

CONTRACT DOCUMENTS

AND

SPECIFICATIONS

FOR

EN012 - 20th Street & Valley Drive Intersection Improvements

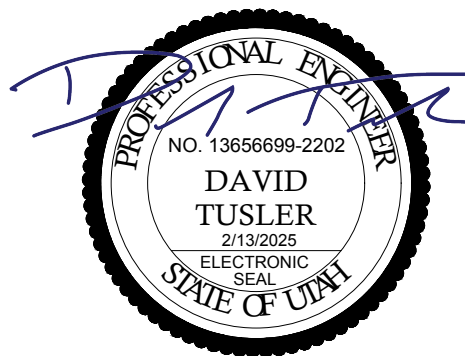
IN

OGDEN, UTAH

PREPARED BY

Kimley-Horn

February 13, 2025



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EN012 - 20th Street & Valley Drive Intersection Improvements

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EN012 - 20th Street & Valley Drive Intersection Improvements

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1.	G1	Titlesheet	2/12/2025
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REFERENCE DRAWINGS

1. 2025 Manual of Standard Plans by the Utah Chapter of the American Public Works Association.
2. Ogden City's Engineering Standards for Public Improvements 2025 Edition.
3. Etc.

END OF DRAWING LIST

DOCUMENT 00 10 00

INVITATION TO BID

PART 1 GENERAL

1.1 CONSTRUCTION CONTRACT

- A. Bidders are invited to bid on Construction Contract named as:

EN012 - 20th Street & Valley Drive Intersection Improvements

- B. For information about the award of this Construction Contract, contact:
BJ Miller at (801) 629-8938.

1.2 DESCRIPTION OF WORK

- A. The location of the work is: 20th St - Valley Drive & Harrison Blvd.
B. The estimated cost of the work is \$ 1800000.
C. The project shall be governed by these contract documents, special conditions, specifics related to the work, and all provisions of the Manual of Standard Specifications and Manual of Standard Plans 2025 Edition published by the Utah Chapter of the American Public Works Association (APWA) and Ogden City's Engineering Standards for Public Improvements 2025 Edition which are applicable to the work are made a part of the Contract Documents by reference.
D. The work to be performed consists of furnishing and installing the equipment, facilities, services and appurtenances thereto as included in the Contract Documents. The Work generally includes, but is not limited to, the following:

The full depth reconstruction of 20th Street from the East edge of Harrison Blvd through the Valley Drive intersection; concrete sidewalk, ADA ramps, and curb/gutter; soil nail wall installation; utility replacement/upgrades for culinary water and storm drain; street lighting installation; and traffic signal modifications at Harrison Blvd & 20th St

1.3 BIDDERS' PRE-QUALIFICATION

- A. The apparent low bidder will be expected to have a current E100 (General Engineering Contractor) license with the State of Utah.
B. The apparent low bidder will need past experience with utility (sewer, water, storm) installation, and roadway civil construction.
C. The apparent low bidder must be in good standing with Ogden City/Ogden City Engineering.

1.4 BASIS OF BIDS

- A. Bids shall be on a unit price basis. Unsealed or segregated Bids will not be accepted.

1.5 CONTRACT TIME

- A. The Work will be Substantially Completed 120 calendar days after the date of the Notice to Proceed.

1.6 EXAMINATION AND PROCUREMENT OF DOCUMENTS

- A. Complete sets of Bid Documents will be available by downloading from the Ogden City website at “**no cost**”. A complete set of Bid Documents must be used in preparing Bids. Bidders are responsible for securing any and all addenda issued. Owner and Engineer assume no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bid Documents.

1.7 PRE-BID CONFERENCE

- A. **A MANDATORY pre-bid conference** will be held at 11:00:00 AM on Tuesday, 3/4/2025, at Ogden, Utah in the conference room of the City Engineer. All contractors intending to submit a bid are required to send an employee to attend the Mandatory Pre-bid conference to obtain relevant information concerning the project. Contractors may not delegate attendance to an agent representing any other contractor. Bidders are advised that information affecting drawings, specifications, conditions, scope of the Work, etc. may be discussed. Any questions concerning the specification for said project will be discussed at this time, and Bidders will be made aware of special conditions involved in the construction of this project.

1.8 BID SECURITY

- A. Bid security in the amount of five (5) percent of the Bid must accompany each Bid in accordance with the Instructions to Bidders. Bid Security will be returned to each unsuccessful Bidder after tabulation and in accordance with Document 00 20 00, Section 2.3.D.

1.9 BID LOCATION AND OPENING

- A. Sealed bids for furnishing all materials, labor, tools and equipment necessary to complete said work must be submitted on forms prepared by the City Engineer and are to be submitted to the office of the City Purchasing Agent, 2549 Washington Boulevard, 2nd floor information desk, Ogden, Utah, until 2:00:00 PM, Thursday, 3/13/2025, at which time they will be opened and read aloud. **LATE BIDS WILL NOT BE ACCEPTED.**
- B. On the outside of the envelope, the bidder shall indicate the Construction Contract title, the name and address of the Bidder, and the date and time of Bid opening and the Bidder's return mailing address.

1.10 RIGHT TO REJECT BIDS

- A. The OWNER reserves the right to accept or reject any or all bids or to waive any informality or technicality in any bid that best serves its convenience and/or is found to be

in the best interest of the City.

1.11 VALIDITY PERIOD FOR BIDS

- A. Bids shall remain valid for 45 days after the day of Bid opening. The three lowest bidders, per Document 00 20 00, Section 2.3 D, who withdraw their bid after Bid opening, but before expiration of said period, shall forfeit their bid security if Notice of Intent to Award to Bidder is made by OWNER.

1.12 GOVERNING LAWS AND REGULATIONS

- A. This project not federally funded and does not require the payment of specific wage rates. Payroll submittal will not be required.
- B. As a condition of the contract, contractors are to register and participate in the status verification system, as defined in section 63-99a-103(1)(c) of the Utah Code or its successor provision, to verify the work eligibility status of the contractor's new employees that are employed in the State of Utah.
- C. Contractor is responsible for verifying the employment status of new employees who work under the contractor's supervision or direction. In addition, contractor must maintain and have available for review upon demand by city an affidavit from each contractor or subcontractor who works under or for the contractor certifying that such contractor or subcontractor has verified through the status verification system, as defined in section 63-99a-103(1)(c) of the Utah Code or its successor provision, the employment status of each new employee of the respective contractor or subcontractor that is employed in the State of Utah.
- D. By entering into this contract, contractor verifies that 1) it has registered in the status verification system or that it will register in the status verification system within thirty (30) days of being notified that it has been awarded the contract, and 2) that it participates in the status verification system to verify the work eligibility status of new employees as required by law. If at any time during the period of this contract, contractor fails to remain registered in or to participate in the status verification system or to maintain on file any required affidavit, city may terminate the contract for cause or, in the alternative, city may suspend work under the contract until contractor shows compliance with the requirements of this section. City shall not be responsible for any costs, damages, expenses, losses or other claims resulting from contract termination or contract suspension resulting from contractor's failure to comply with the status verification system requirements or to have on file any required affidavit, nor shall contract time be extended by virtue of such failure to comply with the requirements of this section.
- E. Bidders on this Work will be subject to the applicable provisions of all federal rules, laws and regulations or orders.
- F. Furnishing of W-9. Payment under this Agreement is contingent upon Contractor furnishing City with a signed and completed W-9 IRS tax form. Such form shall be attached hereto and incorporated herein. Contractor shall cooperate with City in furnishing any additional information City may need to comply with rules and regulations of the Internal Revenue Service.
- G. Pursuant to the requirements of Section 3 of the Housing and Urban Development Act of

1968, the City has developed minority and women owned business affirmative action plans. The award of the Construction Contract shall be governed by these plans. A summary of the plans is included in the Contract Documents. Bidders should contact the federal contracts compliance clerk, telephone: 801-629-8000 regarding any questions concerning minority or women owned business.

- H. In compliance with Americans with Disabilities Act, (ADA) the following information is provided: FAX Number (801) 629-8735, TDD Number (801) 629-8701, Contact person: Lisa Stout Management Services Director, Ogden City.
- I. Ogden City encourages and welcomes bids from minority and women-owned businesses.

Ogden City Purchasing Agent

Published: February 13, 2025

END OF DOCUMENT

DOCUMENT 00 20 00

INSTRUCTIONS TO BIDDERS

PART 1 GENERAL

1.1 DEFINED TERMS

- A. Terms used in the Bid Documents which are defined in Article 1.1 of the General Conditions will have the meanings indicated in the General Conditions.
- B. General Conditions: as published in Document 00 72 00 in the 2025 Manual of Standard Specifications by the Utah Chapter of the American Public Works Association and as published in Ogden City's Engineering Standards for Public Improvements 2025 Edition.

1.2 COPIES OF BID DOCUMENTS

- A. Complete sets of Bid Documents will be available by downloading from the Ogden City website at “**no cost**”. A complete set of Bid Documents must be used in preparing Bids. Bidders are responsible for securing any and all addenda issued. Owner and Engineer assume no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bid Documents.
<https://ogdencity.com/264/Purchasing>
- B. Bid Documents are made available to Bidder only for the purpose of obtaining Bids on the work. No license or grant for any other use is given.
- C. Bidding Document copyrights shall remain with the Owner.
- D. All provisions of the Manual of Standard Specifications and Manual of Standard Plans 2025 Edition published by the Utah Chapter of the American Public Works Association (APWA) and Ogden City's Engineering Standards for Public Improvements 2025 Edition which are applicable to the work are made a part of the Contract Documents by reference.

The **Ogden City Engineering Standards and Amendments for Public Works Projects** are also available (Free Download) online at:

<https://ogdencity.com/DocumentCenter/View/13520/2020-Engineering-Standards-for-Public-Improvements?bidId=>

1.3 PRE-BID CONFERENCE

- A. A MANDATORY pre-bid conference will be held at **11:00:00 AM on Tuesday, 3/4/2025**, at 2549 Washington Boulevard, Ogden, Utah in the 7th floor conference room of the City Engineer. All contractors intending to submit a bid are required to send an employee to attend the pre-bid conference to obtain relevant information concerning the project. Contractors may not delegate attendance to an agent representing any other contractor. Representatives of Owner and Engineer will be present to discuss the Project.

1.4 COMPENSATION AND QUANTITIES

- A. In General: The bid price for any lump sum contract includes all labor, materials, and incidental work to fully complete the work in a satisfactory manner under the terms of the Contract Documents. Bidders are responsible to inform themselves of the character of the work to be performed.
- B. Lump Sum Work: The work is to be paid for on a lump sum basis, the lump sum will be the only sum paid.
- C. Unit Price Work: If any portion of the work is to be paid for on a unit price basis, payment will cover only work actually performed and materials actually supplied at the unit prices bid and on the terms set forth in the Contract Documents, irrespective of any quantity approximations in the Bid Documents. Any quantity approximations in the Bid Documents are stated as a basis for determining bids, and they do not fix the amount of work to be done or materials to be furnished. Stated quantities are estimates for the purpose of doing the class of work required. Actual quantities will vary. The Owner may deviate in either direction from any indicated quantities. The Bidder shall have no claim for any variation in quantity, except to the extent permitted in the General Conditions.

1.5 EXAMINATION OF SITE AND CONTRACT DOCUMENTS

- A. In General: Bidders are permitted to converse with Engineer or Engineer's personnel having knowledge of the Project, Plans, Specifications, material sites, or conditions generally prevailing in the area of the project to aid in pre-bid investigations. The Owner is not bound by any statements or representations made by Engineer or Engineer's personnel before the bid opening or award of the Construction Contract, nor for any assumptions or conclusions reached by a prospective Bidder as a result of such communication unless the Engineer issues an Addendum to all prospective Bidders.
- B. Site, Access To: The lands upon which the work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by Bidder in performing the work are identified in the Contract Documents. All additional off site lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by Bidder.
- C. Contract Documents: The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 1.4; that without exception the Bid is premised upon performing and furnishing the work required by the Contract Documents; and, that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the work.
- D. Bidder's Obligations: The submission of a bid constitutes acknowledgement that Bidder has complied with all bidding instructions. It is the responsibility of each Bidder before submitting a Bid, to:
 - 1. Examine the Contract Documents thoroughly;

2. Visit the site to become familiar with local conditions that may affect cost, progress, performance or furnishing of the work;
3. Consider federal, state and local laws and regulations that may affect cost, progress, performance or furnishing of the work;
4. Study and carefully correlate Bidder's observations with the Contract Documents; and
5. Identify and notify Engineer in writing in the manner set forth in article 2.1 below of all specific conflicts, omissions, errors or discrepancies in the Contract Documents, or if Bidder doubts their meanings.
6. Investigate all applicable construction and labor conditions, quantities, and the character of the work as they affect cost, progress, performance, or furnishing of the work;
7. Attend any pre-bid conference, which shall be mandatory if so designated in the Notice to Bidders;
8. Review all available explorations and data concerning surface and subsurface conditions.

The failure or omission of any Bidder to receive or examine any form, instrument, Addendum or other document, visit the site and become acquainted with conditions there existing, or attend the pre-bid conference, shall in no way relieve any Bidder from obligations with respect to Bidder's bid or its obligation to furnish all material, equipment, labor and services necessary to carry out the provisions of the Contract Documents and to complete the contemplated work for the consideration set forth in its Bid. Submission of a Bid shall constitute prima facie evidence of compliance with these instructions.

- E. Deviations from the Terms of the Contract Documents: Owner will not accept any deviations whatsoever from the printed terms of the Agreement (**Document 00 50 00**) and the Contract Documents, except by Addendum or Change Order.

1.6 PHYSICAL CONDITIONS

- A. In General: Before submitting a Bid, each Bidder will be responsible for review of Owner's explorations, tests and data concerning surface conditions, subsurface conditions and underground facilities at or contiguous to the site, or otherwise, which may affect cost, progress, performance or furnishing the work in accordance with the time, price and other terms and conditions of the Contract Documents.
- B. Surface and Subsurface Conditions: Provisions concerning surface and subsurface conditions, if any, are set forth in the Geotechnical Data (**Document 00 32 00**). The document provides the identification of:
1. Those reports of explorations and tests of subsurface conditions at the site which have been utilized by Engineer in preparing the Contract Documents; and
 2. Those drawings of physical conditions in or relating to existing surface and subsurface structures (except underground facilities) which are at or contiguous to the site which have been utilized by Engineer in preparing the Contract Documents.

- C. Underground Facilities: Information and data indicated in the Contract Documents regarding underground facilities at or contiguous to the site is based upon information and data furnished to Owner and Engineer by owners of such underground facilities. The Owner does not assume responsibility for the accuracy or completeness thereof other than as provided in paragraph 4.3A.2 of the General Conditions or unless expressly provided in the Modifications to General Conditions (Document 00 81 00).
- D. Additional Explorations: On request in advance, and if possible, Owner will provide each Bidder access to the site to conduct any explorations and tests as each Bidder deems necessary for submission of a Bid. Bidder shall obtain permits, fill all holes, clean up and restore the site to its former condition upon completion of such explorations. Bidder agrees to release, indemnify, defend and save the Owner harmless from all costs, damages and liabilities of any kind whatsoever, including reasonable attorneys' fees, that may arise during and after the performance of additional explorations.
- E. Modifications to the Contract Documents: Provisions concerning the adequacy of the data furnished for subsurface structures and underground facilities, and the possibility of changes in the documents due to differing conditions appear in Articles 4.2 and 4.3 of the General Conditions.

