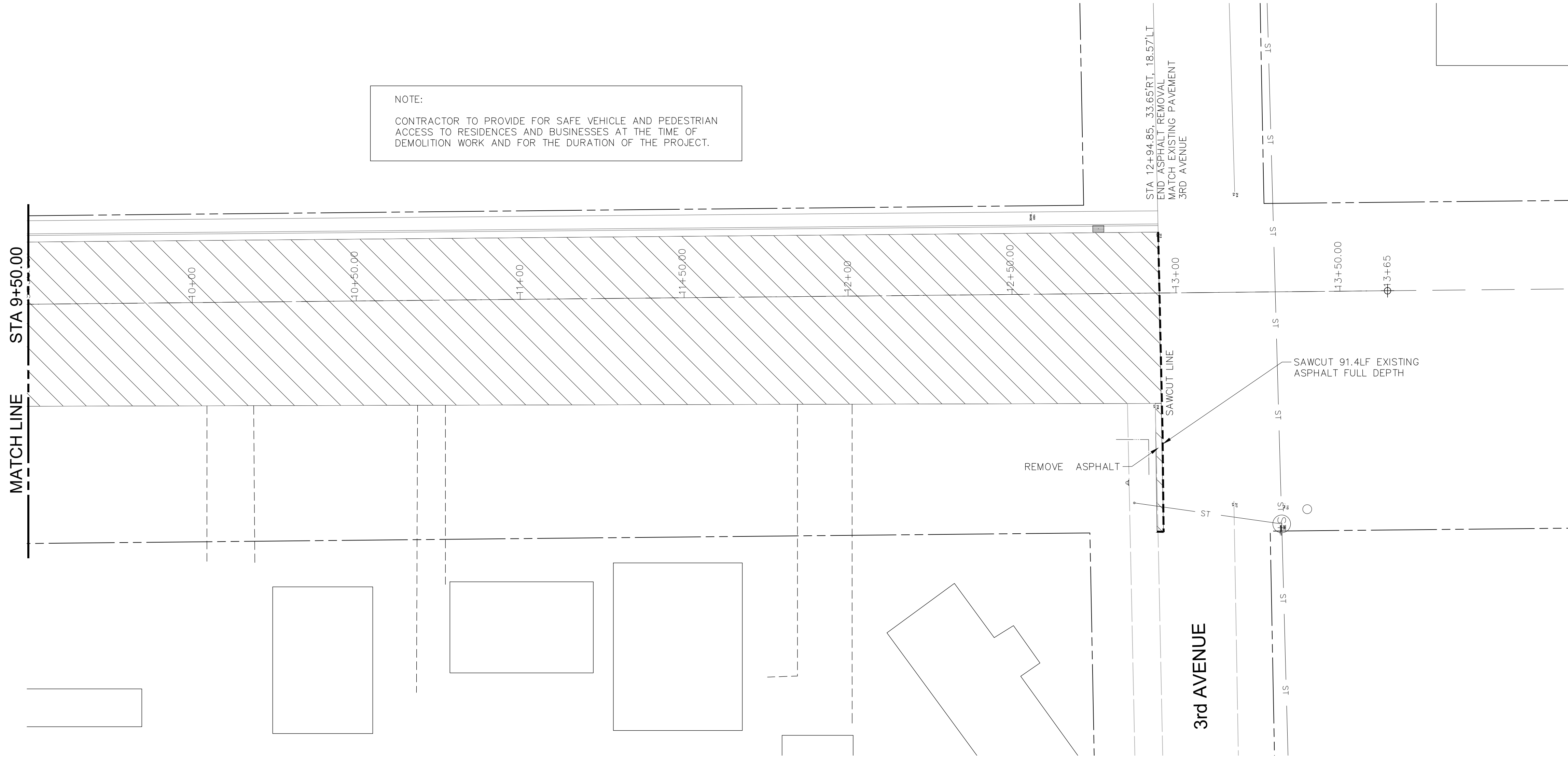
TOWN OF WIGGINS, CO  
MAIN STREET IMPROVEMENTS  
-  
DEMO PLAN (1 OF 3)  
STA 0+00 - STA 4+50

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JULY 2022	job number	1	ISSUED FOR BID	2/3/2023	
	design by				
	drawn by				
	checked by				

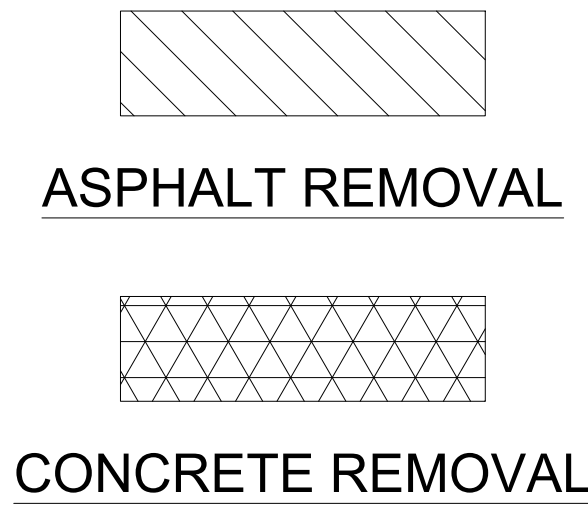
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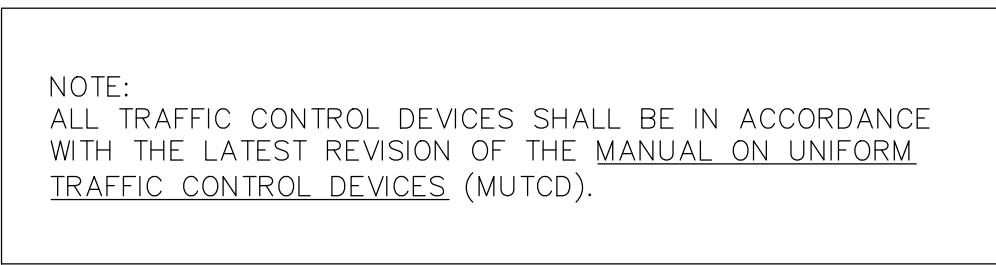
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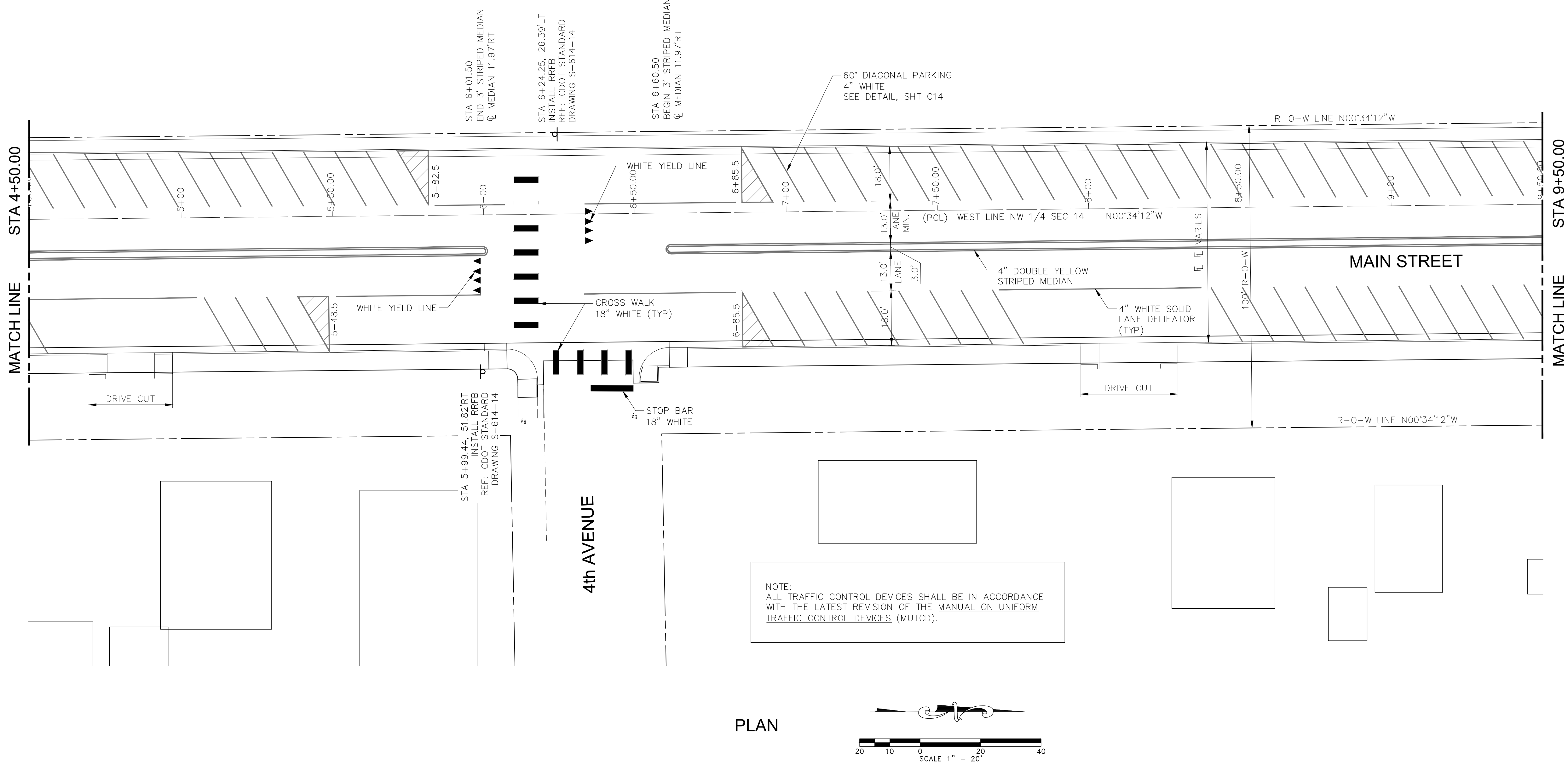