1.7 EFFECT OF SUBMITTING A BID

- A. Bidders are responsible to carefully examine the Contract Documents, visit the site, and fully inform themselves so as to include in the Bid a sum to cover the cost of all items. Bidder's failure or omission to receive or examine any form, instrument, addendum or other document, visit the site and become acquainted with existing conditions, or attend any pre-bid conference, shall in no way relieve Bidder from any obligations with respect to Bidder's Bid or the Construction Contract.
- B. By submitting a Bid, Bidder represents that Bidder has complied with all requirements of the Bid Documents; that the Bid is premised on properly performing and furnishing the work required by the Contract Documents within the times specified; that the Bidder is informed of the conditions to be encountered and the character, quality and quantities of the work; and that the Bidder believes the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all term and conditions for performance and furnishing of the work.
- C. Submission of a Bid constitutes a promise that the Bidder will enter the Contract Documents in the form presented in the Contract Documents. Bidders should carefully examine all Contract Documents, including the required Bonds and insurance to be provided by the Bidder.
 - 1. The Performance Bond is a guarantee of faithful performance of the requirements of the Contract Documents, including all applicable warranties. The Payment Bond is a guarantee of payment of all labor, materials, or supplies used directly or indirectly in the prosecution of the work provided in the Construction Documents.

2. The sum of the Performance Bond and the Payment Bond shall be increased or decreased during the course of the work in the event that Contract Modifications, Change Orders or Addenda increase or decrease the total contract price. The sum of each bond shall be in an amount equal to the completed contract price at the completion of the work.
 3. Owner does not provide any release of Performance Bonds or Payment Bonds. The bonds are in effect throughout all periods during which a suit may be brought under the provisions of applicable law.
- D. By submitting a Bid, Bidder represents that the matters stated therein are true and correct.

PART 2 BIDDING PROCEDURES

2.1 INTERPRETATIONS AND ADDENDA

- A. All requests for interpretation of the Contract Documents shall be made in writing and delivered to the Engineer no later than 72 hours prior to opening of Bids. Engineer will publish interpretations on the City Website in the form of a Written Addendum. If a Bidder's request for interpretation is not responded to by Engineer, Bidder shall not rely on any interpretation in the request which is contrary to the intent and terms of the Contract Documents.
- B. No oral interpretations shall be made to any Bidder. Owner will not be responsible for or bound by any statements, explanations, representations, conclusions, assumptions or interpretations made by any party, whether oral or written, except those duly issued in the form of written Addenda.
- C. Addenda may also be issued to modify the Bidding Documents as deemed advisable by Engineer. Each statement made in an Addendum is part of the Contract Documents at the location designated in the Addendum. A statement issued in an Addendum shall have the effect of modifying a portion of the Bid Documents when the statement in the Addendum specifies a particular section, paragraph or text and states that it is to be so modified. Only the specified section, paragraph or text shall be so modified, and all other portions of the Bid Documents shall remain in effect.
- D. Except to postpone the Bid opening, no Addenda shall be issued within 48 hours of the Bid opening.
- E. Any Addenda so issued during the time of bidding shall be deemed to be included in the Bid. All Addenda shall become a part of the Contract Documents.
- F. Bidders shall sign to acknowledge their receipt of all Addenda issued. Bidders shall also acknowledge receipt of all Addenda in the space provided in the Bid.

2.2 EQUIPMENT AND MATERIAL OPTIONS PRIOR TO BID OPENING

- A. If a Bidder or Supplier wishes to use items of equipment or materials other than those identified in the Contract Documents, said Bidder or Supplier shall submit a written request for approval to the Engineer at least 10 calendar days prior to the date set for opening of bids.

- B. The procedure for submission of any such product option shall be as set forth in **Article 6.4 of the General Conditions**. It is the sole responsibility of the Bidder or Supplier to submit complete descriptive and technical information so that Engineer can make a proper appraisal.
- C. Engineer's failure to act upon such a request within three (3) days after receipt shall be deemed a denial thereof.
- D. Any such approval is at the sole discretion of the Engineer and will be in the form of an Addendum and posted on the website for all Bidder's Bid Documents indicating that the additional equipment or materials are approved as equal to those specified for the Project.

2.3 BID SECURITY

- A. Amount of Bid Security: A Bid Security must accompany each Bid. The total amount of the Bid on which Bid security is to be based shall be the sum of all items of the Bid constituting the maximum amount of the possible award to the Bidder. The Bond amount must equal at least five (5) percent of the total amount of the Bid.
- B. Bid Bond: The Bond shall accompany and be attached to the Bid and shall be issued by a surety company authorized to do business in the State of Utah. The Bond shall guarantee that the Bidder, if awarded the work will promptly enter into the Construction Contract to perform the work in the manner required by the Contract Documents.
- C. Return of Bid Security: Owner will return Bid security to Contractor within seven (7) days after receipt of the Construction Contract by Ogden City Purchasing Division. Bid Bonds and cashier's checks of the lowest three Bidders will be held until the Construction Contract is awarded and a signed copy received by Ogden City Purchasing Division or all bids have been rejected. All other bid securities shall be returned following the bid opening. The liability of Owner in regards to the checks shall be limited only to the return of the checks.
- D. Default: In the event of failure or refusal of the Bidder to enter into the Construction Contract and the delivery to the Owner a Performance Bond, Payment Bond and any other Bonds or documents required by the Contract Documents after Notice of Intent to Award by the Owner, the Bidder forfeits the sum of the Bid Bond or cashier's check as liquidated damages to the Owner.

2.4 CONTRACT TIME AND PUNCH LIST TIME

- A. Provisions concerning Contract Time and Punch List Time are set forth in the Agreement (**Document 00 50 00**).

2.5 LIQUIDATED DAMAGES

- A. Provisions concerning liquidated damages are set forth in the Agreement (**Document 00 50 00**).

2.6 BID FORM

- A. The Bid form (Document 00 40 00) identifies all forms comprising the Bid Documents. Additional copies may be obtained from Engineer.
- B. Bids by corporations must be executed in the corporate name by the president, vice-president or other corporate officer authorized to sign and properly attested to as an official act of the corporation. At the Owner's request, authority to sign shall be submitted.
- C. Bids by partnerships or joint ventures must be executed in the partnership or joint venture name and signed by a partner or joint venture, whose title and official partnership address must be shown. If a partnership or joint venture is the low bidder, the partnership or joint venture must also submit evidence to the Owner of the responsibility of the partnership or joint venture as a bidder in the manner directed by the Engineer.
- D. All names must be typed or printed under or near the signature. Signatures shall be in longhand.
- E. The Bid shall contain an acknowledgment of receipt of all Addenda. The Addenda numbers and date issued must be filled in on the Bid form.
- F. The Bidder's address, telephone number and facsimile number for communications regarding the Bid must be shown on the first page of the Bid form.
- G. The Bidder shall make no stipulations or alterations on the Bid forms. The Bidder must use only the Bid form and Bid Schedules as bound in the Contract Documents or as may be modified by Addendum. To bid for the work, Bidder is required to submit the Bid (Document 00 40 00), the Bid Schedule (Document 00 41 10), Contract Time (Document 00 41 50), and Bid security to the Bid location indicated in the Invitation to Bid (Document 00 10 00).
- H. The Bidder must possess at the time of Bid Submittal all appropriate and required licenses and indicate such on the Bid form.
- I. Where the Bidder is wholly owned subsidiary of another company, the Bid must so state, and the owner or parent corporation also must agree to sign and be bound with the Bidder.
- J. The divisions and sections of the specifications, and the identifications of any Drawings, shall not control Bidder in dividing the work among subcontractors or suppliers, or delineating the work to be performed by any specific trade.
- K. The base Bid and alternates shall include all work required to be performed by the Contract Documents.

2.7 BID SCHEDULE

- A. Any work or material which is specified in the Contract Documents or which is necessary because of the nature of the work, but which is not listed separately in the Bid Schedule (Document 00 41 10) shall not be measured or paid for separately. The cost of such work or material shall be considered as included in the contract price.
- B. All blanks on the Bid Schedule (Document 00 41 10) must be completed in ink or by typewriter. If applicable, furnish both the unit and the total costs for each item. Total Bid numbers shall be stated in both figures and written form, and the signature of all

persons signing shall be in longhand. Any corrections, alterations or erasures made by the Bidder on the Bid Schedule shall be initialed in ink by the Bidder.

2.8 SUBMISSION OF BIDS

- A. Bids shall be submitted at the time and place indicated in the Invitation to Bid (Document 00 10 00) and should be enclosed in a sealed envelope, marked with the project title, the name and address of the Bidder, and the date and the opening time for bids. If the Bid is sent through the mail or other delivery system the sealed envelope should be enclosed in a separate envelope with the notation "**BID EN-CLOSED**" on the face of it. It is the sole responsibility of the Bidder to deliver the Bid before the scheduled time.
- B. Alternate bids, other than those called for in the Bid form, will not be considered.
- C. No oral, telegraphic, telephonic, facsimile or modified bids will be considered.
- D. Joint bids must be clearly indicated on the completed proposal forms. Failure to do so may be cause for rejection of the bid.
- E. **Only the following documents need to be submitted with the bid: 00 40 00 (Bid), 00 41 10 (Bid Schedule), 00 41 50 (Contract Time), and The Bid Security.** Bidder will make no recapitulations, stipulations, alterations, alternate submissions, or modifications in any manner to any of the Contract Documents.
- F. Bidder shall submit an acceptable Bid which requires the full completion and submission of all four (4) Documents listed in Section E above.

2.9 MODIFICATION AND WITHDRAWAL OF BIDS

- A. At any time prior to the opening of Bids, Bids may be modified or withdrawn if a written withdrawal is signed by Bidder and delivered to the place where Bids are to be submitted.
- B. Within 24 hours after Bids are opened, any Bidder may file written notice with Owner that there was a substantial mistake made in the preparation of its Bid. Bidder must thereafter promptly demonstrate Bidder's mistake to the reasonable satisfaction of the Owner. If Owner agrees, Bidder may withdraw its Bid and the Bid security will be returned to the Bidder.
- C. When it appears a mistake has been made, or when the Owner desires an assurance of any matter, the Owner may request a Bidder to confirm the Bid in writing.

2.10 OPENING OF BIDS

- A. Bids will be opened and read aloud publicly unless obviously non-responsive. An abstract of the amounts of the base schedule of prices and any alternate schedules will be made available for review after the opening of Bids.
- B. Any Bids received after the date and time specified in the Invitation to Bid (Document 00 10 00) will be returned unopened.

2.11 BIDS SUBJECT TO ACCEPTANCE FOR 45 DAYS

- A. All bids remain subject to acceptance for 45 days after the day of the Bid opening. Owner may, in its sole discretion, release any Bid and return the Bid security prior to that date.

2.12 NONDISCRIMINATION IN EMPLOYMENT

- A. Work under this Bid will obligate the Bidder and Subcontractors not to discriminate in employment practices.
- B. Bidders must, if requested, submit a compliance report concerning employment practices and policies in order to maintain their eligibility to receive the award of the Construction Contract.
- C. Equal opportunity employment shall be reflected in the racial and sexual composition of the Bidder's work force and the Owner urges an affirmative action program to overcome underutilization.
- D. Bidders are advised that the Construction Contract and its performance are subject to the applicable provisions of all laws and regulations. Bidder will be obligated upon written request, to give all applicable assurances of compliance in connection therewith.
- E. If federal nondiscrimination requirements are required, the Bidder shall be fully knowledgeable and comply with such requirements.

PART 3 AWARD OF CONSTRUCTION CONTRACT

3.1 QUALIFICATIONS OF BIDDERS

- A. Within seven (7) calendar days of Engineer's request, a Bidder, whose Bid is under consideration for award shall submit to the Engineer the following information for the Bidder. Engineer may request like information on Bidder's Subcontractors, or Bidder's Suppliers or any other information the Engineer may require.
 - 1. A current financial statement for the work (as provided to bonding company);
 - 2. A chronological list of "in progress" and "completed" construction work done by Bidder during the last three (3) years; including project name, address, owner, contact name, and current telephone number;
 - 3. Present construction commitments other than items listed in paragraph two (2) above;
 - 4. Proposed organizational structure such as firm ownership, project manager, progress scheduler, and superintendent for the work of this project;
 - 5. Owned and rented equipment which is to be used to do the work;
 - 6. Investigations, arbitration, litigation or claims which are pending, threatened, settled or otherwise disposed of within the last three (3) years;
 - 7. Evidence of ability to perform and complete the work in a manner and within the time limit specified. As a minimum, identify specific projects similar to the work in physical size, cost, and commercial nature. If the work experiences of the project manager and superintendent designated to construct this project are different than that of the company, provide resumes of their work history. Include

their actual project titles and indicate their actual responsibilities on each given project;

8. All matters consistent with federal, state and local laws and regulations; and
 9. Such other data as may be called for in the Modifications to Instructions to Bidders (Document 00 22 00) (if any).
- B. If Bidder believes any information should be held confidential for business reasons, Bidder must submit a written claim of business confidentiality for that particular information and include a specific statement of the reasons supporting the claim pursuant to Utah Code Ann. 63-2-308. Owner will hold all requested information confidential and upon request, will return such information to Bidder after acceptance or rejection of Bid.
- C. Untimely response or failure to provide the requested information by Bidder will release Owner of any obligation to further negotiate or consider the Bidder's Bid.