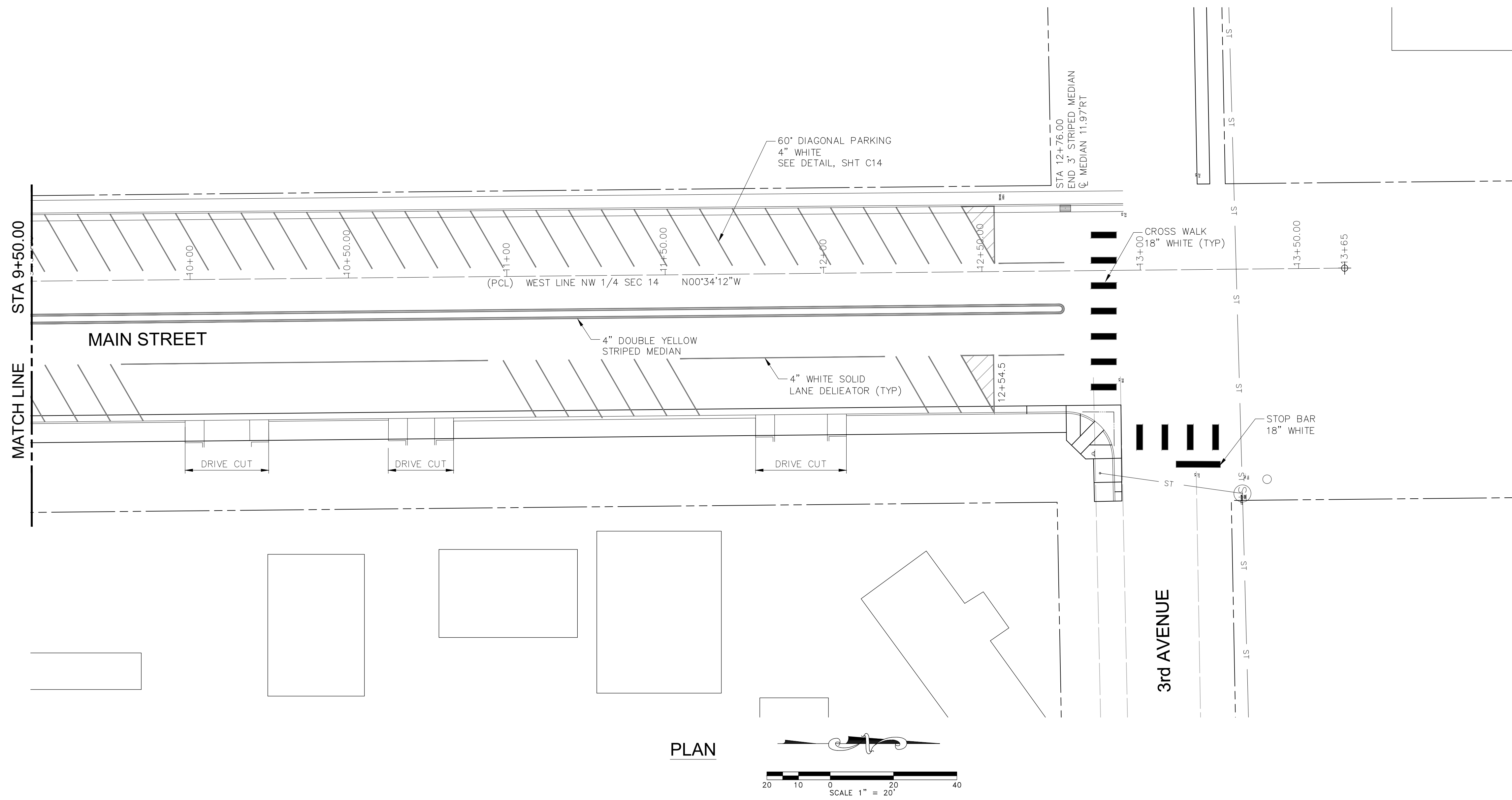
NOTE:  
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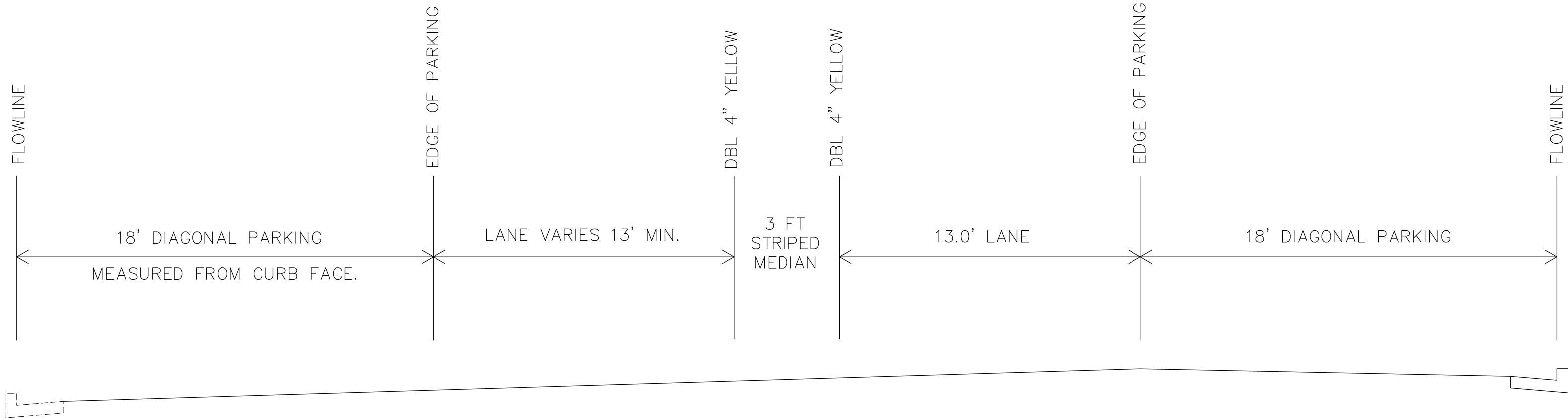




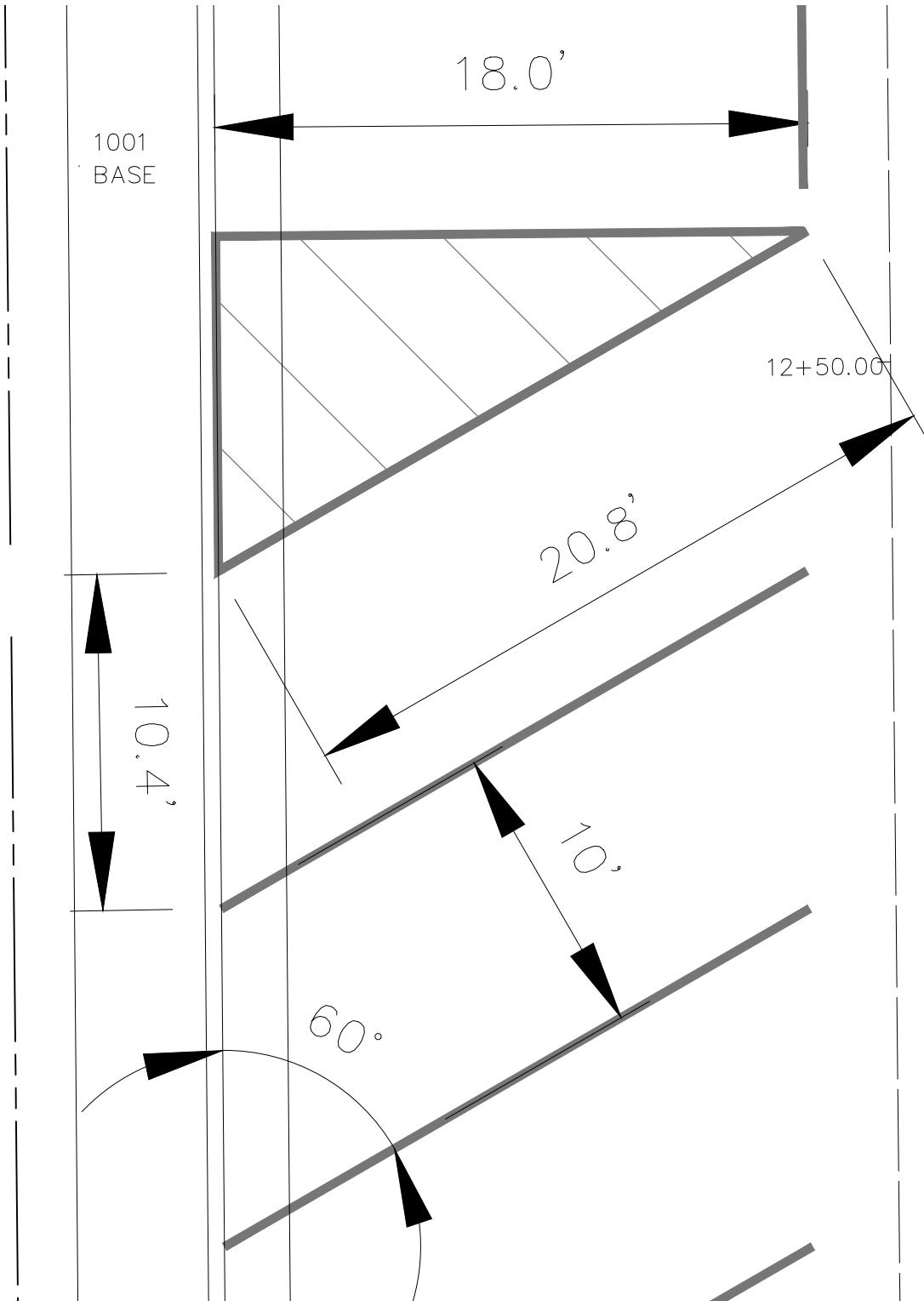








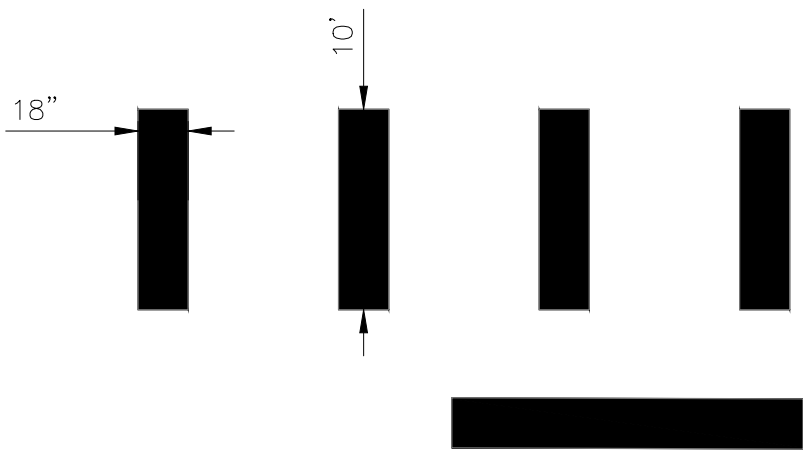
STRIPING SECTION  
NOT TO SCALE  
LOOKING STATION AHEAD



DIAGONAL PARKING DETAILS  
1" = 5'

NOTES:

1. PARKING STRIPING SHALL BE A 4" WIDE SOLID CONTINUOUS WHITE LINE
2. STRIPING FOR PEDESTRIAN CROSSINGS SHALL USE THEROMPLASTIC MARKINGS IN THE SPECIFIED COLOR AND WIDTH.
3. DIMENSIONS SHOWN MEASURED FROM CURB FACE.



CROSS WALK STRIPING DETAIL  
NOT TO SCALE

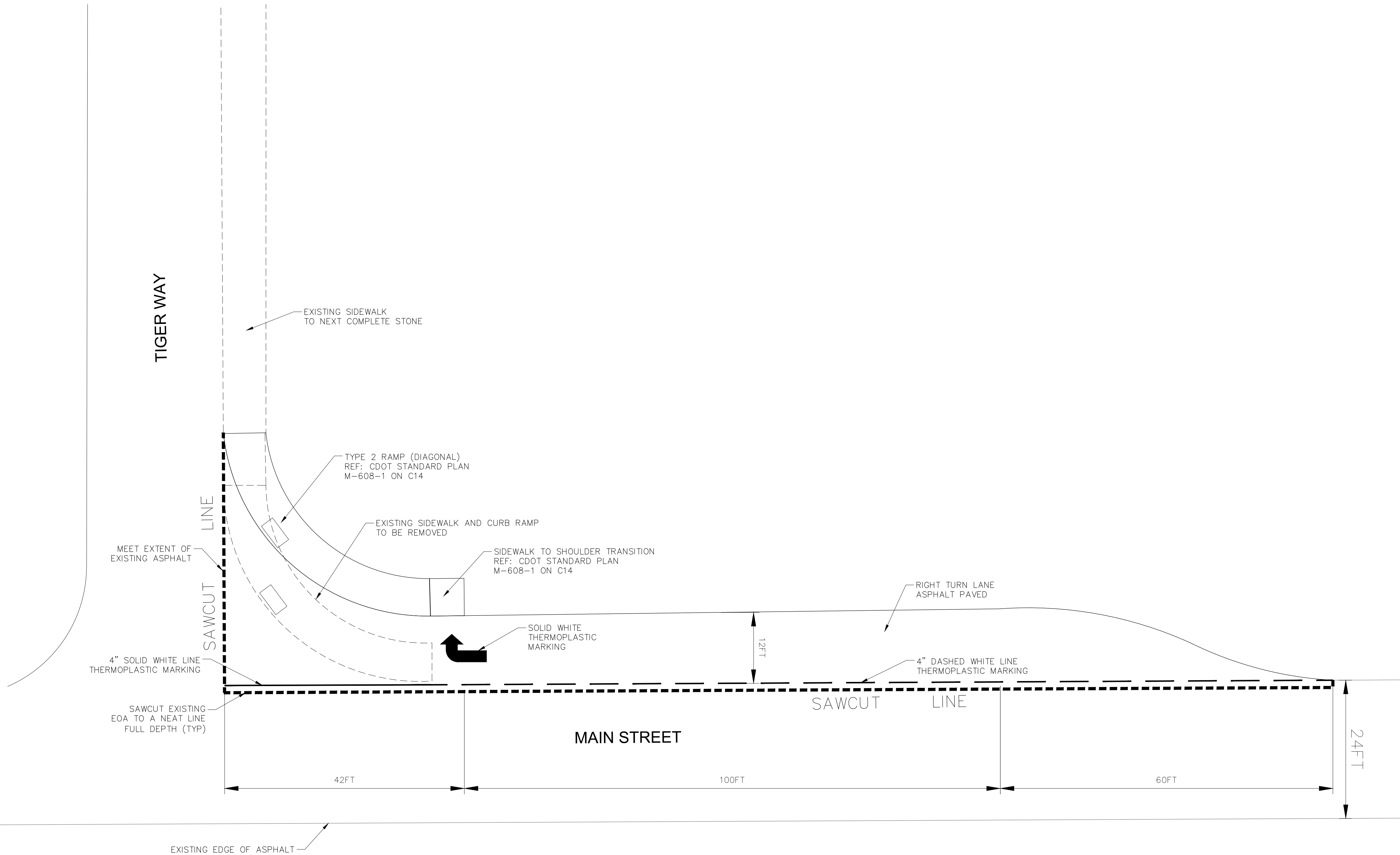
NOTES:

1. KEEP BARS PARALLEL TO LANE LINES.
2. ALL BARS IN CROSS WALK SHALL BE UNIFORM IN WIDTH.
3. ADJUST ALIGNMENT IF NECESSARY. CROSSWALK SHOULD ALIGN WITH CENTER OF PEDESTRIAN CURB RAMPS .

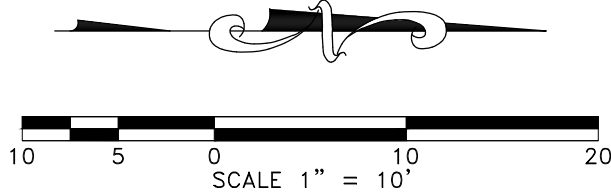


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no	description of revisions	date	by
1	ISSUED FOR BID	2/3/2023	