3.2 EVALUATION OF BIDS

- A. Owner reserves the right to reject any and all Bids; to waive minor informalities in the Bid Schedule and elsewhere so long as the informalities do not affect the Contract Documents or render the bid non-compliant with Laws and Regulation pertaining to bidding requirements; to negotiate and agree to contract terms with the successful Bidder; and to disregard non-conforming, non-responsive, unbalanced or conditional Bids; and to withhold the award for any reason deemed in the best interests of the Owner.
- B. Owner reserves the right to reject any Bid if Owner believes that it would not be in the best interest of the Project or the Owner to make an award to that Bidder. Without limitation such rejection may be because the Bid is not responsive, or the Bidder is unqualified or of doubtful ability or the Bid or Bidder fails to meet any other pertinent standard or criteria established by Owner in the Supplementary Instructions to Bidders (Document 00 22 00).
- C. Owner will consider the qualifications of the Bidder (whether or not the Bid complies with the prescribed requirements) and such alternates, unit prices and other data, as may be requested in the Bid form (Document 00 40 00), Bid Schedule (Document 00 41 10), or written requests issued prior to Owner's Notice of Intent to Award the Construction Contract. If the Owner intends to make an award to a Bidder, a Notice of Intent to award will be issued.
- D. Owner may consider the qualifications and experience of Bidder, Subcontractors, Suppliers, and other persons and organizations proposed (whether or not the Bid otherwise complies with the prescribed requirements) for those portions of the work as provided in the Subcontractors and Supplier Report (Document 00 45 30).
- E. Owner may consider the operating costs, maintenance requirements, performance data and guarantees of ability to provide the required materials and equipment. (When such data is required to be submitted prior to the Notice of Intent to Award the Construction Contract.)
- F. Owner may consider:

1. Such alternates, unit prices and other data, as may be requested in the Bid Form, Bid Schedule, or written requests issued prior to Owner's Notice of Intent to Award the Construction Contract.
 2. Corporate organization and capacity for any party.
 3. Ability to perform and complete the work in the manner and within the time specified.
 4. Pending litigation.
 5. The amount of the Bid.
 6. Proper licensing to do the work in compliance with licensing laws of the State of Utah for contractors and subcontractors.
 7. All other relevant matters, consistent with the Owner's procurement code and administrative rules, Owner's ordinances and program policies.
 8. To establish qualifications of Bidder, Owner may request such data indicated in Article 3.1 herein above and conduct such investigations as Owner deems appropriate, and consider any other information (whether obtained from the Bid, the Bidder, or any other source.)
- G. If the Construction Contract is to be awarded, it will be awarded to the most responsive and lowest, qualified, responsible Bidder as determined by the Owner. Alternates may be accepted depending upon availability of Owner funds. Bid alternates may be considered at Owner's option in determining the most responsive, lowest, qualified, and responsible Bidder.
- H. Bid Schedules will be evaluated as follows:
1. Discrepancies in the multiplication of quantities of work items and unit prices will be resolved in favor of the unit prices. Owner may correct Bid Schedule calculation errors accordingly.
 2. Prices written out in words shall govern over prices written out in numbers.
 3. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.
 4. Bids shall not contain any recapitulations of or changes in the work to be done.
- I. The Owner, in the Owner's sole discretion, shall make determinations as to disqualification of Bidders or rejection of Bids. Such matters may include, without limitation, submission of more than one Bid by the Bidder (whether under the same or different names); evidence of collusion among Bidders; other commitments of Bidder which, in the Owner's sole judgment, might hinder the work; previous defaults, Bid irregularities when not waived in the best interests of the Owner, delays or poor performance by Bidder on any project; official action against Bidder; and any other cause which, in the Owner's sole discretion and judgment, is sufficient to justify disqualification of a Bidder or rejection of a Bid.

3.3 SUBCONTRACTORS, SUPPLIERS AND OTHERS

- A. Bidder shall not subcontract more than 49 percent of the dollar value of the total contemplated work (exclusive of the supply of materials and equipment to be incorporated in the work) without Owner's prior written approval.

- B. Conflict of interest pertaining to Subcontractors is described in paragraph 6.5H of the General Conditions.
- C. The following firms, which have been under contract to the Owner in the design phase of the work, shall not be used as subcontractors by the Contractor.
 - 1. Design Consultant: _____
 - 2. Geotechnical Consultant: _____
 - 3. Surveying Consultant: _____
 - 4. Other: _____
 - 5. Other: _____

3.4 CONTRACT SECURITY AND OTHER SUBMITTALS

- A. Performance Bond (Document 00 61 00) and Payment Bond (Document 00 62 00): The Owner's requirements as to Performance and Payment Bonds are as set forth in the 00 72 00 General Conditions - PART 5 - BONDS AND INSURANCE, Section 5.1 (as amended by Ogden City). Specific requirements are set forth in the Performance Bond (Document 00 61 00) and the Payment Bond (Document 00 62 00).
 - 1. The form of the Bonds should be carefully examined by the Bidder.
 - 2. When the successful Bidder delivers the executed Construction Contract to Owner, it must be accompanied by the required Performance and Payment Bonds. Do not complete the Performance Bond, Payment Bond or Agreement at the time of Bid submittal.
- B. Subcontractor and Supplier Report (Document 00 45 30): This report form is required within 24 hours of Engineer's request. The form shall list the name and address, of each Subcontractor who will perform work or labor or render service to the Bidder at the site of the work, or a Subcontractor who, off the job site, will specially fabricate a portion of the work or improvement according to detail Drawings. In each instance, the nature and extent of the work to be sublet in an amount in excess of two (2) percent of the Bid sum shall be described. Bidder must have the written consent of Owner to substitute for any of the Subcontractors or Suppliers designated or to employ any Subcontractor or Supplier which is not listed.
- C. Bidder Status Report (Document 00 45 20): One completed form shall be submitted upon Engineer's request or after Bidder receives Notice of Intent to Award.
- D. Other Information: When a determination has been made to award the Construction Contract, Bidder is required, prior to the award or after the award, or both, to furnish such other information as the Engineer requests.

3.5 ADJUSTMENTS TO THE COST OF THE WORK AFTER OPENING OF BIDS

- A. The contract price identified in the Agreement (Document 00 50 00) represents the cost of the work which is to be paid by the Owner to the Contractor. Adjustments to the contract price which are agreed to between the Owner and the successful Bidder shall be effected by signing an Agreement Supplement (Document 00 50 50).

3.6 SUBSTITUTIONS

- A. The Construction Contract, if awarded, will be on the basis of materials and equipment described in the Drawings, Specifications and any Addenda.
- B. After the effective date of the Construction Contract, the procedure for submitting an application for substitution is set forth in Article 6.4 of the General Conditions.

3.7 SIGNING OF AGREEMENT

- A. Within ten (10) working days after Owner gives Notice of Intent to Award the Construction Contract to the successful Bidder, the Bidder shall pick up, sign and return the required number of copies of the Agreement (**Document 00 50 00**) and attached documents to Owner with the required Bonds. A minimum of three (3) originals will be signed. One executed original will be returned to the Bidder. Bidder shall comply with all execution requirements.
- B. Transfers, delegations or assignments of interests in the Contract Documents are prohibited, unless prior written authorization is received from the Owner.
- C. At the time of Bidding, and the signing of the Agreement (**Document 00 50 00**), and at all times during the work, Bidder shall be properly licensed to do the work and shall be in compliance with the license laws of the State of Utah, Ogden City and Weber County. The Bidder shall also require all Subcontractors to do the same.
- D. All of Bidder's executions and submittals must be delivered to the Owner before Owner will execute the Construction Contract. The Construction Contract will not be deemed awarded and shall not be binding on the Owner until it has been approved and executed by the Owner, and a fully executed copy is formally delivered to the Contractor. The Owner reserves the right to rescind its Notice of Intent to Award without liability, except for the return of Bidder's Bid Security, at any time before the Construction Contract has been fully executed by all parties and delivered to the Contractor.
- E. If a Bidder fails to fully and properly execute the Construction Contract and provide all submittals required therewith within ten (10) days after the date of the Notice of Intent to Award, the Owner may elect to rescind the Notice of Intent to Award, and the Owner shall be entitled to the full amount of Bidder's Bid Security, not as a penalty, but in liquidation of and compensation for damages sustained. In the Owner's sole discretion, a Notice of Intent to Award may then be provided to another Bidder whose Bid is most advantageous to the Owner, price and other factors considered.

PART 4 MISCELLANEOUS

4.1 EQUIPMENT AND MATERIAL OPTIONS AFTER BID OPENING

- A. The Construction Contract, if awarded, will be on the basis of materials and equipment described in the Drawings, Specifications and any changes permitted in the Addenda.

- B. After the Effective Date of the Construction Contract, the procedure for submitting an application for substitution is set forth in Article 6.4 of the General Conditions.

4.2 PARTNERING

- A. Refer to **Document 01 11 50** for description of partnering requirements.
- B. Owner's consultants listed in these contract documents and specifications will be partners to the project.

END OF DOCUMENT

DOCUMENT 00 32 00

GEOTECHNICAL DATA

PART 1 GENERAL

1.1 REPORTS OF EXPLORATIONS AND TESTS

- A. In preparing the Drawings and Specifications, Engineer has relied upon the following geotechnical reports of explorations and tests of subsurface conditions at or contiguous to the work site.
 - 1. Report Geotechnical Study Valley Drive Retaining Walls dated 12-26-24 prepared by Gerhart Cole entitled: consisting of 39 pages.
- B. Accuracy: For the purposes of bidding or construction, the Bidder may rely upon the accuracy of the geotechnical data at the locations where the data was obtained and to the depths indicated, but not upon any other information, interpretations or opinions contained in the geotechnical data itemized above or for the completeness thereof expressed or implied.
- C. Geotechnical Data Not a Part of the Contract Documents: Geotechnical data itemized above are not a part of the Contract Documents, but the technical data contained therein upon which Bidder is entitled to rely as provided in **Article 4.2** of the General Conditions (**Document 00 72 00**) are incorporated by reference.

1.2 EXAMINATION OF DATA

- A. Copies of the Geotech report may be examined during regular business hours 8 am to 5 pm at the Ogden Municipal Building 2549 Washington Blvd, Ogden, Utah.

END OF DOCUMENT

DOCUMENT 00 40 00
BID

PART 1 GENERAL

1.1 BIDDER

- A. Name: _____
- B. Address: _____
- C. Telephone number: _____
- D. Facsimile number: _____
- E. Tax identification number: _____
- F. E-mail address : _____
- G. Bidder holds license number _____,
issued on the ____ day of _____, _____, by the Utah
State Department of Commerce, Division of Occupational and Professional
Licensing. Bidder is licensed to practice as a _____
Contractor. License renewal date is the ____ day of _____.
- H. Primary License Classification Number: _____
- I. License Classification Title: _____

1.2 NOTICE

- A. Pursuant to Section 58-55-501(8), Utah Code Annotated (UCA), it is unlawful to submit a bid for any work for which a license is required under Chapter 55 of Title 58, UCA, by a person or other business entity not licensed or excepted from licensure as a contractor under Chapter 55 of Title 58, UCA. Pursuant to Section 58-55-503(1), UCA, contracts for the work may not be awarded to any person or other business entity which violates Sections 58-55-501(8) or (13), UCA, in submitting its bid.

1.3 CONSTRUCTION CONTRACT

EN012 - 20th Street & Valley Drive Intersection Improvements

1.4 ADDENDA

- A. Bidder hereby acknowledges receipt of the following Addenda.
1. (Date) _____
 2. (Date) _____
 3. (Date) _____

1.5 SUBMITTALS

- A. Bidder shall submit an acceptable Bid which requires the full completion and submission of all four (4) Documents listed in Document 00 20 00, Part 2, 2.8 Submission of Bids, paragraph E.
- B. If Bidder receives a notice of intent to award the Contract from the OWNER after bid opening, the Bidder is to submit the following documents.
 - 1. Document 00 45 20: Bidder Status Report.
 - 2. Document 00 45 30: Subcontractor and Supplier Report.
 - 3. Document 00 61 00: Performance Bond.
 - 4. Document 00 62 00: Payment Bond.
 - 5. Insurance Documents as required in the Ogden City's Engineering Standards for Public Improvements 2025 Edition
 - 6. Document 00 50 00: Agreement.

1.6 DEFINITIONS

- A. Bid Documents: The Bid Documents consist of the Invitation to Bid, the Instructions to Bidders, any Supplementary Instructions to Bidders, this Bid form, any supplements (or post-bid supplements), the Bid Schedule, any data listed by and limited to the provisions in the Geotechnical Data Document, and the Bid Bond.

PART 2 COVENANTS

2.1 BIDDER TO ENTER INTO AN AGREEMENT

- A. In General: Bidder agrees, if this Bid is accepted, to enter into a Construction Contract with the OWNER to perform and furnish all work specified or indicated in the Contract Documents at the Contract Time and Contract Price identified in the Agreement (Document 00 50 00).
- B. Agreement Supplement: If it becomes necessary to further define the Work, Contract Price, Contract Time or some other portion of the Construction Contract prior to signing the Agreement (Document 00 50 00), ENGINEER shall prepare an Agreement Supplement (Document 00 50 50) describing such change. The necessity for preparing such a contract modification is the OWNER's sole option. If the Agreement Supplement is acceptable to the Bidder, the Bidder agrees to execute Agreement Supplement prior to or concurrent with the execution of the Agreement (Document 00 50 00).

2.2 BIDDER ACCEPTS TERMS AND CONDITIONS

- A. Bidder accepts all of the terms and conditions of the Bid Documents, including without limitation those dealing with the disposition of Bid security.
- B. Bidder will pick up, sign and submit the Agreement (Document 00 50 00) with the Bonds and other documents required by the Agreement within 10 working days after the date of OWNER's Notice of Intent to Award the Construction Contract.

2.3 REPRESENTATION OF BIDDER

- A. In submitting this Bid, Bidder represents, as more fully set forth in the Instructions To Bidders (Document 00 20 00), that:
 - 1. Nature of the Work: Bidder has become familiar with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance or furnishing of the Work.
 - 2. Surface and Subsurface Conditions: Bidder has studied carefully all reports and drawings of subsurface conditions and drawings of physical conditions which are identified in the Geotechnical Data (Document 00 32 00), (if any).
 - 3. Underground Utilities: Bidder has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site.
 - 4. Bidder Investigation: Bidder has correlated the results of all observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.
 - 5. Discrepancy Resolutions: Bidder has given ENGINEER written notice of all conflicts, errors or discrepancies that Bidder has discovered in the Contract Documents and acknowledges that all written resolutions thereof, issued by ENGINEER prior to Bid opening are acceptable to Bidder.

2.4 OWNER'S RIGHTS AT BID AWARD

- A. Bidder agrees OWNER has the right to reject this Bid, or to award the Work or any part thereof to the undersigned at the prices stipulated. Bidder agrees to make no claim for damages for such rejection or award.
- B. If the Bid is rejected, then the Bid security shall be returned to the Bidder.
- C. If the Bid is accepted the OWNER will notify Bidder of OWNER's intent to award the Construction Contract to the Bidder. The Bidder shall have 10 working days to sign and return the Agreement (Document 00 50 00) to the ENGINEER. If Bidder fails to sign the Agreement, the Bid security, at OWNER's option, shall be claimed and cashed and the amount thereof, paid to OWNER as liquidated damages for the failure of the Bidder to comply with the terms of the Bid.
- D. Bidder agrees the Bid may be rejected if the submittals listed in this Document or the "Notice of Intent to Award" are not submitted within the time listed in the Notice of Intent to Award.

2.5 NON-COLLUSION

- A. Bidder agrees the Bid is genuine. The Bid is not made in the interest of or on behalf of any undisclosed person, firm or corporation.
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
- C. Bidder has not solicited or induced any person, firm or corporation to refrain from bidding.

- D. Bidder has not sought by collusion to obtain for itself any other advantage over any separate Bidder or over OWNER.

2.6 BID PRICING

- A. Bidder will complete the Work for the prices listed in the Bid Schedule (Document 00 41 00). Bidder agrees that quantities for Unit Price Work are not guaranteed. (Refer to Article 11.7 of the General Conditions (Document 00 72 00)).

2.7 SUBSTANTIAL COMPLETION, PROJECT COMPLETION AND LIQUIDATED DAMAGES

- A. Bidder agrees that the Work will be Substantially Complete and ready for Final Inspection on or before the expiration of the Contract Time indicated in the Agreement (Document 00 50 00).
- B. Bidder agrees the Work will be complete and ready for final payment in accordance with Article 14.9 of the General Conditions (Document 00 72 00) on or before the expiration of the Punch List Time indicated in the Agreement.
- C. Bidder accepts the provisions of the Agreement (Document 00 50 00) as to liquidated damages in the event of failure to complete the Work on time and in accordance with the Contract Documents.