date	JULY 2022
job number	
design by	MT
drawn by	MT
checked by	JE



PLAN



TOWN OF WIGGINS, CO  
MAIN STREET IMPROVEMENTS  
MAIN ST AND CHAMPAN AVE  
RIGHT TURN LANE

REVISIONS			
no	description of revisions	date	by
1	ISSUED FOR BID	2/3/2023	

date	JULY 2022
job number	
design by	JS
drawn by	JS
checked by	JE

sheet number

C15

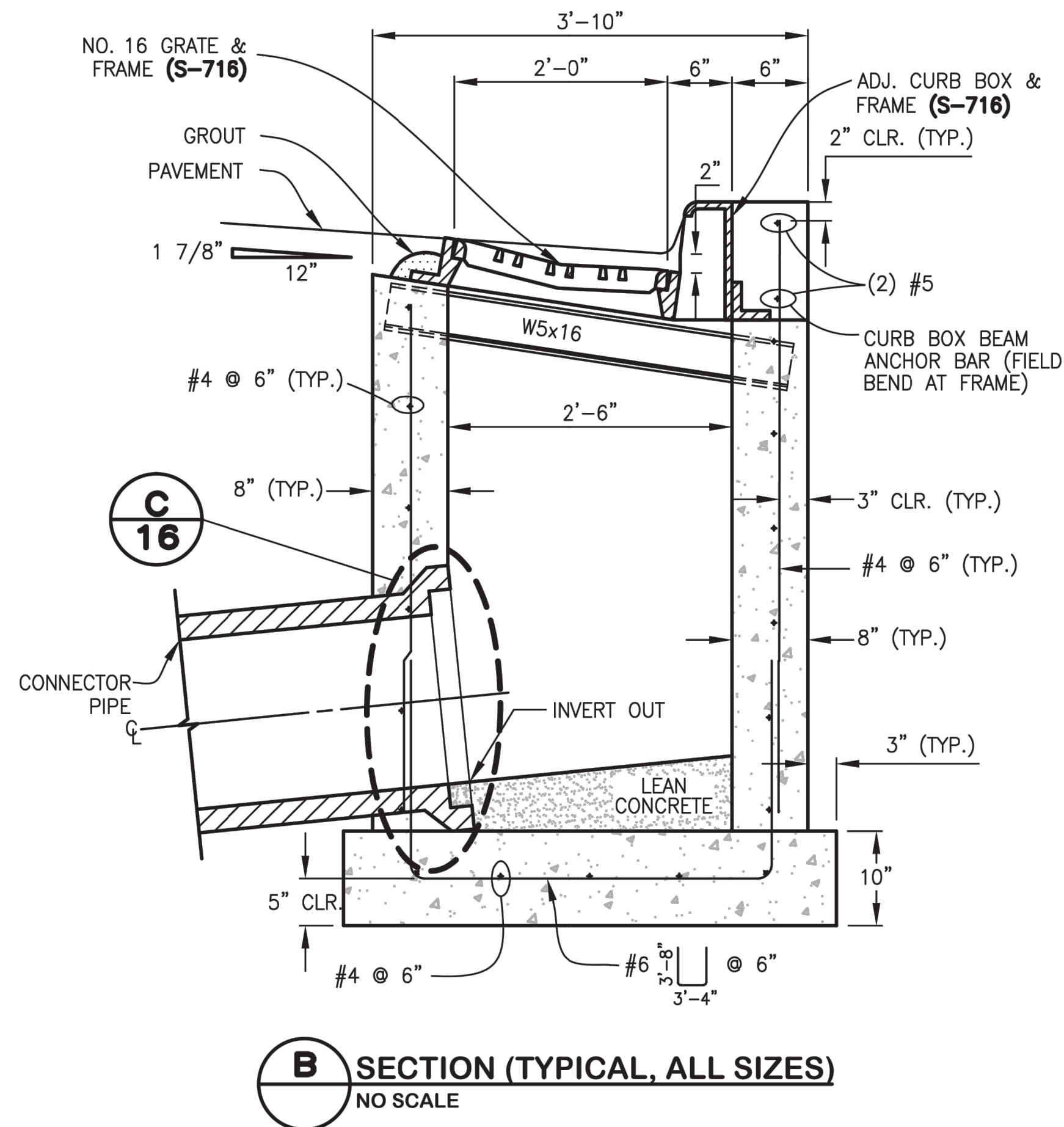
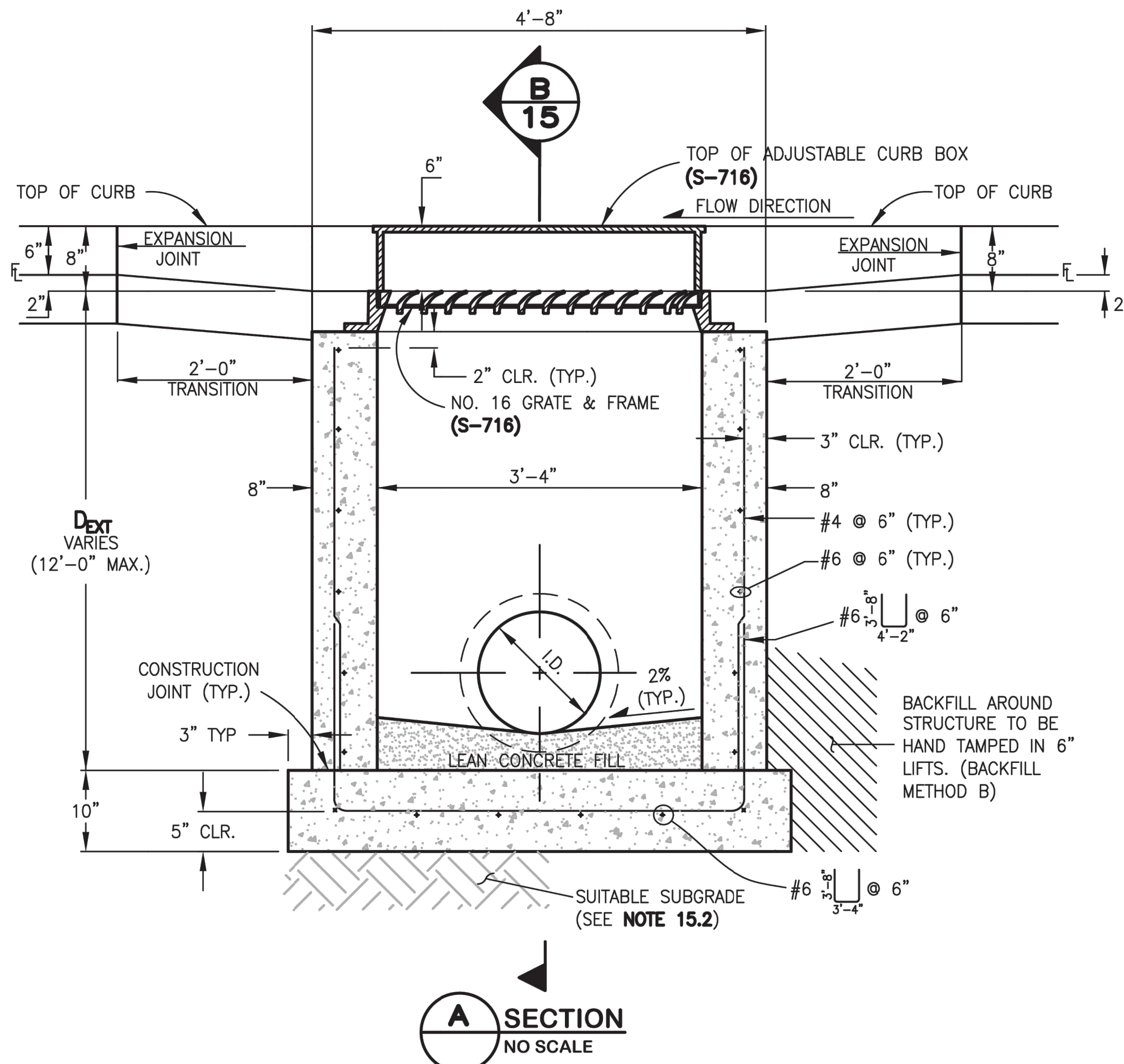
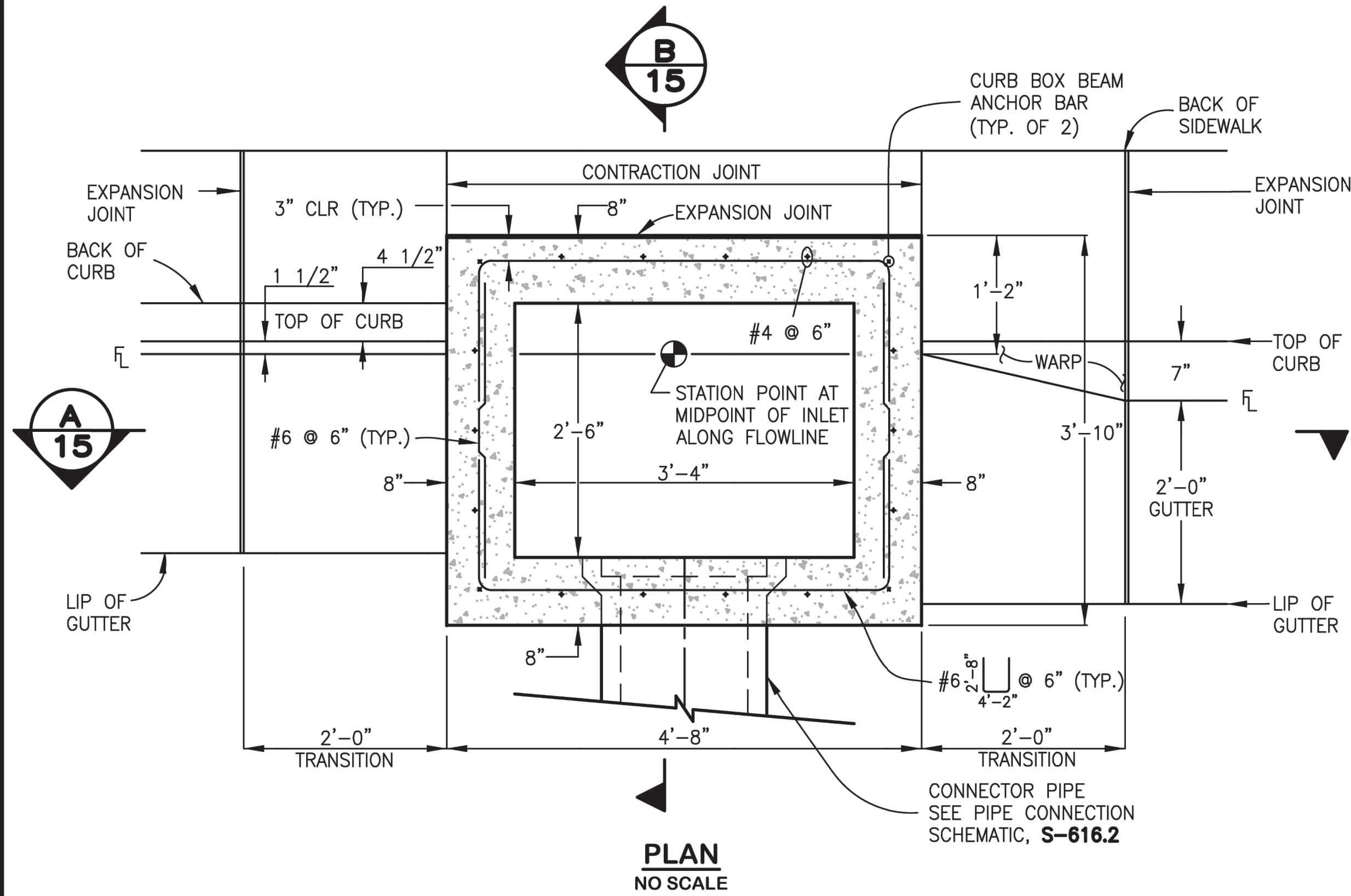


project  
job no.  
sheet no.

PLOT DATE: May 17, 2020

plot date  
xref file

CAD FILE INFO  
main file



#### SINGLE NUMBER 16 INLET NOTES:

- FOR PAYMENT PURPOSES, INLET STRUCTURES SHALL ALSO INCLUDE 2'-0" CURB & GUTTER TRANSITION SECTION AT EACH END OF INLET PLUS SIDEWALK SECTIONS WHERE REQUIRED BEHIND INLET STRUCTURE AND TRANSITION SECTIONS.
- SUB-GRADE SHALL BE 6-12" OF CLASS B BEDDING COMPACTED PER WCPM STANDARD CONSTRUCTION SPECIFICATIONS, ON SUITABLE, UNDISTURBED MATERIAL. IF SUBGRADE IS UNSUITABLE, THE SUBGRADE SHALL BE OVEREXCAVATED AND STABILIZED WITH CLASS B BEDDING PER WCPM STANDARD CONSTRUCTION SPECIFICATIONS.
- FLOOR SLOPE MAY BE POURED MONOLITHIC WITH BASE.
- $S_c$  = SLOPE OF CONNECTOR = 2% MIN.
- UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS OR OTHERWISE APPROVED, ALL NO. 16 INLETS SHALL BE CONSTRUCTED WITH AN ADJUSTABLE CAST IRON CURB BOX (S-716).
- DESIGN CONDITIONS FOR INLET ALLOWS DEPTHS OF 12'-0" (MAX.). FOR INLETS MORE THAN 12'-0" FEET IN DEPTH, SHOP DRAWINGS AND DESIGN ANALYSIS SHALL BE SUBMITTED FOR APPROVAL.
- ALL REINFORCING STEEL SHALL BE ASTM, A-615, GRADE 60 DEFORMED BARS. DIAMETER OF BEND MEASURED ON THE INSIDE OF THE BAR SHALL BE A MINIMUM OF 6 BAR DIAMETER.
- ALL SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, 2017.
- NO FORMWORK SHALL WORK REMAIN INSIDE STRUCTURE WHEN COMPLETE.
- CONCRETE MIX FOR GUTTER AND ANY ADDED STREET PANELS SHALL MEET CLASS 2 REQUIREMENTS FOR SULFATE RESISTANCE IN ACCORDANCE WITH CDOT STANDARD 601.04 ON STREETS WHERE MAGNESIUM CHLORIDE CHEMICAL DEICERS ARE APPLIED. REFER TO WCPM STANDARD CONSTRUCTION SPECIFICATIONS SECTION 11 FOR REQUIREMENTS FOR SULFATE RESISTANCE IN CONCRETE EXPOSED TO EARTH.
- SPLICING OF REINFORCING STEEL SHALL BE PERMITTED ONLY WHERE DETAILED IN DRAWINGS.
- INLET WALLS SHALL BE FORMED BOTH INSIDE AND OUTSIDE. CASTING OF SIDEWALLS AGAINST EARTH IS NOT PERMITTED.
- LEAN CONCRETE FILL TO BE  $f'c$  = 2000 PSI. INLET STRUCTURE, LID, STREET CURB AND GUTTER, AND PAVEMENT TO BE  $f'c$  = 4,500 PSI, MAX  $W/CM$  = 0.45 AND AIR ENTRAINED 5% TO 8%.  $f'c$  = 28 DAY COMPRESSIVE STRENGTH REQUIREMENT FOR MIX DESIGN, FIELD ACCEPTANCE.
- FOR THROUGH STRUCTURES, BENCHES MUST COME TO TOP OF PIPE.
- NO CORNER PENETRATIONS ON STRUCTURE.
- SEE WCPM STANDARD CONSTRUCTION SPECIFICATIONS SECTION 11.04 STORM INLETS FOR MORE INFORMATION. USE OF THIS DETAIL WITHOUT SPECIFICATIONS SHALL BE CONSIDERED NON-COMPLIANT.
- SEE S-616.2 FOR REBAR PLACEMENT AT WALL PENETRATION DETAIL.
- REFER TO "TRANSPORTATION STANDARDS AND DETAILS FOR THE ENGINEERING DIVISION" FOR ADJACENT ROADWAY AND SIDEWALK DESIGN CRITERIA.

DRAWN BY:  
DESIGNED BY:  
APPROVED BY:  
DRAWING NAME:  
DATE:  
SHEET NO.:

STANDARD DETAILS

SINGLE NUMBER 16 INLET

S-616.1

CITY AND COUNTY OF DENVER  
2000 W. 3RD AVE. DENVER, CO 80223  
www.denvergov.org



NO.	DESCRIPTION OF REVISIONS	DATE	BY

sheet number

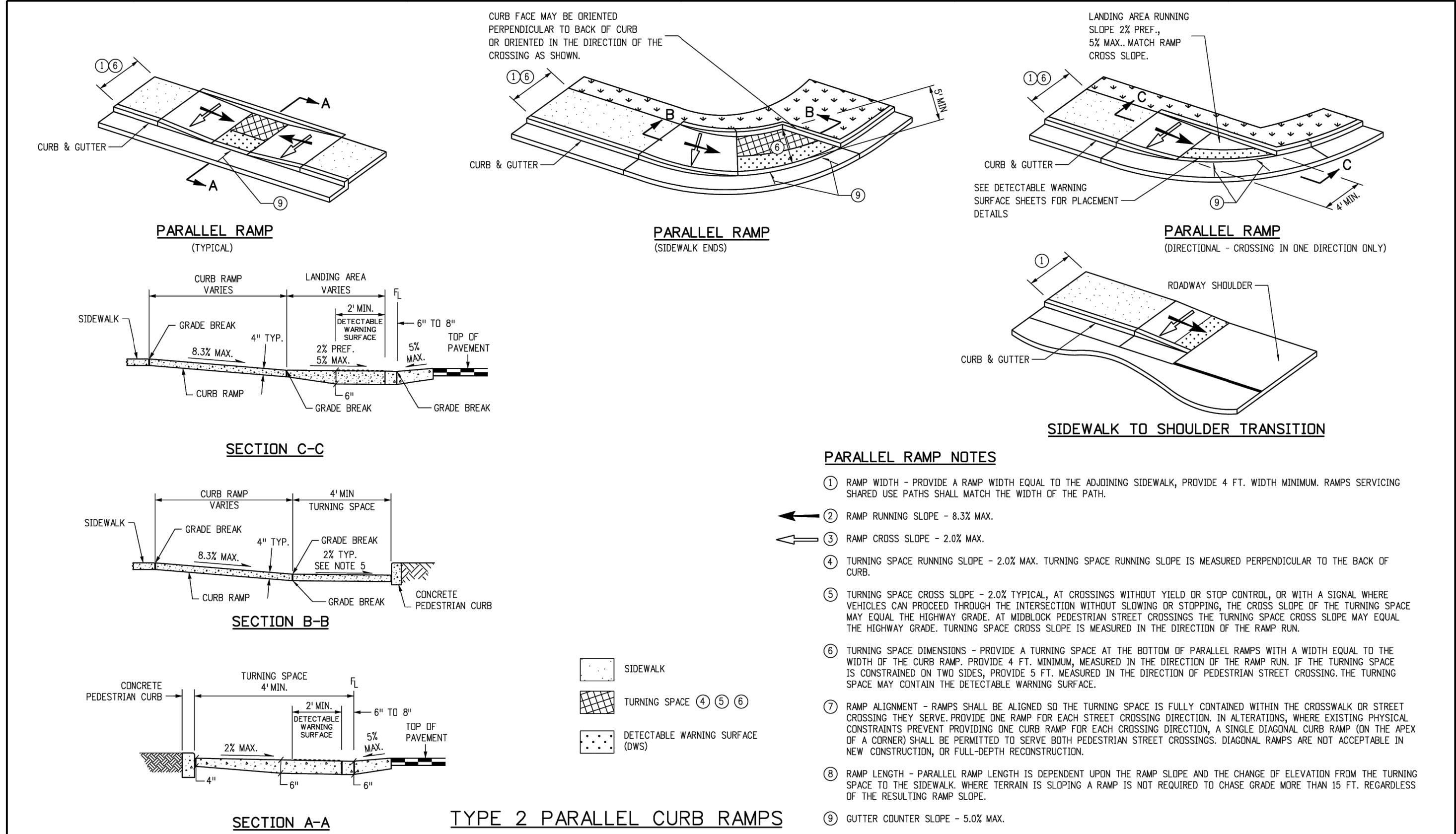
date  
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NO.	ISSUED FOR BID	description of revisions	date	by
1			2/3/2023	