PART 3 EXECUTION

3.1 EFFECTIVE DATE

- A. Bidder executes this Bid and declares it to be in effect as of the ____ day of _____, 20__.

3.2 BIDDER'S SUBSCRIPTION

- A. In submitting this bid, it is understood that the right is reserved by the Owner to reject any or all bids, or to waive any irregularities or informalities in any bid or bids.
- B. It is agreed that the bid may not be withdrawn by the Bidder for a period of forty-five (45) calendar days after the opening thereof.
- C. The undersigned has not added any qualifying statements to the bid, nor has he(she) altered the proposal in any way.
- D. A joint bid by more than one is clearly indicated below.

Respectfully submitted,

FIRM NAME: _____

Seal
(If corporation)

Bidder's Signature: _____

Please print Bidder's name here: _____

Title: _____

Date: _____

END OF DOCUMENT

DOCUMENT 00 41 10

BID SCHEDULE

PART 1 GENERAL

1.1 DOCUMENT INCLUDES

- A. Bid schedules.
- B. Measurement and payment provisions.

1.2 CONSTRUCTION CONTRACT

- A. The Construction Contract is known as:
EN012 - 20th Street & Valley Drive Intersection Improvements

1.3 REFERENCES

- A. APWA 01 29 00: Payment Procedures.
- B. Document 00 50 00: Agreement.

PART 2 BID SCHEDULES

2.1 BASE BID

- A. Bid Schedules No. 1 & 2 below describe work basic to the Contract.

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BID SCHEDULE No. 1**20th St - Valley Drive & Harrison Blvd, EN012 - 20th Street & Valley
Drive Intersection Improvements**

ITEM NO.	DESCRIPTION	EST QTY	UNIT	UNIT PRICE	AMOUNT
101	MOBILIZATION	1	LS		
102	TRAFFIC CONTROL	1	LS		
103	SWPP PLAN, CLEANING, DUST CONTROL, WATERING	1	LS		
104	CONSTRUCTION STAKING AND SURVEYING	1	LS		
105	QUALITY ASSURANCE AND TESTING	1	LS		
106	CLEAR AND GRUB	1	LS		
107	UTILITY INVESTIGATION	15	HR		
108	REMOVE TREE	7	EA		
109	REMOVE CURB AND GUTTER	1137	LF		
110	REMOVE FRENCH DRAIN	30	LF		
111	REMOVE MEDIAN	55	LF		
112	REMOVE BOLLARD	2	EA		
113	REMOVE CONCRETE FLATWORK (6" THICK)	990	SF		
114	REMOVE COMMERCIAL DRIVEWAY (8" THICK)	1107	SF		
115	DETECTABLE WARNING SURFACE (GRAY)	3	EA		
116	DETECTABLE WARNING SURFACE (YELLOW)	10	EA		
117	REMOVE CONCRETE SIDEWALK (4" THICK)	1225	SF		
118	REMOVE ASPHALT PAVEMENT	2890	SY		
119	ROADWAY EXCAVATION (PLAN QUANTITY)	3450	CY		
120	REMOVE STORM DRAIN BOX	4	EA		
121	REMOVE STORM DRAIN PIPE	290	LF		
122	MANHOLE - ADJUST TO GRADE	1	EA		
123	APWA SPEC ROADBASE (1" MINUS, 8" THICK)	700	TONS		
124	APWA SPEC ROADBASE (1" MINUS, 6" THICK)	50	TONS		
125	3" MINUS PIT RUN (GRANULAR BORROW)	1600	TONS		
126	ASPHALT PAVING (PG 58-28 SP - 1/2 CLASS II) 6" THICK	800	TONS		
127	ASPHALT PAVING (PG 64-34 SP - 1/2 CLASS III) 8" THICK	100	TONS		
128	INSTALL CONCRETE SIDEWALK 6" THICK	3150	SF		
129	INSTALL CONCRETE SIDEWALK 4" THICK	1050	SF		
130	INSTALL CONCRETE SIDEWALK 8" THICK	160	SF		
131	INSTALL TYPE A CURB AND GUTTER	1200	LF		
132	INSTALL APWA TYPE E CURB AND GUTTER	330	LF		
133	INSTALL CURB AND GUTTER TRANSITION	2	EA		
134	INSTALL CONCRETE WATERWAY	1000	SF		
135	INSTALL COMMERCIAL DRIVEWAY (8" THICK)	630	SF		
136	INSTALL RAISED CROSSWALK	900	SF		
137	INSTALL SPEED TABLE PAVEMENT MARKING	2	EA		
138	INSTALL BIKE PAVEMENT MARKING	4	EA		
139	INSTALL TURN LANE PAVEMENT MARKING	5	EA		
140	REMOVE SIGN	8	EA		

141	REMOVE GUARDRAIL	140	LF		
142	INSTALL MIDWEST 31" W-BEAM GUARDRAIL 6-FT WOOD POST	100	LF		
143	SOIL NAIL WALL	1400	SF		
144	LIGHTING SYSTEM 20TH ST	1	LS		
145	TRAFFIC SIGNAL IMPROVEMENTS	1	LS		
146	5-FT STORM DRAIN MANHOLE (PRECAST)	2	EA		
147	RECONSTRUCT CATCH BASIN WITH OGDEN CITY STORM DRAIN MANHOLE FRAME AND COVER	1	EA		
148	15" RCP STORM DRAIN CLASS III	168	LF		
149	18" RCP STORM DRAIN CLASS III	40	LF		
150	18" RCP STORM DRAIN CLASS IV	32	LF		
151	24" RCP STORM DRAIN CLASS III	96	LF		
152	24" RCP STORM DRAIN CLASS IV	176	LF		
153	CATCH BASIN w/ CURB INLET	2	EA		
154	DOUBLE CATCH BASIN w/ CURB INLET	1	EA		
155	UDOT CB9 CATCH BASIN & CLEANOUT w/ GF1 BS	2	EA		
156	COMBINATION BOX/CLEANOUT BOX	1	EA		
157	MODIFIED COMBINATION BOX/CLEANOUT BOX	2	EA		
158	PAINT STRIPING	1	LS		
159	UDOT STD POST P3, SLIP-BASE ANCHOR, AND MOUNT	16	EA		
160	VEHICLE PROTECTION SYSTEM	126	LF		
161	LANDSCAPE & IRRIGATION	1	LS		
162	SIGNS	24	EA		
163	PLOWABLE END SECTION	1	EA		
164	REMOVE PAVEMENT MARKINGS	1450	SF		

Total = \$ _____

Schedule 1 Total in Words _____

Signature _____

BID SCHEDULE No. 2**20th St - Valley Drive & Harrison Blvd, EN012 - 20th Street & Valley
Drive Intersection Improvements**

ITEM NO.	DESCRIPTION	EST QTY	UNIT	UNIT PRICE	AMOUNT
201	UTILITY INVESTIGATION	10	HRS		
202	8" DUCTILE IRON CLASS 350	300	LF		
203	3" MINUS PIT RUN (GRANULAR BORROW)	275	TON		
204	RECONNECT EXISTING SERVICE LINE	1	EA		
205	EXISTING WATER MAIN CONNECTION	2	EA		
206	INSTALL FIRE HYDRANT ASSEMBLY	1	EA		
207	1" IRRIGATION SERVICE LATERAL	1	EA		

Total = \$ _____

Schedule Total in Words _____

Signature _____

Grand Total Schedules 1 & 2= \$ _____

Grand Total in Words _____

Signature _____

PART 3 MEASUREMENTS AND PAYMENT

3.1 GENERAL

- A. See measurement and payment procedures in APWA Section 01 29 00.
- B. ENGINEER will take all measurements and compute all quantities.
- C. CONTRACTOR will verify measurement and quantities.
- D. CONTRACTOR will provide all equipment, workers, and survey crews to assist ENGINEER in making measurements.
- E. Units of measurement are listed above in the bid schedule(s).

3.2 MOBILIZATION, Bid Item No. 101

- A. Measured by lump sum (LS).
- B. Payment covers cost of mobilization, demobilization, installation of temporary facilities and bringing all necessary construction equipment to the site. Payment will be made on a percentage basis as follows.

Percent of Amount Bid for Mobilization to be Paid	Percent of Original Contract Amount Earned
5	40
15	20
40	30
50	10

3.3 TRAFFIC CONTROL, Bid Item No. 102

- A. Measured by lump sum (LS).
- B. Payment covers traffic control plan (accepted by Ogden City), traffic control technician, flaggers (if necessary), temporary pavement markings, signs, barricades, and all traffic control devices (Refer to Section 01 55 26, Traffic Control) meeting MUTCD and Ogden City Standards. The traffic control plan shall be stamped by a Professional Engineer and submitted to both Emergency service and Ogden City's traffic engineer for approval.
- C. 20th Street and Valley Street are expected to be closed to thru traffic during the project.
- D. Payment covers any necessary Contractor coordination with UTA for construction constraints on bus service on 20th Street.
- E. Payment covers a minimum of four (4) VMS boards to notify the public of closure for 1 full week (7 days minimum) before site is closed to traffic.

3.4 SWPP PLAN, SITE CLEANING, DUST CONTROL, WATERING, Bid Item No. 103

- A. Measured by lump sum (LS).
- B. Payment covers the CONTRACTOR in obtaining coverage and following all requirements of the State of Utah DWQ General Permit for Storm Water Discharges from Construction Activities or the "Construction General Permit" (CGP). Permit No.RC00000found at: <https://documents.deq.utah.gov/water-quality/stormwater/construction/DWQ-2020-013890.pdf>. The CONTRACTOR will be listed as an Operator and Ogden City will be listed as the Owner. Payment covers the CONTRACTOR to meet all requirements of the CGP. Requirements of this permit include, but are not limited to:
1. Preparation and maintenance of a storm water pollution prevention plan (SWPPP). The SWPPP must be submitted to and approved by City prior to beginning construction.
 2. Submitting a Notice of Intent (NOI) prior to construction.
 3. Maintaining active permit coverage throughout all phases of construction. It is the responsibility of the CONTRACTOR to ensure that permit coverage does not expire. Once the site meets the conditions for terminating CGP coverage, the CONTRACTOR must pass a final inspection with the City SWPPP inspector prior to submitting the Notice Of Termination (NOT) to DWQ.
 4. Installing and maintaining all storm water Best Management Practices (BMPs) in accordance with the approved SWPPP that are not listed as separate bid items, which may include; silt fence, construction fencing, inlet protection, inlet clean-out (if necessary).
 5. Performing necessary Contractor SWPPP inspections in accordance with the SWPPP.
 6. Maintaining all required documentation (inspection reports, corrective action reports, SWPPPs, etc.). Ogden City may request documents associated with the project for up to three years from the date the site is finalized.
- C. The CGP outlines the required steps for preparing and maintaining the SWPPP, provides guidelines, examples, templates, BMP specifications, etc.
- D. Payment shall cover dust control/watering of the site, daily maintenance of the construction zone, **daily sweeping at a minimum**, maintaining BMP devices, and maintaining general cleanliness of the site and staging areas during the construction process to the satisfaction of the City. Trenches shall be maintained at all times to avoid ruts larger than a 2-inch depth.
- E. Payment shall cover temporary water meter rental fees billed to the Contractor from the City. Contractor will NOT be billed for water usage for the project but must utilize a meter to obtain City water for the project.

3.5 CONSTRUCTION STAKING AND SURVEYING, Bid Item 104

- A. Measured by lump sum (LS).
- B. Payment shall be as a portion of the lump sum price bid and shall include all costs to provide construction surveying and staking for the project including all labor by the Contractor's Surveyor, equipment, materials and supplies necessary to provide survey preparation, control, staking offsets and markers necessary for construction of the water main, roadway, curb & gutter elevations, sidewalk elevations, driveways, and appurtenances associated with the project.

3.6 QUALITY ASSURANCE AND TESTING, Bid Item 105

- A. Measurement will be made by lump sum (LS).
- B. Payment shall be for all costs for the Contractor to supply 3rd party compaction testing for quality control/assurance throughout the duration of the project. Testing is to follow Ogden City Standards and be according to APWA Section 01 45 00.
- C. Payment shall include submittals to the ENGINEER before construction and reports to the ENGINEER during construction. Notify Owner (ENGINEER or Inspector) to coordinate location of tests.
- D. Payment shall include testing on all concrete according to APWA Section 03 30 05. Frequency of testing shall be per day of pouring and not per truck.
- E. Payment shall include testing on all asphalt surfaces according to Ogden Standards and Section 32 12 05 SP. Asphalt shall be considered 500 tons to 1500 tons of asphalt and shall be tested accordingly.

3.7 CLEAR AND GRUB, Bid Items 106

- A. Measured by lump sum (LS).
- B. Clear and grub includes the removal of items within the cut/fill line including but is not limited to incidental landscaping items and tree roots/STUMPS. Excavated backfill material may be used as fill at locations outside of the roadway section as allowed by the ENGINEER. Includes disposal of excess excavated material.
- C. Excavation completed for CONTRACTOR'S benefit or excavation error, dewatering of excavation slough or overbreak is incidental work.
- D. For material ordered removed and replaced (authorized extra excavation and backfill), measurement of quantities for payment shall be made to the following pay limits.
 - 1. Upper limit of excavation is the proposed excavation limit.
 - 2. Lower and lateral limits are as authorized by ENGINEER.
 - 3. Volumes of open spaces (e.g. manholes, pipes, etc.) will not be measured in backfill calculations.

3.8 UTILITY INVESTIGATION, Bid Items 107, 201

- A. Measurement will be made by counting the actual number of hours of work completed by the machine and operator to investigate miscellaneous underground features as required by the ENGINEER (HR). No allowance of time will be made for transporting the backhoe to and from the job site when the backhoe is located on the site of the Contract.
- B. Payment covers furnishing and providing labor and equipment for investigation of existing miscellaneous pipelines, wires and cables, and sub-surface features as **required by the ENGINEER**. OWNER must approve time before Contractor is to proceed with any paid utility investigation.

3.9 REMOVE TREE, Bid Item 108

- A. Measured per each tree and stump (EA) removed as one.
- B. Payment includes removal and disposal of tree and stump and grinding of stump. Contractor shall remove stump and root 12 inches below existing ground or base of proposed grade (ex. base of pavement section or base of driveway UTBC) whichever is greater.

3.10 REMOVE CURB AND GUTTER, Bid Item 109

- A. Measurement will be made by linear foot (LF), measured along the top back of curb (TBC).
- B. Payment covers the cost of sawcutting, equipment, transportation, excavation and other labor required to remove concrete curb and gutter. Payment covers proper disposal at an appropriate dump site.
- C. All work shall conform to APWA Standard Specification 02 41 13.

3.11 REMOVE FRENCH DRAIN, Bid Item 110

- A. Measurement will be made per linear foot (LF) of removed French drain.
- B. Payment includes all labor, materials, and equipment required to remove and dispose of existing French drain components, including perforated pipe, gravel, and geotextile fabric.
- C. Payment also includes excavation, backfilling, compaction, and surface restoration to match existing conditions.
- D. Any existing connections to the storm drain system that must be capped or reconfigured as a result of the removal shall be considered incidental to this item.
- E. The contractor shall coordinate with the Engineer to ensure proper removal and restoration of the impacted area.
- F. All work shall conform to APWA Standard Specification 02 41 13.

3.12 REMOVE MEDIAN, Bid Item 111

- A. Measurement will be made per linear foot (LF) of median curb removed measured along the top back of curb.
- B. Payment includes all labor, materials, and equipment required to saw cut, remove, and dispose of existing concrete, asphalt, or other materials within the median.
- C. Payment also includes excavation, backfilling, compaction, and surface restoration to match surrounding conditions.
- D. The contractor shall coordinate with the Engineer to ensure proper removal and restoration of the impacted area.
- E. All work shall conform to APWA Standard Specification 02 41 13.

3.13 REMOVE BOLLARD, Bid Item 112

- A. Measurement will be made per each (EA) bollard removed.
- B. Payment includes all labor, materials, and equipment required to remove and dispose of existing bollards, including concrete footings if applicable.
- C. Payment also includes excavation, backfilling, compaction, and surface restoration to match surrounding conditions.
- D. Any adjacent pavement, sidewalk, or landscaping disturbed during removal shall be repaired to match existing or better conditions.
- E. The contractor shall coordinate with the Engineer to ensure proper removal and restoration of the impacted area.
- F. All work shall conform to APWA Standard Specification 02 41 13.

3.14 REMOVE CONCRETE FLATWORK (6" THICK), Bid Item 113

- A. Measurement will be made by square foot (SF) of concrete flatwork removed as called out in the plans.
- B. Payment covers all cost of labor, materials, equipment, and appurtenances required to remove and dispose of concrete as shown on the project plans, including sidewalks, and driveways. Saw cutting shall be considered incidental to removal of concrete. (Refer to Section 02 41 14, Pavement Removal)

3.15 REMOVE COMMERCIAL DRIVEWAY (8" THICK), Bid Item 114

- A. Measurement will be made by square foot (SF) of any existing concrete removed.
- B. Payment covers all cost of labor, materials, equipment, and appurtenances required to remove and dispose of concrete as shown on the project plans, including driveways. Saw cutting shall be considered incidental to removal of concrete. (Refer to Section 02 41 14, Pavement Removal)

3.16 DETECTABLE WARNING SURFACE (GRAY), Bid Item 115

- A. Measurement shall be per each ramp location (EA) basis. Measurement to be by each

new ped ramp location as identified on the bid schedule and in the plan set.

- B. Payment shall be at the per each price and shall include all costs for labor, materials, tools, and equipment required to furnish and install the detectable warning surface that is gray in color. Also includes all other work necessary to complete this item to specifications, Ogden City Standards, and APWA standard plan #238.

3.17 DETECTABLE WARNING SURFACE (YELLOW), BID Item 116

- A. Measurement shall be per each ramp location (EA) basis. Measurement to be by each new ped ramp location as identified on the bid schedule and in the plan set.
- B. Payment shall be at the per each price and shall include all costs for labor, materials, tools, and equipment required to furnish and install the detectable warning surface that is yellow in color. Also includes all other work necessary to complete this item to specifications, Ogden City Standards, and APWA standard plan #238.

3.18 REMOVE CONCRETE SIDEWALK (4" THICK), Bid Item 117

- A. Measurement will be made by square foot (SF) of any existing concrete removed. This item is to cover concrete removal for sidewalks (4" thick).
- B. Payment covers All cost of labor, materials, equipment, and appurtenances required to remove and dispose of concrete as shown on the project plans, including sidewalks, and driveways. Saw cutting shall be considered incidental to removal of concrete. (Refer to Section 02 41 14, Pavement Removal)

3.19 REMOVE ASPHALT PAVEMENT, Bid Item 118

- A. Measured by square yard (SY) of asphalt pavement removed.
- B. Remove Asphalt Pavement shall be limited to the locations indicated on the Drawings (plan quantity) or as directed by the Engineer. No direct payment shall be made for removal at locations not on the Drawings unless written direction is provided by the Engineer. The unit price named shall include all costs associated with; saw cutting; demolition, removal, and disposal of waste material; and all other work or materials required to complete the work. (Refer to Section 02 41 14, Pavement Removal).

3.20 ROADWAY EXCAVATION (PLAN QUANTITY), Bid Item 119

- A. Measured by cubic yard (CY).
- B. Payment includes all costs incidental to roadway excavation. Pay quantities will be computed in the original position to the neat lines and grades or pay limits of excavation specified using the given plan quantities.
- C. Roadway excavation includes the removal of all items, not including roadway asphalt, within the proposed roadway area including, but not limited to native soil, dirt fill, rocks, boulders, tree roots, and any other material removed to the designed depth for the proposed engineered roadway. Includes the hauling and disposal of excavated material.
- D. Excavation completed for CONTRACTOR'S benefit or excavation error, dewatering of

excavation slough or overbreak is incidental work.

- E. For material ordered removed and replaced (authorized extra excavation and backfill), measurement of quantities for payment shall be made to the following pay limits.
 - 1. Upper limit of excavation is the proposed excavation limit.
 - 2. Lower and lateral limits are as authorized by ENGINEER.

3.21 REMOVE STORM DRAIN BOX, Bid Item 120

- A. Measured by each structure (EA) removed.
- B. Payment includes all costs and equipment incidental to catch basin/manhole/junction box/inlet removal and disposal. Includes any necessary approved backfill to the necessary grade under the direction of the ENGINEER.
- C. Payment also includes any hauling, labor, disposal, compaction and testing which may be required by the ENGINEER.

3.22 REMOVE STORM DRAIN PIPE, Bid Item 121

- A. Measurement shall be made per linear foot (LF) basis, measured in the field, to the nearest foot. Unless indicated otherwise, measurement to be along the pipe from the inside face to inside face of manholes or other structures, or to the end of the pipe where no structure exists.
- B. Payment shall be made at the linear foot price and shall include all costs for labor, tools, materials, and equipment involved in excavating, removing, hauling and disposing of the existing storm drainpipe as shown on the drawings. Payment also includes excavation; and restoring any adjacent facilities disturbed by construction activities associated with this item.
- C. The concrete plug of the removed pipe connection to the existing and preserved storm structure is incidental to the work and included in the bid item.

3.23 MANHOLE – ADJUST TO GRADE, Bid Item 122

- A. Measurement will be made by actual count per each (EA) adjusted to finish grade with collar installed. Manholes are expected to be lowered for paving, then raised to grade with collar after paving.
- B. Payment covers all tools, labor, materials, and equipment to lower and raise existing structures to be flush with new grade as shown on Drawings. Payment covers all costs associated with raising/lowering the existing structure; including grade rings, removal and disposal of existing materials, concrete collars, concrete seal, reinforcement rebar, labor, and all other appurtenant work not otherwise stipulated to be paid for separately.
- C. Payment covers the required coordination with Ogden City for ordering manhole lids for existing manholes. New manhole covers will NOT be paid for with this item.
- D. Concrete for collars shall be obtained from batched concrete (i.e. Jack B. Parsons, Geneva, etc.). Concrete must be batched with micro fiber mesh reinforcement and sealed with a curing compound.

3.24 APWA SPEC ROADBASE (1" MINUS), Bid Items 123, 124

- A. Measurement will be made by tons (TONS) of untreated base course placed and compacted.
- B. Payment covers the cost of furnishing all necessary materials, aggregate base course, labor, hauling, placement, and compaction to produce an acceptably deep aggregate base course layer per Ogden City Standard Drawings RD-3 and project plan specified thickness. Payment covers the cost of installing the full thickness of aggregate base course layer and preparation for pavement installation. (Refer to Section 33 05 25, Pavement Restoration).
- C. Payment covers the cost of all excavation, removal/disposal of existing, and all grading/compaction to finish grade before concrete pour and/or before asphalt paving.
- D. No payment will be made for aggregate base course purchased and installed as a temporary construction measure.
- E. Aggregate base course shall be untreated. No recycled roadbase (or any recycled material) will be accepted for roadbase on the project.

3.25 3" MINUS PIT RUN (GRANULAR BORROW), Bid Items 125, 203

- A. Measurement will be made by tons (TONS) of 3" Minus structural fill placed and compacted.
- B. Payment covers the cost of furnishing all necessary materials, granular borrow, labor, hauling, placement, and compaction to produce an acceptably deep structural fill layer per Ogden City Standard Drawings RD-3 and project plan specified thickness. Payment covers the cost of installing the full thickness of granular borrow layer and preparation for roadbase installation.
- C. Payment covers the cost of all excavation, removal/disposal of existing.
- D. Material shall meet APWA 31 05 13 specification for Granular Borrow, be angular aggregate that meets AASHTO A-1-a Classification (must be certified as A-1-a), and have particle diameter size no larger than 3 inches.

3.26 ASPHALT PAVING (PG 58-28 SP – ½ CLASS II) 6" THICK, Bid Item 126

- A. Measurement will be made by tons (TONS) of HMA placed per project plans and specifications. Asphalt shall be Class II per Section 32 12 05 SP.
- B. Payment covers the cost of furnishing all necessary materials, asphalt, tack coat equipment, labor, hauling, placement, and compaction to produce an acceptably deep excavation asphalt section per Ogden City Standard Drawing RD-3. Payment covers the cost of installing the full thickness of hot-mixed, hot laid asphalt concrete pavement (with no more than 15% recycled asphalt content per Ogden City Standards). Refer to Section 32 12 05 SP, Bituminous Concrete for more details.

3.27 ASPHALT PAVING (PG 64-34 SP – ½ CLASS III) 8" THICK, Bid Item 127

- A. Measurement will be made by tons (TONS) of HMA placed per project plans and specifications. Asphalt shall be Class III per Section 32 12 05 SP.
- B. Payment covers the cost of furnishing all necessary materials, asphalt, tack coat equipment, labor, hauling, placement, and compaction to produce an acceptably deep excavation asphalt section per Ogden City Standard Drawing RD-3. Payment covers the cost of installing the full thickness of hot-mixed, hot laid asphalt concrete pavement (with no more than 15% recycled asphalt content per Ogden City Standards). Refer to Section 32 12 05 SP, Bituminous Concrete for more details.

3.28 INSTALL CONCRETE SIDEWALK__” THICK, Bid Items No. 128, 129, 130

- A. Measurement will be made by square foot (SF) of concrete sidewalk installed.
- B. Payment includes all costs associated with labor, materials, equipment, coordination, and appurtenances required to install concrete sidewalk and flatwork as shown on the project plans, complete and in place. This includes:
 - 1 Excavation, grading, and subgrade preparation.
 - 2 Formwork, reinforcement (if required), concrete placement, and finishing.
 - 3 Curing and protection of newly installed sidewalk.
 - 4 Backfilling and restoration of disturbed areas.
 - 5 Removal and disposal of excess materials and debris.
- C. All work shall conform to APWA Standard Specification 32 16 13.
- D. All concrete shall be sealed with a concrete curing compound.

3.29 INSTALL TYPE A CURB AND GUTTER, Bid Item No. 131 INSTALL APWA TYPE E CURB AND GUTTER, Bid Item No. 132

- A. Measurement will be made by linear foot (LF) of concrete curb and gutter installed.
- B. Payment includes all costs associated with labor, materials, equipment, coordination, and appurtenances required to install curb and gutter as detailed in the plans and specified in the APWA Standard Plans and Ogden City Standards, complete and in place. This includes:
 - 1 Excavation, grading, and subgrade preparation.
 - 2 Formwork, reinforcement (if required), concrete placement, and finishing.
 - 3 Curing and protection of newly installed curb and gutter.
 - 4 Backfilling and restoration of disturbed areas.
 - 5 Removal and disposal of excess materials and debris.
- C. All work shall conform to APWA Standard Specification 32 16 13.
- D. All concrete shall be sealed with a concrete curing compound.

3.30 INSTALL CURB AND GUTTER TRANSITION, Bid Item No. 133

- A. Measurement will be made by each (EA) concrete curb transition installed.
- B. Payment includes all costs associated with labor, materials, equipment, coordination, and appurtenances required to install curb and gutter as detailed in the plans and specified in the APWA Standard Plans and Ogden City Standards, complete and in place. This includes:
 - 1 Excavation, grading, and subgrade preparation.
 - 2 Formwork, reinforcement (if required), concrete placement, and finishing.
 - 3 Curing and protection of newly installed curb and gutter.
 - 4 Backfilling and restoration of disturbed areas.
 - 5 Removal and disposal of excess materials and debris.
- C. All work shall conform to APWA Standard Specification 32 16 13.
- D. All concrete shall be sealed with a concrete curing compound.

3.31 INSTALL CONCRETE WATERWAY, Bid Item No. 134

INSTALL COMMERCIAL DRIVEWAY (8" THICK), Bid Item 135

INSTALL RAISED CROSSWALK, Bid Item 136

- A. Measurement will be made by each (EA) concrete curb transition installed.
- B. Payment includes all costs associated with labor, materials, equipment, coordination, and appurtenances required to install curb and gutter as detailed in the plans and specified in the APWA Standard Plans and Ogden City Standards, complete and in place. This includes:
 - 6 Excavation, grading, and subgrade preparation.
 - 7 Formwork, reinforcement (if required), concrete placement, and finishing.
 - 8 Curing and protection of newly installed curb and gutter.
 - 9 Backfilling and restoration of disturbed areas.
 - 10 Removal and disposal of excess materials and debris.
- C. All work shall conform to APWA Standard Specification 32 16 13.
- D. All concrete shall be sealed with a concrete curing compound.

3.32 INSTALL SPEED TABLE PAVEMENT MARKING, Bid Item 137

INSTALL BIKE PAVEMENT MARKING, Bid Item 138

INSTALL TURN LANE PAVEMENT MARKING, Bid Item 139

- A. Measured per each (EA) installed pavement marking.
- B. Payment includes furnishing and installing pavement marking symbols per Ogden City, MUTCD and APWA standards.

- C. All work shall conform to APWA Standard Specification 32 17 23. Includes necessary surface preparation and coatings.

3.33 REMOVE SIGN, Bid Item 140

- A. Measured per each (EA) sign removed.
- B. Payment includes removal, transportation, and disposal of the sign and post. Payment also include includes all labor, equipment, and materials necessary to remove the sign without damage to adjacent infrastructure. Any existing foundations or supports that interfere with new construction shall be removed and disposed of.
- C. The contractor shall coordinate with the Engineer to determine if removed signs are to be salvaged or disposed of.
- D. All work shall conform to APWA Standard Specification 02 41 13.

3.34 REMOVE GUARDRAIL, Bid Item 141

- A. Measured by linear foot (LF) of guardrail removed.
- B. Payment includes dismantling, removal, and disposal of existing guardrail components.
- C. All work shall conform to APWA Standard Specification 02 41 13

3.35 INSTALL MIDWEST 31" W-BEAM GUARDRAIL 6-FT WOOD POST, Bid Item 142

- A. Measured by linear foot (LF) of installed guardrail.
- B. Payment includes furnishing and installing Midwest 31" W-beam guardrail with 6-ft wood posts, including all materials, labor, and equipment necessary for installation per project plans
- C. All work shall conform to APWA Standard Specification 34 71 13.