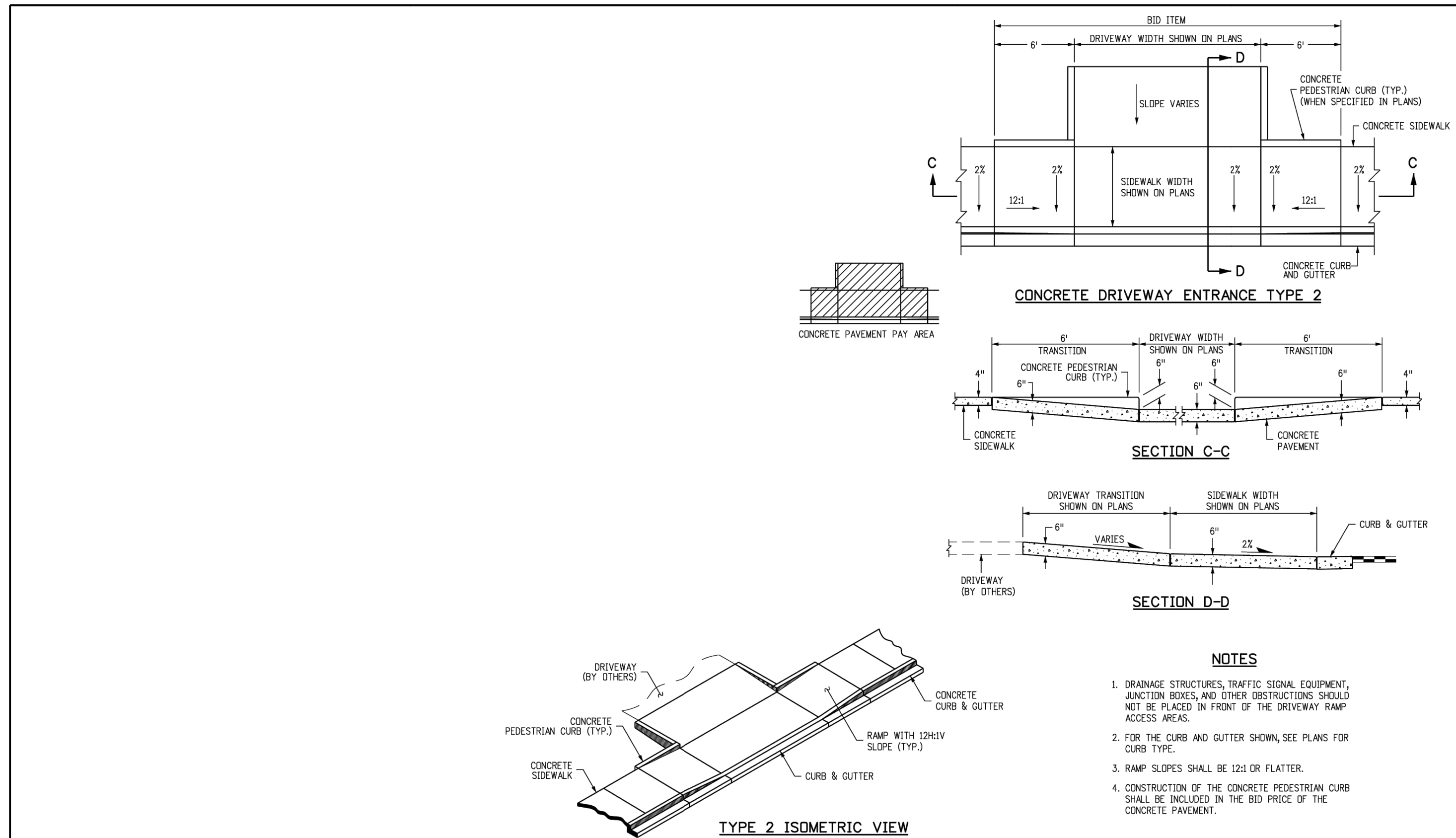
TOWN OF WIGGINS, CO  
MAIN STREET IMPROVEMENTS  
DENVER SINGLE NO. 16 INLET



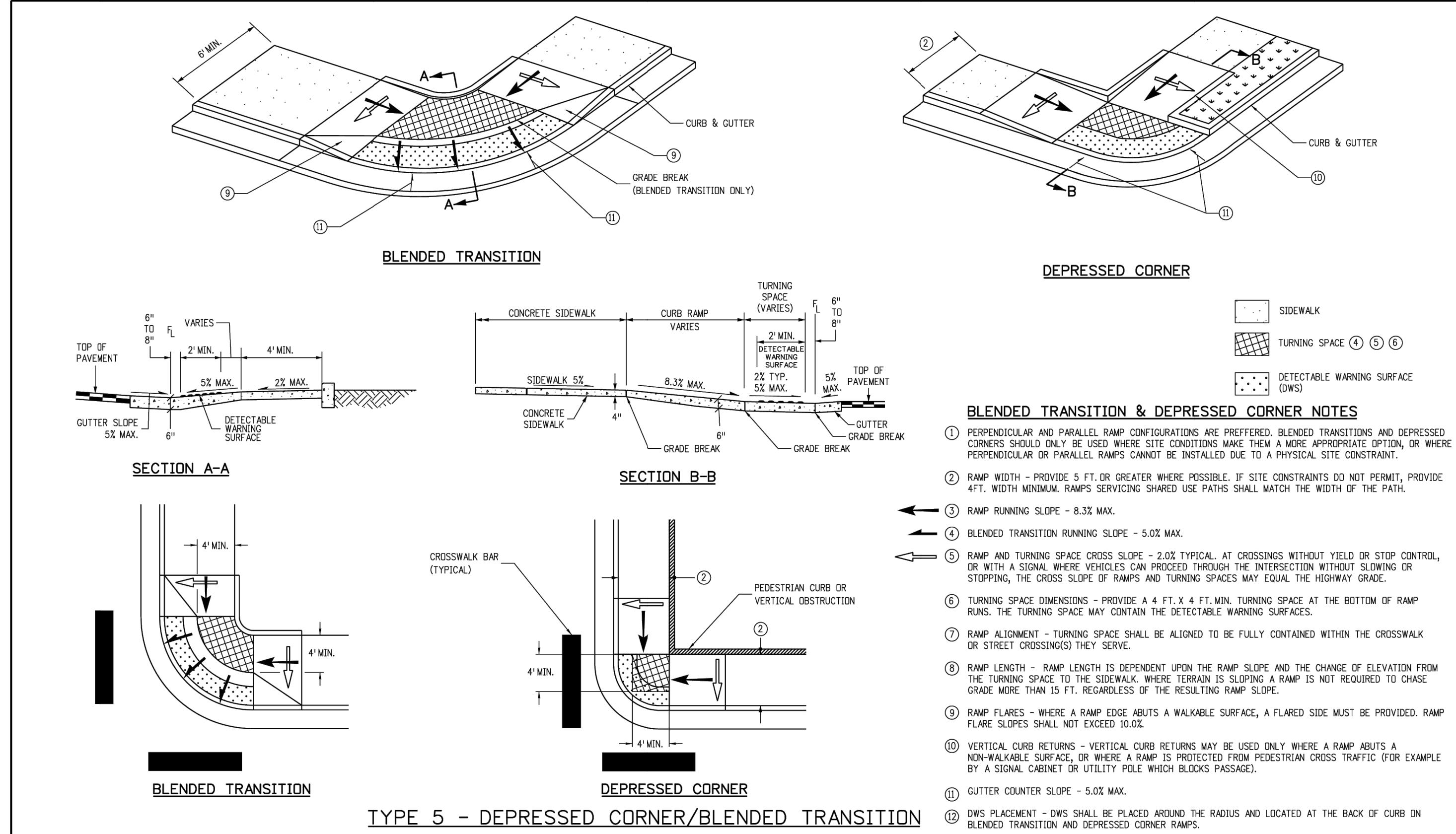
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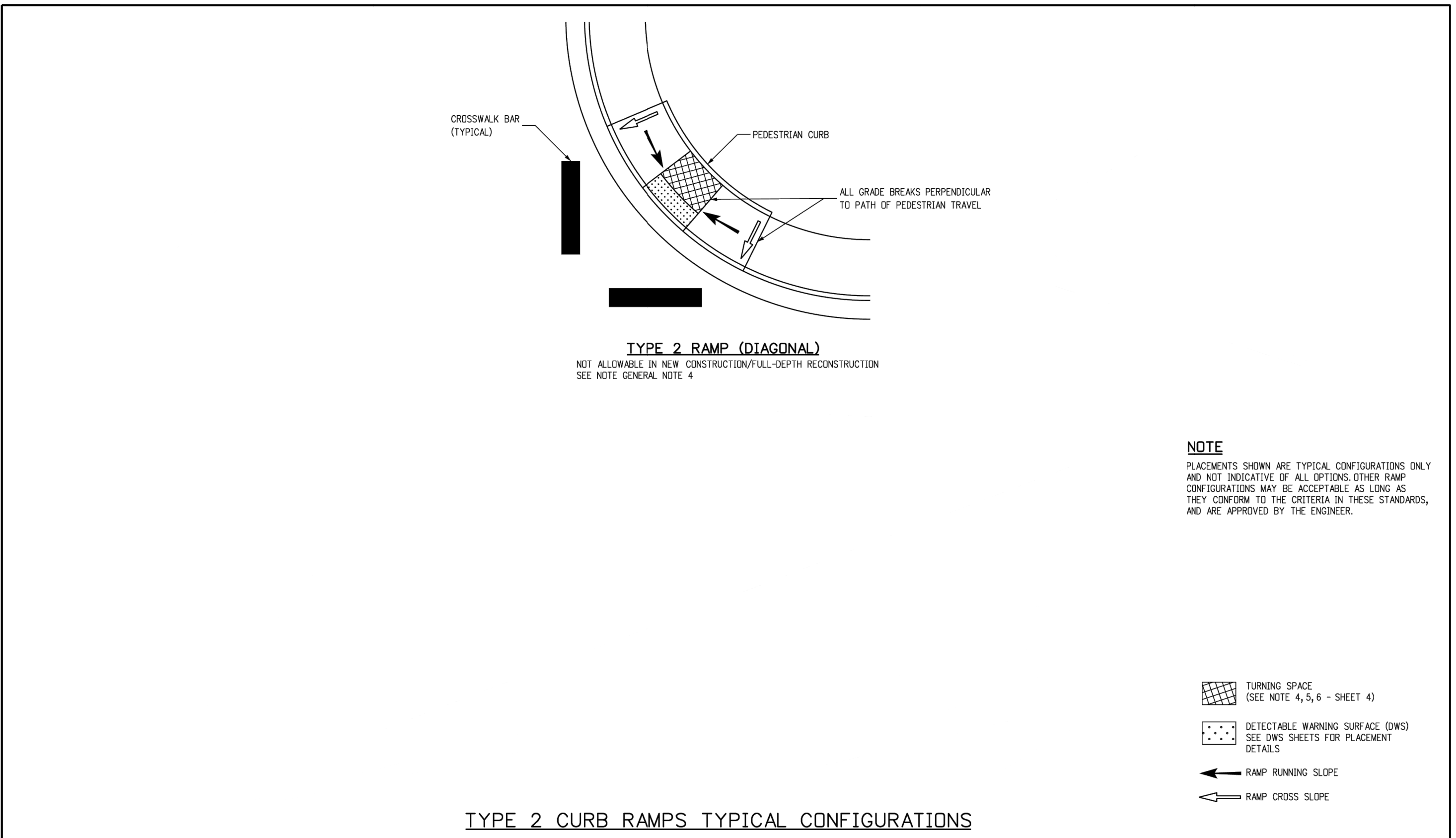
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Designer Initials: JBK		Comments:		CDOT HQ, 3rd Floor		Standard Sheet No. 4 of 10	
Last Modification Date: 07/31/19				Denver, CO 80204		Project Sheet Number:	
Detailer Initials: LTA				Phone: 303-757-9021 FAX: 303-757-9868			
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English				Project Development Branch JBK			



Computer File Information		Sheet Revisions		Colorado Department of Transportation		STANDARD PLAN NO.	
Creation Date: 07/31/19		Date:		2829 West Howard Place		M-609-1	
Designer Initials: JBK		Comments:		CDOT HQ, 3rd Floor		Standard Sheet No. 3 of 4	
Last Modification Date: 07/31/19				Denver, CO 80204		Project Sheet Number:	
Detailer Initials: LTA				Phone: 303-757-9021 FAX: 303-757-9868			
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English				Project Development Branch JBK			