3.36 SOIL NAIL WALL, Bid Item 143

- A. Measured by square foot (SF) of installed soil nail retaining wall, including all necessary design, construction, and testing requirements.
- B. Payment includes all labor, materials, tools, equipment, and design services necessary to construct a complete soil nail retaining wall as shown on the project plans and in accordance with approved submittals.
- C. Work includes, but is not limited to:
 - 1 Design and engineering of the soil nail wall by a professional engineer licensed in the State of Utah, including preparation and submission of calculations and drawings.
 - 2 Excavation, grading, and preparation of the installation area.
 - 3 Drilling and installation of soil nails, including grouting and tensioning.
 - 4 Application of initial and final shotcrete facing, including reinforcement and architectural treatment per approved test panels.

- 5 Installation of drainage elements, including weep holes and geocomposite drains.
- 6 Monitoring and control of deformations, verification and proof testing of soil nails, and required documentation of testing results.
- 7 Cleanup and restoration of all disturbed areas to pre-construction conditions.

D. All work shall conform to Special Provision 13 50 30 S.

3.37 LIGHTING SYSTEM 20TH ST, Bid Item 144

- A. Measured per lump sum (LS).
- B. Payment includes all labor, materials, and equipment necessary for a fully operational lighting system, including poles, luminaires, conduit, conductors, junction boxes, trenching, and connections per Ogden City and APWA Standards.
- C. Includes the installation of foundations, grounding systems, and all necessary wiring.
- D. Includes installation of electrical service for the landscape controller and Strong Box SB-16SS.
- E. The contractor shall coordinate with the power company for electrical service connections.
- F. All work shall conform to APWA Standard Specification 26 56 19. Testing and commissioning of the lighting system must be completed before final acceptance.

3.38 TRAFFIC SIGNAL IMPROVEMENTS, Bid Item 145

- A. Measured per lump sum (LS).
- B. Payment includes all labor, equipment, materials, and installation necessary to complete the traffic signal improvements, including signal poles, controllers, detection systems, conduit, conductors, and connections to existing infrastructure per UDOT Standards.
- C. All work shall conform to APWA Standard Specification 34 41 13.

3.39 5-FT STORM DRAIN MANHOLE (PRECAST), Bid Item 146

RECONSTRUCT CATCH BASIN WITH OGDEN CITY STORM DRAIN MANHOLE FRAME AND COVER, Bid Item 147

CATCH BASIN w/CURB INLET, Bid Item 153

DOUBLE CATCH BASIN w/CURB INLET, Bid Item 154

UDOT CB9 CATCH BASIN & CLEANOUT w/GF1 BS, Bid Item 155

COMBINATION BOX / CLEANOUT BOX, Bid Item 156

MODIFIED COMBINATION BOX / CLEANOUT BOX, Bid Item 157

- A. Measured and paid for on a per each (EA). Measurement to be by actual field count of each type, and size of installed precast concrete structure identified on the bid

schedule and in the plan set.

- B. Payment includes all labor, equipment, furnishing and installing each type of precast concrete storm drain manhole or precast concrete storm drain catch basin, complete, including, but not limited to: additional excavation; reinforced concrete; supplying and installing all precast structures, risers, grates, and covers; ladder rungs; grouted channel troughs; connection to existing and/or new pipes, backfill material, compaction, testing, materials and labor for backfill, and all other items needed to complete the work including cleaning and placing structures in service.
- C. Payment also covers all costs for labor, equipment, and material required to raise and concrete collar the structure to the finished asphalt grade.
- D. The connection to any pipe culvert or other drainage feature will be incidental to construction and no separate payment will be made for this work.
- E. The City will make no separate payment for testing upon failure of visual inspection.
- F. Payment for base course and asphalt restoration are covered under their respective bid items.

3.40 ___” RCP STORM DRAIN CLASS ___, Bid Items 148 – 152

- A. Measured and paid for on a linear foot basis (LF), measured in the field along centerline of pipe, to the nearest foot, for the type, size and class indicated in the Bid Schedule between structures. Unless indicated otherwise, measurement to be along the pipe from the inside face to inside face of manholes, catch basins, or other structures, or to the end of the pipe where no structure exists, with no deduction for fittings.
- B. Payment includes but is not limited to: Furnishing and installing pipe of the material, type, size and class indicated, including gaskets, adapters, plugs; trench excavation; excavation for bells; utility potholing; capping or plugging of the existing storm drain pipe(s) to be abandoned; **supplying, installing, compacting and testing imported pipe zone materials** (up to spring line of pipe) in accordance with the drawings and Ogden City Standards; trench boxes or shoring as needed; dewatering; management of storm water during construction; trench dewatering; connection of the existing storm drain to the new storm drain; reconnection of existing storm drain laterals to the new storm drain manholes; connecting new storm drain to existing structures; pipe cutting; field collars; field closures; cleaning new pipe and providing CCTV inspection of new pipe prior to acceptance by owner, commissioning pipelines. There will be no payment for over excavation unless approved in written form by the engineer prior to the excavation. Payment shall also include measures to protect the new pipeline from being damaged or filled with sediment from a runoff event during construction.
- C. Payment for trench backfill above the spring line of pipe (3” minus) and materials for the pavement section will be paid for separately.

3.41 PAINT STRIPING, Bid Item 158

- A. Measurement will be made by lump sum (LS).
- B. Payment covers the cost of furnishing all necessary materials, labor, and transportation to restripe the roadway after patching/paving is completed. All impacted striping shall be restored as shown in the plans.
- C. Payment covers any temporary measures required (i.e., traffic control, tabbing) to delineate striping between paving and striping.

3.42 UDOT STD POST P3, SLIP-BASE ANCHOR, AND MOUNT, Bid Item 159

- A. Measured per each post system (EA).
- B. Payment includes all work incidental to the installation of post according to UDOT Standard, including but not limited to the post, anchor hardware, and concrete foundation. Posts shall only be bolted in the sidewalk if there is no park strip and the sidewalk is 6' wide or greater.
- C. As part of this bid item, contractor shall restore and return "in like kind" and in better or equal condition, the area impacted as a result of the sign installation.
- D. Refer to UDOT Standard drawings SN1, SN2B, SN8, SN9A, SN9B, SN10, SN11A, SN12A & SN12B for post, hardware, and anchor elements.

3.43 VEHICLE PROTECTION SYSTEM, Bid Item 160

- A. Measured by linear foot (LF) of installed vehicle protection system.
- B. Payment includes all labor, equipment, and materials necessary for a complete and functional system per the manufacturer's specifications.
- C. The system shall include all components (i.e., cables, supports, posts, foundations, and hardware) required for proper installation.
- D. Payment includes excavation, backfill, concrete foundation installation, assembly of posts and rails, cable tensioning, and all necessary fittings.
- E. All visible components shall be coated with black PVC coating.
- F. Installation shall be in accordance with the approved manufacturer's specifications and applicable Ogden City Standards.
- G. All work shall conform to APWA Standard Specification 34 71 13, Special Provision 09 96 00 SP and 32 31 00 SP.

3.44 LANDSCAPE & IRRIGATION, Bid Item 161

- A. Measurement will be made by lump sum (LS) for all landscape work completed.
- B. Payment includes all labor, materials, and equipment required for furnishing, installing, and maintaining all landscaping elements, including topsoil, sod, mulch, trees, shrubs, other plantings, and ornamental concrete called out in the plans.
- C. Payment includes all excavation, grading, and placement of imported topsoil and soil amendments to support healthy plant growth.
- D. Payment includes the complete installation of an irrigation system, including piping,

- valves, sprinkler heads, controllers, meter, and connection to the water supply.
- E. Contractor shall be responsible for coordination with the local utility provider for the installation of water service to the irrigation system.
 - F. Payment includes staking and planting of trees and shrubs per the project plans, ensuring proper spacing, depth, and alignment.
 - G. All plant materials shall be installed per best horticultural practices, including mulching, staking, and initial watering to ensure establishment.
 - H. Payment includes an establishment and maintenance period of 90 days, during which the contractor shall be responsible for irrigation, weeding, fertilizing, mowing, pruning, and replacing any dead or unhealthy plantings at no additional cost.
 - I. The contractor shall restore all disturbed areas, including reseeding or resodding any areas impacted by construction.
 - J. All landscape work shall conform to APWA Standard Specification 32 92 00, 32 93 13, 32 93 43, and 31 98 00 and Ogden City Standards.

3.45 SIGNS, Bid Item 162

- A. Measured per each sign (EA).
- B. Payment includes all work incidental to the fabrication, installation, and placement of a sign, including but not limited to the sign and mounting hardware.

3.46 PLOWABLE END SECTION, Bid Item 163

- A. Measurement shall be made per each (EA) installed plowable end section.
- B. Payment includes all labor, materials, tools, and equipment necessary to furnish and install the plowable end section in accordance with project plans and specifications.
- C. Work includes, but is not limited to:
 - 1 Excavation, grading, and preparation of the installation area.
 - 2 Placement and securing of the plowable end section, ensuring proper alignment with adjacent infrastructure.
 - 3 Backfilling and compaction around the installed unit to match existing or proposed grades.
 - 4 Concrete, hardware, and necessary reinforcement required for proper installation.
 - 5 Restoration of any disturbed surfaces, including adjacent pavement, landscape, or curb and gutter.
 - 6 Testing and verification that the installation meets Ogden City and APWA standards.
 - 7 Painting as called out.
- D. The contractor shall coordinate with the Engineer to ensure proper location, alignment, and compliance with all applicable standards.
- E. All work shall conform to APWA Standard Specification 32 16 13 and Ogden City

Standards.

3.47 REMOVE PAVEMENT MARKINGS, Bid Item 164

- A. Measurement shall be made per square foot (SF) of pavement markings removed.
- B. Payment includes all labor, materials, tools, and equipment necessary to remove existing pavement markings as indicated in the project plans.
- C. Work includes, but is not limited to:
 - 1 Removal of all types of pavement markings, including paint, thermoplastic, and epoxy.
 - 2 Use of appropriate removal methods such as grinding, water blasting, or other approved techniques to minimize damage to the underlying pavement.
 - 3 Proper disposal of all debris and waste material generated during the removal process.
 - 4 Cleaning of the pavement surface to ensure it is free of residual marking materials.
 - 5 Restoration of the pavement surface as necessary to prevent hazards, including filling or sealing any surface damage caused by removal operations.
- D. Removal shall be limited to areas designated on the plans and does not include payment for temporary striping removal.
- E. The contractor shall ensure that all removed markings are completely eliminated to prevent confusion for motorists and pedestrians.
- F. All work shall conform to APWA Standard Specification 32 17 23 and Ogden City Standards.

3.48 8" DUCTILE IRON CLASS 350, Bid Item 202

- A. Measurement shall be made per linear foot (LF) of 8" Ductile Iron Class 350 water line installed as measured from connection point to connection point along the centerline of the pipeline.
- B. Payment shall be made at the linear foot price bid and shall include all material, labor, tools, and equipment to coordinate construction, install water line including shoring or stabilization, de-watering, and dust control following all water line trench standards per plan W-18.
 - 1 Payment covers the cost of incidental work such as potholing, fittings, corporation stops, couplings, joint lubricants, gaskets, jackhammer work; underground line marking tape; landscape replacement if damaged by CONTRACTOR'S operations; restoration of all utilities damaged as a result of operations; site dewatering; water main repair or replacement if damaged by CONTRACTOR; and similar work to complete the installation of the water line.

- 2 Furnishing and installing DI bends, crosses, tees, and fittings identified on the construction drawings except those specifically listed in other bid items; plugging of existing pipes as required on the plans, etc.
- 3 Polywrap all ductile iron fittings & valves with 8 Mil Polyethylene sheet and Tape Wrap.
- 4 All costs for concrete thrust blocks, including fabric wrapping to protect bolts and followers from the concrete. Install the concrete thrust blocking with the minimum bearing surface indicated in the project plans.
- 5 Provide and install all MEGA-LUG followers, pipe joint restraints as labeled in the plans, or approved equal on all fittings, tees, and bends, all costs for the labor and equipment to saw cut the pipe for connections as required.
- 6 All pipe shall have 12 AWG Copper-Clad Steel (CCS) tracer wire installed with the pipe. Tracer wires shall terminate in a Snakepit tracer box style (CD14BT or approved equal) according to Ogden City Standard W-1B. Marking tape shall also be installed with the pipe per Ogden City Standards.
- 7 All splices shall use locking connectors and NOT wire nut direct bury splice kits.
- 8 All water main termination/tie-in locations shall be grounded using a magnesium grounding rod connected to the tracer wire with a locking connector.
- 9 All service connections shall utilize mainline to service connectors without cuts to the tracer wire.
- 10 Cost to clean the interior of the line by sweeping and/or spraying to remove any accumulated debris, sand, or foreign materials prior to the installation of the pipe in the trench. Payment includes the cost to pressure test the line, perform bacteria tests on the line, disinfect the line and flush the line (Bacteriological sample costs will NOT be billed to the Contractor unless Contractor fails 2 or more tests). Payment includes all costs associated with dust control including evenings and weekends between 7:00 am and 9:00 pm, or as required by the City Engineer.

- C. Payment shall include all trenching costs associated with this item including all import pipe bedding (3/8" sand material and placement), backfilling, and compaction (labor). Payment includes all excavation and removal of material for installation of the pipe. Sand bedding shall be placed a minimum of 6 inches below the bottom of pipe and 12 inches above the top of pipe with 12 inches on each side of pipe bedded and haunched according to pipe manufacturers' recommendations and Ogden City Standards. Material placed as backfill above the pipe bedding material shall be APWA 3" Minus Granular Borrow (separate bid item) or better.

3.49 RECONNECT EXISTING SERVICE LINE, Bid Item 204

- A. Measurement will be made per each (EA) service line reconnected.
- B. Payment includes all labor, materials, and equipment required to reconnect existing water service lines to the newly installed water main, ensuring a fully functional system.

- C. Includes excavation, fittings, valves, couplings, thrust restraints, tapping sleeves, backfill, and compaction necessary for a complete reconnection.
- D. All work shall be performed in accordance with Ogden City Standards and APWA Standard Specification 33 12 16.
- E. Testing, flushing, disinfection, and pressure testing of the reconnected service line shall be completed prior to acceptance.
- F. Any pavement, curb, gutter, or landscaping disturbed during reconnection shall be restored to its original or better condition.
- G. No 3 piece unions from main to meter allowed (pipe must be continuous).

3.50 EXISTING WATER MAIN CONNECTION, Bid Item 205

- A. Measurement shall be made per each (EA) connection made to the existing water main. No additional payment will be made for additional connections due to contractor phasing of construction requiring connections from new main to new main.
- B. Payment shall be made at the unit price bid and shall include all labor, materials, tools, and equipment to furnish and install the fittings necessary to complete the connection between the existing pipe and the new pipe. Payment includes all costs to locate and excavate the existing water main and connect the new main to the existing main as shown on the plans. Payment includes removal of up to 30 feet of the existing pipe, if required, to make the connection with the existing pipes including looping the new pipe to match the elevation of the existing waterline, prepare the ends of the pipe, and to remove and legally dispose of the removed pipe and fittings. Contractor is responsible to pothole and verify the pipe depth, material and size of existing Waterlines prior to ordering parts and fittings. Payment includes all costs to furnish and install sleeve connections with MEGA-LUG followers or approved equal on the mechanical joint ends and all costs for required concrete thrust blocks.
- C. Payment includes all costs to coordinate with the Ogden City Water Department for all water shutdowns necessary for installation of the complete connection. Payment includes 48-hour advance written notifications to all residents affected by any water service interruption. Businesses must be given 72-hour advance notice or longer.
- D. Payment includes costs for excavation, backfill and compaction, compaction testing, blue staking, potholing, legal waste disposal, all landscaping related and sod restoration not covered under other items, and plugging and blocking the end of the mains to be abandoned, and all associated work items required to complete this bid item. Total length of pipe for connection shall not exceed 20 feet.
- E. Payment includes all connection pieces to be properly swabbed and disinfected with chlorine.
- F. Payment shall be made at the unit price bid and shall include all costs to remove the existing pipe, saw-cut, remove, and legally dispose of pipe waste materials; plugging of existing pipes as required on the plans; provide trench excavation with legal disposal of excavated waste materials, shoring or stabilization, and de-watering; excavate existing excess material.