Computer File Information		Sheet Revisions		Colorado Department of Transportation		STANDARD PLAN NO.	
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CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English				Project Development Branch JBK			

REVISIONS		no	description of revisions	date	by
ISSUED FOR BID		1		2/3/2023	

date	JULY 2022
job number	
design by	JS
drawn by	JS
checked by	JE

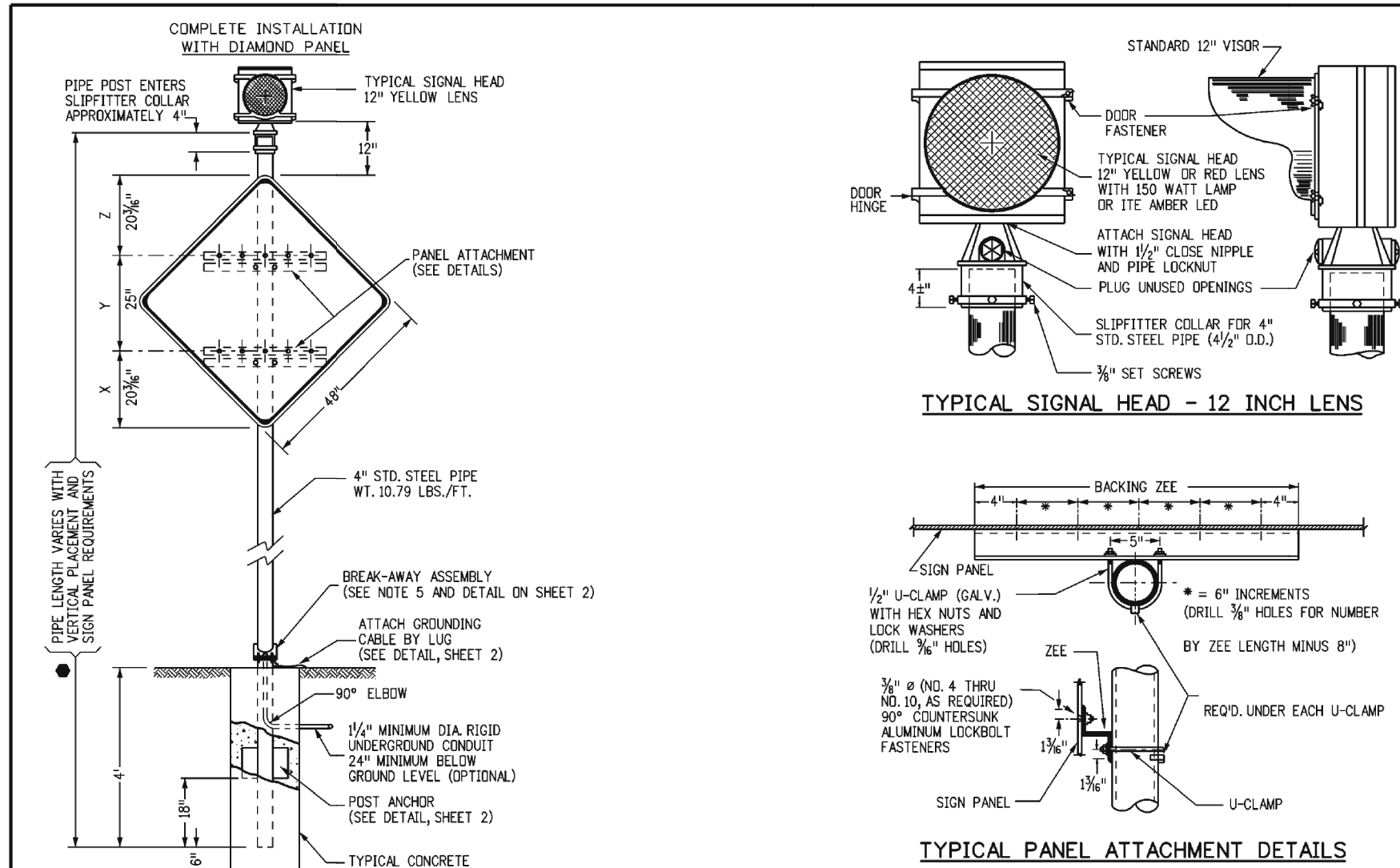
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CDOT DETAILS

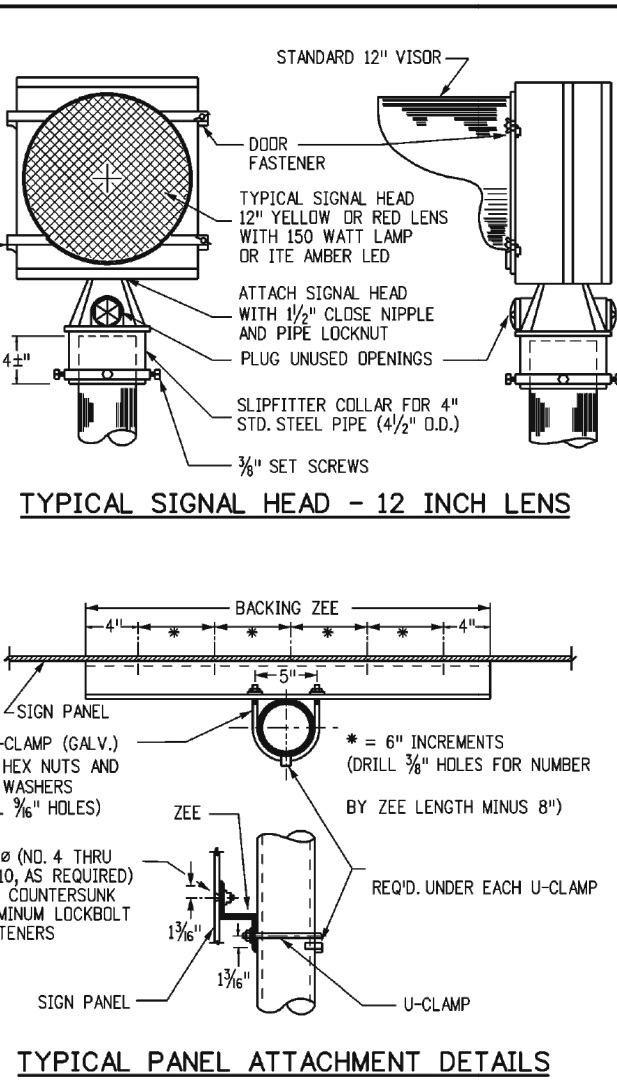


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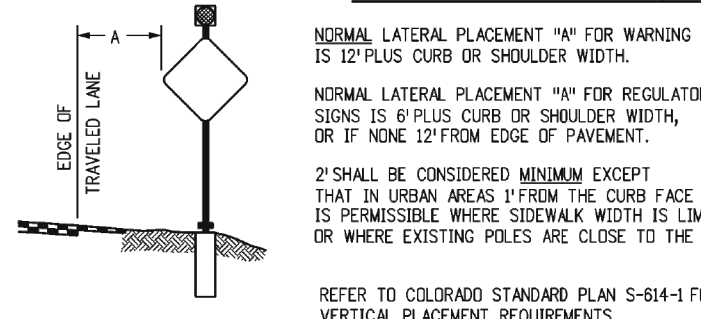


DESCRIPTION	DIMENSIONS (IN.)			LENS TYPE	BACKING ZEES
	X	Y	Z		
36" DIAMETER CIRCLE PANEL (●)	8	20	8	12" YELLOW	20"
48" DIAMETER CIRCLE PANEL (●)	10 1/2	27	10 1/2	12" YELLOW	20"
36" PENTAGON PANEL (●)	9	20	9	12" YELLOW	20"
48" PENTAGON PANEL (●)	12	25 1/4	9	12" YELLOW	20"
48" OCTAGON PANEL (●)	12	24	12	12" RED	20"
24" x 48" RECTANGLE PANEL (■)	12	24	12	12" YELLOW	20"

TYPICAL ELEVATION FACING TRAFFIC



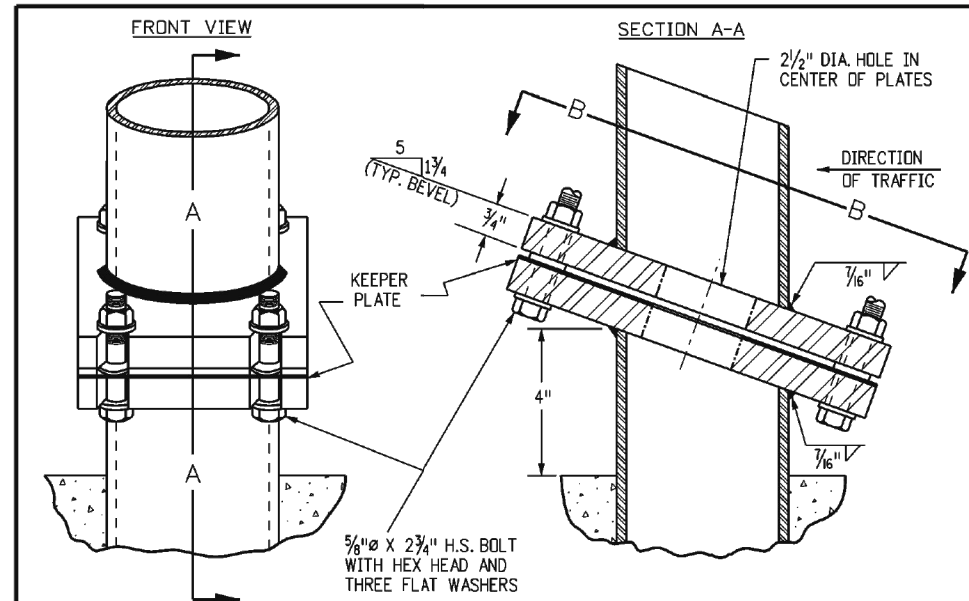
LATERAL PLACEMENT ("A")



TYPICAL SIGN PLACEMENT

#### GENERAL NOTES

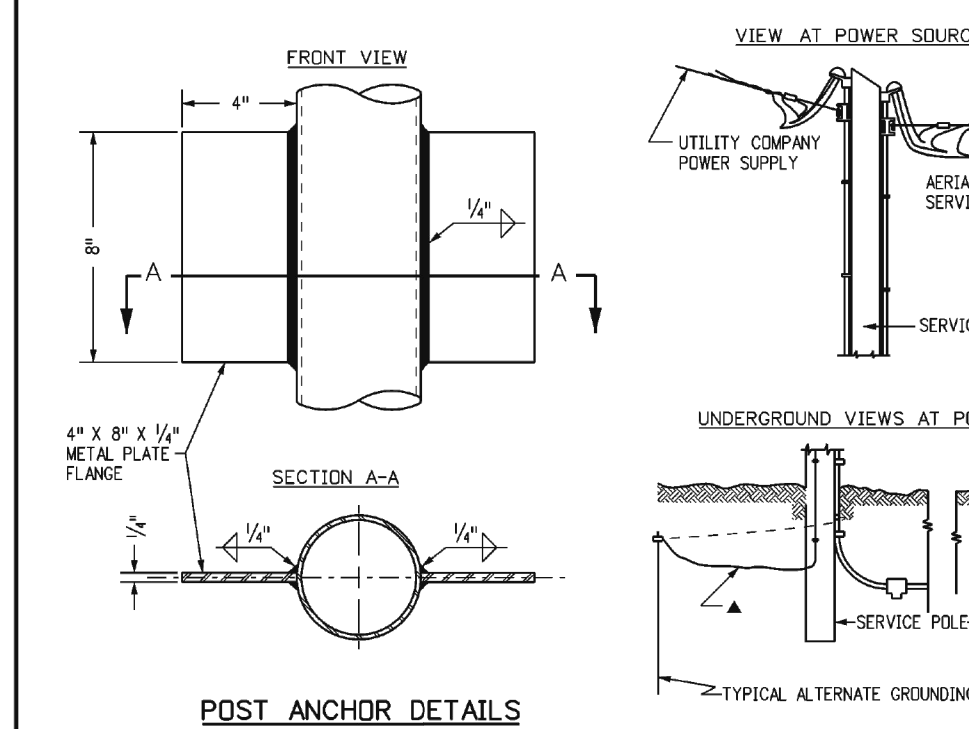
- ALL SIGN PANELS USED ON FLASHING BEACONS ARE CLASS II AND SHALL BE FABRICATED IN ACCORDANCE WITH:  
A. PANELS SHALL BE SINGLE SHEET ALUMINUM 0.020 MINIMUM THICKNESS.  
B. BACKING ZEES ARE 3 IN. X 20 IN. IN 2.33 LBS. PER FT. ALUMINUM.  
C. ALL SIGNS SHALL BE FABRICATED USING RETROREFLECTIVE SHEETING CONFORMING TO ASTM D883. THE TYPE SHALL BE DESCRIBED IN THE STANDARD SPECIFICATIONS AND/OR AS SHOWN ON THE PLANS.  
D. BOLTS, U-CLAMPS, NUTS AND METAL WASHERS SHALL BE GALVANIZED OR CADMIUM PLATED.  
E. ALL WELDING IS TO BE CONTINUOUS AND IN ACCORDANCE WITH CURRENT AWS SPECIFICATIONS.  
F. PIPE LENGTH WIRES WITH VERTICAL PLACEMENT MINIMUM GROUND CLEARANCE (7 FT.) AND THE SIGN PANEL REQUIRED. IT WILL BE AS SHOWN ON THE PLANS OR AS DETERMINED BY CROSS SECTION, OR AS DIRECTED BY THE ENGINEER FOR EACH LOCATION. MAXIMUM LENGTH IS APPROXIMATELY 20 FT.-10 IN. AND MINIMUM LENGTH IS APPROXIMATELY 15 FT.-4 IN. IF LENGTH IS NOT SPECIFIED SUPPLY MAXIMUM - MAY REQUIRE FIELD CUT TO CONFORM TO TYPICAL SIGN PLACEMENT DETAILS.
- CONCRETE FOOTINGS FOR FLASHING BEACON INSTALLATIONS SHALL CONFORM TO "SPILLER CASSANDRA" AND "STRUCTURAL CONCRETE" (CLASS 192).  
A. THE CONTRACTOR IS TO PROVIDE ALL NECESSARY WIRING WITHIN THE BEACON AND FROM THERE TO THE POWER SOURCE, PROVIDED BY THE UTILITY COMPANY. THE UTILITY COMPANY WILL MAINTAIN THE CONNECTION WITH THE CONTRACTOR'S WIRING.  
B. THE ELECTRICAL SERVICE BETWEEN THE POWER SOURCE AND THE FLASHING BEACON SHALL BE UNDERGROUND UNLESS AN AERIAL DROP WIRE SHALL BE IN CONDUIT.  
C. THE "FLASHER" SHALL BE HOUSED IN A SUITABLE ENCLOSURE ON THE UTILITY POLE AT THE POWER SOURCE UNLESS THE ENGINEER DETERMINES THAT THE ENCLOSURE BE MOUNTED ON THE BEACON PIPE OR THAT THE DEVICE MAY BE CONTAINED WITHIN THE SIGNAL HEAD ITSELF.  
D. A SUITABLE ENCLOSURE FOR THE FLASHER SHALL BE IN ACCORDANCE WITH "A RAIN TIGHT JUNCTION BOX OR CAN, APPROXIMATELY 8 IN. X 8 IN. X 4 IN. SURFACE MOUNT WITH A FLANGED SCREW ATTACHED COVER, AND FABRICATED FROM NOT LESS THAN 16 GAGE GALVANIZED STEEL".  
E. A BUILT-IN RADIO INTERFERENCE SUPPRESSION DEVICE AND A PHOTOCELL SENSOR TYPE SIGNAL LAMP DIMMER SHALL BE PROVIDED FOR EACH FLASHING BEACON.  
F. BEACONS SHALL FLASH AT A RATE OF NOT LESS THAN 50 AND NOT MORE THAN 60 TIMES PER MINUTE.
- BREAKAWAY BASE INSTALLATION SHALL BE USED FOR UNIDIRECTIONAL CONFIGURATION ONLY. PEDESTAL FOUNDATION (AS SHOWN ON SHEET 3) MAY BE USED FOR BOTH UNIDIRECTIONAL AND BI-DIRECTIONAL CONFIGURATIONS.  
6. WHEN SPECIFIED IN THE PLANS, SOLAR POWERED SYSTEM MAY BE USED IN PLACE OF AC POWER SYSTEM SHOWN ON THIS SHEET.  
7. FOR ADVANCE PLACEMENT OF WARNING SIGNS SEE MUTCD SECTION 2C.05 AND TABLE 2C-4.



BREAK-AWAY ASSEMBLY BOLTING PROCEDURE

- ASSEMBLE POST TO FOOTING WITH BOLTS - ONE FLAT WASHER ON EACH BOLT TOP AND BOTTOM, AND ONE FLAT WASHER AND THE KEEPER PLATE BETWEEN THE BREAK-AWAY PLATES. USE BRASS SHIMS TO PLUMB THE POST.
- TIGHTEN ALL BOLTS TO MAXIMUM POSSIBLE WITH A 12 TO 15 INCH PIPE WRENCH TO BED WASHERS AND SHIMS TO CLEAN BOLT THREADS, THEN TIGHTEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO 450 INCH-POUNDS TORQUE.
- BLUR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

TYPICAL BREAK-AWAY ASSEMBLY DETAILS



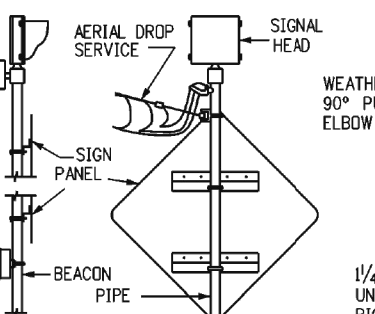
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TYPICAL ELECTRICAL SERVICE DETAIL

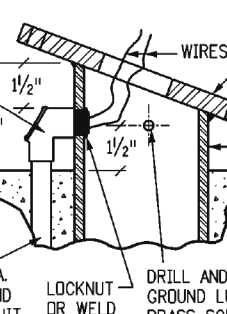
#### NOTES

- LOCATION AND CONFIGURATION OF ELECTRICAL EQUIPMENT IS DIAGRAMATIC ONLY. USE ANY METHOD COMPLYING WITH THE GENERAL NOTES.
- EXISTING GROUND AT SERVICE POLES; OTHERWISE PULL THRU CONDUIT OR ATTACH TO CONDUIT AND TAP OFF UNDERGROUND.
- DRILL AND TAP PIPE FOR 1/4" ROUND ROUND HEAD BRASS SCREW, 1/4" LONG, FOR GROUND LUG.
- PROVIDE WEEP HOLE WITH AERIAL DROP SERVICE.
- SECOND MATERIAL FOR CONDUIT SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

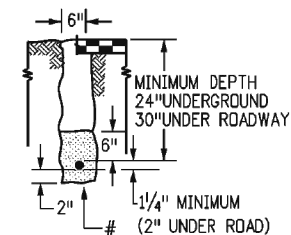
VIEW AT BEACON



UNDERGROUND CONNECTION



TRENCHING DETAIL



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Colorado Department of Transportation	
	2829 W. Howard Pl. Denver, CO 80204 Phone: 303-757-9436 Fax: 303-757-9219
Traffic & Safety Engineering	MKB

FLASHING BEACON AND SIGN INSTALLATIONS	
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STANDARD PLAN NO.	
S-614-14	
Standard Sheet No. 2 of 4	
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TOWN OF WIGGINS, CO  
MAIN STREET IMPROVEMENTS

RRFB DETAILS

REVISIONS	
no	description of revisions
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