3.51 INSTALL FIRE HYDRANT ASSEMBLY, Bid Item 206

- A. Measurement will be made by actual count per each (EA) installed.
- B. Payment covers the cost of excavation, soil preparation, potholing, installing the new fire hydrant with surface coatings and fittings, 6-inch ductile iron supply main piping (and bedding) and any required bends/loops around existing utilities, connection of the new fire hydrant to new water main with ductile iron pipe with exterior of pipe tape wrapped; gate valves with cast iron slip-type valve boxes, traffic lids, concrete collar (w/seal); miscellaneous tees, sleeves, bends, gaskets, bolts, nuts; approved joint restraining devices; greasing and wrapping all exposed fittings, bolts and nuts; pipeline dewatering; concrete thrust restraints; concrete box repair, painting and other miscellaneous devices; snake pit boxes with tracer wire, collars; and all other materials/labor necessary to install new fire hydrant assembly according to Ogden City Standard Drawings W-1A, W-1B, & W-2.
- C. Payment includes painting the fire hydrant barrel safety yellow and the caps/bonnet the color determined from a flow test performed by the water department after paving is completed. Bonnet/caps color is expected to be Jay Blue.

3.52 1" IRRIGATION SERVICE LATERAL, Bid Item 207

- A. Measurement will be made per each (EA) installed 1" irrigation service lateral.
- B. Payment shall be made at the unit price bid and includes all labor, tools, materials, and equipment required to furnish and install a complete and operational irrigation service lateral, including connection to the existing water supply.
- C. Work includes, but is not limited to:
 - 1 Excavation, backfilling, and compaction for service lateral installation.
 - 2 Installation of 1" service line, valves, fittings, and associated appurtenances.
 - 3 Installation of Reduced Pressure Zone (RPZ) Assembly including proper elevation, air gap clearance, and mounting per local and state regulations.
 - 4 Installation of valves, and swing connection assembly.
 - 5 Connection to the secondary water supply or culinary water supply, including proper cross-connection protection.
 - 6 Installation of a secondary valve box and irrigation box for access to control components.
 - 7 Installation of flexible pipe material, swing joints, and quick-connect fittings as shown in the detail.
 - 8 Pressure testing and backflow testing by a Certified Backflow Tester within 10 days of initial usage.
 - 9 Final inspection and verification of operation per project specifications.
- D. The contractor shall coordinate with the appropriate water provider for connection

approval, inspection, and compliance with all applicable Ogden City and APWA Standards.

- E. All disturbed areas, including pavement, landscaping, and concrete, shall be restored to original or better condition.
- F. All work shall conform to APWA Standard Specification 33 12 33 and Ogden City Standards.

END OF DOCUMENT

DOCUMENT 00 41 50
CONTRACT TIME

PART 1 GENERAL

1.1 DOCUMENT INCLUDES

- A. Contractor's proposal for Contract Time.

1.2 CONSTRUCTION CONTRACT

- A. The Construction Contract is known as EN012 - 20th Street & Valley Drive Intersection Improvements.

1.3 DEFINITIONS

- A. Suspended Contract Time: The Contract Time commences to run upon the day given in the Notice to Proceed. Suspended Contract Time means there is a period within the Contract Time where time is not counted. For purposes of this Construction Contract, the time period not counted may not be broken up into separate periods but shall be considered as only a one time period to be used to allow for work suspension due to just cause.

1.4 CONTRACT TIME

- A. Engineer has estimated 120 calendar days are required to substantially complete the work. The total number of days established by the Bidder to substantially complete the work is _____ calendar days.
- B. If Bidder anticipates occurrence of Suspended Contract Time the number of calendar days of Suspended Contract Time anticipated is _____ calendar days providing the Notice to Proceed date is given by the Engineer after .

PART 2 EXECUTION

2.1 EFFECTIVE DATE

- A. Bidder executes this estimate of Contract Time and declares it to be a supplement to the Bid Schedule (Document 00 41 00) and in effect as of _____, 20__.

2.2 BIDDER'S SUBSCRIPTION

- A. Bidder's signature: _____
- B. Please print Bidder's name here: _____
- C. Title: _____

END OF DOCUMENT

DOCUMENT 00 45 20

BIDDER STATUS REPORT

PART 1 GENERAL

1.1 BIDDER

A. Name: _____

B. Address: _____

C. Telephone Number: _____

1.2 CONSTRUCTION CONTRACT

A. The Construction Contract is known as EN012 - 20th Street & Valley Drive Intersection Improvements.

PART 2 REPORT

2.1 BIDDER STATUS REPORT

A. Bidder affirms the following information is true and correct.

1. Number of employees: _____

2. Bidder's firm is: (check the following as applicable)

☐ Independently owned and operated.

☐ An affiliate of*

☐ A subsidiary of*

☐ A division of*

☐ A business with gross revenue in excess of \$ _____

☐ A business with gross revenue below _____ \$ _____

* PARENT COMPANY:

Name: _____

Address: _____

Telephone Number: _____

Facsimile Number: _____

PART 3 EXECUTION

3.1 EFFECTIVE DATE

- A. Bidder executes this status report and declares it to be a supplement to the Bid
(Document 00 40 00) and in effect as of _____, 20__.

3.2 BIDDER'S SUBSCRIPTION

- A. Bidder's Signature: _____
B. Please print Bidder's name here: _____
C. Title: _____

END OF DOCUMENT

DOCUMENT 00 45 30

SUBCONTRACTOR AND SUPPLIER REPORT

PART 1 GENERAL

1.1 BIDDER

- A. Name: _____
- B. Address: _____
- C. Telephone Number: _____

1.2 CONSTRUCTION CONTRACT

- A. The Construction Contract is known as EN012 - 20th Street & Valley Drive Intersection Improvements.

PART 2 REPORT

2.1 SUBCONTRACTOR AND SUPPLIER REPORT

- A. Failure of the Bidder to specify a Subcontractor for any portion of the work constitutes an agreement by the Bidder that the Bidder is fully qualified to perform that portion, and that Bidder shall perform that portion.
- B. Bidder will be fully responsible to Owner for the acts and omissions of Subcontractors and Suppliers and of persons either directly or indirectly employed by them, as Bidder is for the acts and omissions of persons employed by Bidder directly.
- C. Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor or Supplier and the Owner. Bidder agrees each subcontract with Bidder's Subcontractor will disclaim any third party or direct relationship between Owner and any Subcontractor or Supplier.
- D. The names and addresses of the Subcontractors and Suppliers who will work under the terms of the Contract Documents and the estimated dollar amount of each subcontract (in excess of two (2) percent of the Bid sum) are set forth as follows.

Table 1 - BASE BID

SUBCONTRACTORS		
Name and Address	Nature and Extent of Work to be Sublet	Amount
1.		
2.		
3.		

SUPPLIERS		
Name and Address	Nature and Extent of Work to be Sublet	Amount
1.		
2.		
3.		
4.		

PART 3 EXECUTION

3.1 EFFECTIVE DATE

- A. Bidder executes this Subcontractor and Supplier report and declares it to be a supplement to the Bid (Document 00 40 00) and in effect as of _____, 20__.

3.2 BIDDER'S SUBSCRIPTION

- A. Bidder's Signature: _____
- B. Please print Bidder's name here: _____
- C. Title: _____

END OF DOCUMENT

DOCUMENT 00 50 00

AGREEMENT

PART 1 GENERAL

1.1 CONTRACTOR

- A. Name: _____
- B. Address: _____
- C. Telephone number: _____
- D. Facsimile number: _____
- E. E-Mail address: _____

1.2 OWNER

- A. Ogden City Corporation, a municipal corporation of the State of Utah, 2549 Washington Boulevard, Utah 84401.
- B. Taylor Nielsen is the Owner's representative and agent for this Construction Contract who has the rights, authority and duties assigned to the OWNER in the Contract Documents.
- C. BJ Miller is the resident project representative furnished by the OWNER.

1.3 CONSTRUCTION CONTRACT

- A. The Construction Contract is known as EN012 - 20th Street & Valley Drive Intersection Improvements.

1.4 ENGINEER

- A. Kimley-Horn (David Tusler) is the ENGINEER for the Project who has the rights, authority, and duties assigned to the ENGINEER in the Contract Documents.

1.5 AGREEMENT PERFORMANCE

- A. The Contractor shall perform everything required to be performed, shall provide and furnish all labor, tools and equipment, and shall furnish and deliver all materials not specifically stated as being furnished by the Owner, to complete all the work necessary to complete the Construction Contract in Ogden City, State of Utah in the best and most workmanlike manner, and in strict conformity with the provisions of this contract, the proposal and the plans and specifications. The plans and specifications and the proposal are hereby made a part of the agreement as fully and to the same effect as if the same had been set forth at length in the body of this agreement. It is agreed that the status of the Contractor under this agreement is that of Independent Contractor rather than that of an employee of the Owner. Accordingly, the Contractor, in performance of his/her obligations hereunder, is independent and free from control of the Owner in all that

pertains to the execution of the work and shall perform the work according to the Contractor's own methods without being subject to the rule, control or direction of the Owner or its representatives, save and except as to the results obtained. The finished work and the materials furnished must, however, conform strictly to this contract, the proposal, and the plans and specifications aforesaid, and are subject to the final approval of the Owner and its authorized representatives, who may exert such direction and control thereof as may be necessary to achieve that conformity. All provisions in the specifications with respect to the direction and control of the work shall be construed so as to make effective this provision.

- B. As a condition of the contract, contractors are to register and participate in the status verification system, as defined in section 63-99a-103(1)(c) of the Utah Code or its successor provision, to verify the work eligibility status of the contractor's new employees that are employed in the State of Utah.

Contractor is responsible for verifying the employment status of new employees who work under the contractor's supervision or direction. In addition, contractor must maintain and have available for review upon demand by city an affidavit from each contractor or subcontractor who works under or for the contractor certifying that such contractor or subcontractor has verified through the status verification system, as defined in section 63-99a-103(1)(c) of the Utah Code or its successor provision, the employment status of each new employee of the respective contractor or subcontractor that is employed in the State of Utah.

By entering into this contract, contractor verifies that 1) it has registered in the status verification system or that it will register in the status verification system within thirty (30) days of being notified that it has been awarded the contract, and 2) that it participates in the status verification system to verify the work eligibility status of new employees as required by law. If at any time during the period of this contract, contractor fails to remain registered in or to participate in the status verification system or to maintain on file any required affidavit, city may terminate the contract for cause or, in the alternative, city may suspend work under the contract until contractor shows compliance with the requirements of this section. City shall not be responsible for any costs, damages, expenses, losses or other claims resulting from contract termination or contract suspension resulting from contractor's failure to comply with the status verification system requirements or to have on file any required affidavit, nor shall contract time be extended by virtue of such failure to comply with the requirements of this section.

- C. Furnishing of W-9. Payment under this Agreement is contingent upon Contractor furnishing City with a signed and completed W-9 IRS tax form. Such form shall be attached hereto and incorporated herein. Contractor shall cooperate with City in furnishing any additional information City may need to comply with rules and regulations of the Internal Revenue Service.

PART 2 TIME AND MONEY CONSIDERATIONS

2.1 CONTRACT PRICE

- A. The contract price includes the cost of the work specified in the Contract Documents, plus the cost of all bonds, insurance, permits, fees, and all charges, expenses or assessments of whatever kind or character. The Owner shall pay the Contractor, as full consideration for the performance of this contract, the contract bid price per item as shown in the proposal, for the quantities of work actually performed and accepted.
- B. The schedules of prices awarded from the Bid Schedule (Document 00 41 10) are as follows:
 - 1. Base Bid is: \$ _____
 - 2. Additive Alternate No. 1 is: \$ _____
 - 3. Total Contract Amount is: \$ _____
- C. An Agreement Supplement (Document 00 50 50) [] is, [] is not attached to this Agreement.
- D. Based upon the above awarded schedules and the Agreement Supplement (if any), the contract price awarded is: _____ dollars and _____ cents. (\$ _____).

2.2 CONTRACT TIME

- A. Contract Time shall be:
 - a. _____ calendar days after the date of the Notice to Proceed; or
 - b. Terminate at mid-night of the _____ day of _____, _____.
- B. Any time specified in work sequences in the Summary of Work (Section 01 11 00) shall be a part of the Contract Time.

2.3 PUNCH LIST TIME

- A. The work will be complete and ready for final payment within 30 calendar days after the date Contractor receives Engineer's Final Inspection Punch List unless exemptions of specific items are granted by Engineer in writing or an exception has been specified in the Contract Documents.
- B. Permitting the Contractor to continue and finish the work or any part of the work after the time fixed for its completion, or after the date to which the time for completion may have been extended, whether or not a new completion date is established, shall in no way operate as a waiver on the part of the Owner of any of Owner's rights under this Agreement.

2.4 LIQUIDATED DAMAGES

- A. Late Completion: Time is the essence of the Contract Documents. Contractor agrees that Owner will suffer damage or financial loss if the work is not completed on time or within any time extensions allowed in accordance with Part 12 of the General Conditions (**Document 00 72 00**). Contractor and Owner agree that proof of the exact amount of any such damage or loss is difficult to determine. Accordingly, instead of requiring any such proof of damage or specific financial loss for late completion, Contractor agrees to pay the following sums to the Owner as liquidated damages and not as a penalty.
1. Late Contract Time Completion: Seven Hundred Fifty Dollars and No cents (\$750.00) for each calendar day or part thereof that expires after the Contract Time until the Work is accepted as Substantially Complete as provided in Article 14.5 of the General Conditions (**Document 00 72 00**).
 2. Late Punch List Time Completion: 50% of the amount specified for late contract time completion for each calendar day or part thereof if the work remains incomplete after the Punch List time. The Punch List shall be considered delivered on the date it is transmitted by facsimile, hand delivery or received by the Contractor by certified mail.
- B. Work Sequence Completion: Time is the essence of sequenced work. If a work sequence is specified, then for each day or part thereof that exceeds the specified time and until Engineer determines such work sequence is substantially complete, the Contractor agrees to pay the following sums to the Owner as liquidated damages and not as a penalty.
1. Work Sequence 1: _____ dollars and cents (\$ _____).
 2. Work Sequence 2: _____ dollars and cents (\$ _____).
 3. Work Sequence 3: _____ dollars and cents (\$ _____).
- C. Survey Monuments: No land survey monument shall be disturbed or moved until Engineer has been properly notified and the Engineer's surveyor has referenced the survey monument for resetting. The parties agree that upon such an unauthorized disturbance it is difficult to determine the damages from such a disturbance, and the parties agree that Contractor will pay as liquidated damages the sum of \$1,000.00 to cover such damage and expense.
- D. Interruption of Public Services: No interruption of public services shall be caused by Contractor, its agents or employees, without the Engineer's prior written approval. Owner and Contractor agree that in the event Owner suffers damages from such

interruption, the amount of liquidated damages stipulated above shall not be deemed to be a limitation upon Owner's right to recover the full amount of such damages. Because of the difficulty in determining the Owner's damages resulting from an unapproved interruption, the parties agree payment of the following liquidated damages to Owner on a per calendar day basis does not relieve Contractor from any liability for such a utility interruption to third parties. In the event that any third party successfully makes a claim against Owner for such interruption, Contractor shall be responsible for payment of claims.

1. Water: \$ 750.00
 2. Sewer: \$ 750.00
 3. Storm Drain: \$ 750.00
 4. Street Lighting: \$ 750.00
 5. Communications: \$ 750.00
 6. Electrical: \$ 750.00
 7. Other: \$ 750.00
- E. Deduct Damages from Moneys Owed Contractor: Owner shall be entitled to deduct and retain liquidated damages out of any money which may be due or become due the Contractor. To the extent that the liquidated damages exceed any amounts that would otherwise be due the Contractor, the Contractor shall be liable for such amounts and shall return such excess to the Owner.

2.5 RETAINAGE

- A. Retainage is Owner's Option: Owner may, in its sole discretion, retain 5 percent of the value of all work done and materials or equipment supplied as part security for the fulfillment of the Construction Contract by the Contractor. If, in Engineer's opinion, the work is proceeding in accordance with Contractor's approved progress schedule, and all progress schedule submittals are current and up to date, and all required payrolls, Shop Drawings, and miscellaneous submittals are current and up to date, the Owner may choose not to withhold retainage.
1. Amount to be Retained: If at any time after 50% of the work has been completed, and \$50,000 or more has been retained, Owner may make any of the remaining progress payments in full, if, in the Owner's sole discretion, the work is progressing satisfactorily. Owner may pay monthly to the Contractor while carrying on the Work, the balance not retained as aforesaid, after deducting therefrom all previous payments and all sums to be kept or retained under the provisions of the Construction Contract. No such estimate of payment shall be required to be made when, in the judgment of the Engineer, the work is not proceeding in accordance with the Contract Documents or when in Engineer's

judgment the total value of the work done since the last estimate amounts to less than \$300. No such estimate or payment shall be construed to be an acceptance of any defective or improper work or materials.

2. Reducing the Retainage: As the work nears completion and solely at the Engineer's discretion, the Owner may reduce the retainage to an amount more in line with the Work actually remaining.
 3. Retainage Held Until Final Payment: The Owner reserves the right to retain all amounts previously withheld or due the Contractor, including liquidated damages, until all Punch List items are complete. However, at Engineer's sole option, Engineer may authorize the release of up to all retained amounts except any liquidated damages and double Engineer's best estimate of the Contractor's cost to complete all remaining Punch List items.
- B. Interest: Except when Contractor is required to submit a Waiver of Interest Affidavit (Document 00 45 10), and except for money retained for items not provided or installed in accordance with the Contract Documents, any money retained by the Owner will be placed in an interest bearing account held by the Owner as of the date such money would have otherwise been payable. The interest accrued thereon will be due and payable to the Contractor within 30 days after the retained monies are paid.

2.6 PAYMENT PROCEDURES

- A. Progress Payments: Contractor shall submit applications for payment in accordance with Part 14 of the General Conditions (**Document 00 72 00**) and Section 01 29 00 (2025 Manual of Standard Specifications by the Utah Chapter of the American Public Works Association). Payment shall not become due or payable for any contract item not provided or installed by Contractor. If required by the Owner, any request or application by the Contractor for a partial payment shall be accompanied and supported by data establishing payment or satisfaction of all Contractor obligations for payroll, bills for materials and equipment, and other indebtedness, with such data establishment to be evidenced by receipts, releases and waivers of lien, arising out of the contract, to the extent and in such form as may be designated as acceptable and satisfactory by the Owner. The Owner may require such data, including but not limited to, and executed, completed lien waiver and release from all subcontractors, lower-tier subcontractors and suppliers. The submission of these items, if requested by the Owner with the Contractor's application or request for a partial payment shall constitute a condition precedent to the Contractor's right to any such partial payment, and any particular application or request for partial payment submitted without these items, if so requested by the Owner, shall be deemed incomplete.
1. Withholding Payment: Owner reserves the right to withhold payment from Contractor for noncompliance with any provision of the Contract Documents.

2. Price Adjustments: Owner will consider making partial payment to the Contractor for certain non-conforming work in advance of any negotiated settlement reached between the Contractor and the Owner, provided the Contractor requests in writing that this be done. Contractor agrees that any such payments made by the Owner are "payments in advance" and that any money which becomes due when the final settlement is negotiated will not constitute payments "withheld" or "retained" under State law.
- B. Final Payment: After completion of all work and Punch List items, Owner shall pay the contract price due after deducting there from all previous payments, unit price quantity adjustments, penalties, liquidated damages, and other amounts to be retained. All prior progress payments shall be subject to correction in the final payment. The final payment shall not be due and payable until the expiration of 30 days from approval of the request for final payment of Contractor by the Owner's finance department. Final payment, constituting the entire unpaid balance of the contract sum, shall be paid by the Owner to the Contractor when the work has been completed, the contract fully performed, and a final certificate for payment has been issued by the Engineer. Neither the final payment nor the remaining retainage shall become due until the Contractor submits to the Owner through the Engineer and Purchasing Agent of the Owner, (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the work for which the Owner might in any way be responsible, have been paid or otherwise satisfied, (2) consent of surety to final payment, and (3) if required by the Owner, other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the contract, to the extent and in such form as may be designated by the Owner. If after substantial completion of the work, final completion thereof is materially delayed through no fault of the Contractor or by the issuance of change orders affecting final completion, and the Engineer so confirms, the Owner shall, upon application by the Contractor and certification by the Engineer and without terminating the contract, make payment of the balance due for that portion of the work fully completed and accepted. If the remaining balance for work not fully completed or corrected is less than the retainage stipulated in the contract documents, and if bonds have been furnished, the written consent of the Surety of the payment of the balance due for that portion of the work fully completed and accepted shall be submitted by the Contractor to the Engineer prior to certification of such payment. Such payment shall be made under the terms and conditions governing payments as heretofore set forth, except that it shall not constitute a waiver of claims. The making of final payment shall constitute a waiver of all claims by the Owner except those arising from: (1) unsettled liens; (2) faulty or defective work; (3) failure of the work to comply with the requirements of the contract documents; or (4) terms of any special warranties required by the contract documents. The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those

previously made in writing and identified by the Contractor as unsettled at the time of the final application for payment. All provisions of this agreement, including without limitation those establishing obligations and procedures, shall remain in full force and effect notwithstanding the making or acceptance of final payment.

1. Submittal: Final payment shall not be made until the Contractor has delivered and Engineer has accepted all submittals specified in Article 14.8 of the General Conditions (Document 00 72 00).
2. Owner Released From Claims: The payment and acceptance of the final Contract Price due and the adjustment and payment for any work done in accordance with any alterations of the same, shall release the Owner from any and all claims of Contractor on account of work performed under the Contract Documents or any modification thereof, except for those claims specifically agreed to as reserved and unresolved by the Owner.

2.7 EXTRA WORK

- A. No money will be paid to the Contractor for any additions, deletions or revisions in the Work as stipulated in Article 10.1 of the General Conditions (Document 00 72 00), unless a contract modification for such has been made in writing and executed by the Owner and Contractor.

PART 3 COVENANTS

3.1 ASSIGNMENT NOT BINDING WITHOUT WRITTEN CONSENT

- A. Owner and Contractor agree no assignment of any right or interest in the Contract Documents will be made without the written consent of the Owner and the Contractor. No assignment will release or discharge the Owner or the Contractor from any duty or responsibility under the Contract Documents unless specifically stated to the contrary in any written consent to an assignment.
- B. Contractor shall make no assignment of money that is due without the Owner's written consent (except to the extent that the effect of this restriction may be limited by law or regulation).

3.2 BINDING TERMS

- A. The Agreement, with all its forms, plans, specifications and stipulations, shall be binding upon the heirs, executors, administrators, successors and assigns of the respective parties.

3.3 INDEMNIFICATION

- A. Provisions concerning indemnification are set forth in Article 6.17 of the General Conditions (Document 00 72 00) and as modified per Ogden City's Engineering

3.4 DISPUTE RESOLUTION

A. In General:

1. Unless a decision shall be held by an appropriate court of law to have been procured by fraud or to be arbitrary and capricious or so grossly erroneous as necessarily to imply bad faith, any factual decision made under this Article shall be final and binding in any suit or action arising under this Construction Contract, including any actions by Contractor or others against Owner or any of Owner's agents, consultants, or employees.
2. Compliance with provisions of this Article shall be a condition precedent prior to any legal action by the Contractor or any of Contractor's Subcontractors and Suppliers against Owner or any of Owner's agents, consultants, or employees.
3. The provisions of this Article shall not preclude or limit judicial review of issues of law.
4. Ambiguities in or between Contract Documents shall be construed in favor of the Owner.

B. Disputes Not Related to the Guarantee of the Work: Any dispute arising under the Construction Contract concerning a question of fact, not related to the guarantee of the work (Article 13.1 of the General Conditions (**Document 00 72 00**)), which is not disposed of by contract modification shall be decided pursuant to the following procedure.

1. Any decision by Engineer interpreting the requirements of the Contract Documents may be appealed in writing to the Engineer. The Engineer's decision shall be reduced to writing and a copy shall be mailed or otherwise furnished to the Contractor. The decision of Engineer shall be final and conclusive unless, within 30 days from the date of receipt of such copy, the Contractor mails or otherwise furnishes to Engineer a written appeal to the head of the Owner's department responsible for constructing the project.
2. Within 15 days from the receipt of any such appeal, the department head shall issue a decision in writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the department head shall be final and conclusive unless, within 15 days from the date of receipt of such decision, the Contractor mails or otherwise furnishes to the department head a written appeal to the Standing Appeals and Dispute Committee.
3. The Standing Appeals and Dispute Committee shall consist of the Owner's Attorney, the Director of Public Services, and the City Engineer or their designees.
4. The department head issuing the decision appealed from shall present the

department's case prior to deliberations of the Committee, otherwise the department head shall be disqualified and excluded from the Committee's decision process.

5. The decision of said Committee shall be rendered in writing within 15 days from receipt of the appeal and mailed or otherwise delivered to the Contractor.
 6. The decision of said Committee shall be the final binding interpretation of the facts which are the subject of the appeal.
- C. Disputes Related to the Guarantee: Except as otherwise provided by contract Modification, any dispute concerning a question of fact involving or arising out of the guarantee required by the Contract Documents (Article 13.1 of the General Conditions (Document 00 72 00)), which is not disposed of by contract modification shall be decided pursuant to the provisions of Paragraph 3.4B above, except that the initial factual decision shall be issued in writing by the Engineer, together with the department head. Any appeal therefrom shall be made within 15 days directly to the Standing Appeals and Dispute Committee where such disputes shall be governed by Paragraphs 3.4B.3 to 3.4B.6 above.
- D. Work During Appeal: Notwithstanding the pendency of any protest or appeal provided above, Contractor shall, if so ordered by Engineer, proceed with the work under the Contract Documents according to Engineer's direction and according to the decision on any appeal. The existence of a claim or protest shall not excuse Contractor from the requirements of the Contract Documents, including, but not limited to, the Contract Time.
- E. Appeals of Termination or Suspension: Any decision of Owner to terminate or suspend the work shall not be subject to the provisions of this Article.

3.5 ATTORNEY'S FEES

- A. In the event that either party institutes any action or proceeding against the other relating to the breach of any term of this agreement, then the unsuccessful party in such action or proceeding agrees to reimburse the successful party for the reasonable expenses of such action including reasonable attorney fees, incurred therein by the successful party.

PART 4 EXECUTION

4.1 EFFECTIVE DATE

A. Owner and Contractor executed this Agreement and declared it in effect as of the _____ day of _____, 20__.

In Witness Whereof, we have hereunto set our hands and seal at Ogden City, Utah, on the day and year first above written:

OGDEN CITY CORPORATION, Owner

By _____

Mara Brown

Chief Administrative Officer

Attest:

Ogden City Recorder, Tracy Hansen

Contractor_____

By _____

Printed Name_____

Title_____

Attest: If Corporation_____

Witness: if individual or partnership

DOCUMENT 00 61 00
PERFORMANCE BOND

Know All Men By These Presents,

That _____
as Contractor, and _____ as Surety,
are held firmly bound unto Ogden City, a Utah Municipal Corporation, hereinafter referred to as
the "Owner" in the sum of _____
dollars, (\$) _____) for the payment of which sum, well and truly to be made, we
bind ourselves and our heirs, executors, administrators, successors, and assigns, jointly and
severally, firmly by these presents.

Whereas, said Contractor has been awarded and is about to enter into the annexed Agreement
with the Owner to perform all work required under said Agreement entitled, EN012 - 20th Street
& Valley Drive Intersection Improvements.

Now, Therefore, if said Contractor shall perform all the requirements of said contract required to
be performed on his part, at the times and in the manner specified therein, then this obligation
shall be null and void, otherwise it shall remain in full force and effect.

Provided, that any alterations in the work to be done or the materials to be furnished, or changes
in the time or completion, which may be made pursuant to the terms of said Contractor, shall not
in any way release said Contractor or said Surety thereunder, nor shall any extensions of time
granted under the provisions of said contract release either said Contractor or said Surety, and
notice of such alterations or extensions of the contract is hereby waived by said Surety.

Signed and Sealed, this _____ day of _____, 20__.

(Contractor)

(Surety)

By: _____
(Signature)

(Signature)

Note: 1. Signatures must be notarized - See attached page; 2. Attach current Power-of-Attorney

Acknowledgments

Contractor Acknowledgment
(Corporation)

State Of _____)

)ss.

County Of _____)

On the _____ day of _____, **20**____, personally appeared before me _____, who being by me duly sworn, did say that he is the _____ of _____, a corporation, and that the foregoing instrument was signed in behalf of said corporation by authority of a resolution (or bylaws) of its Board of Directors; and said person acknowledged to me that said corporation executed the same.

My Commission Expires:

Notary Public, residing in

Surety Acknowledgment
(Corporation)

State Of _____)

)ss.

County Of _____)

On the _____ day of _____, **20**____, personally appeared before me _____, who being by me duly sworn, did say that he is the _____ of _____, a corporation, and that the foregoing instrument was signed in behalf of said corporation by authority of a resolution (or bylaws) of its Board of Directors; and said person acknowledged to me that said corporation executed the same.

My Commission Expires:

Notary Public, residing in

Attorney-In-Fact
Affidavit of Qualification

State Of _____)

)ss.

County Of _____)

_____ being first duly sworn on oath deposes and says that he is the Attorney-in-Fact of _____ and that he is duly authorized to execute and deliver the foregoing obligation; that said Company is authorized to execute the same, and has complied in all respects with the laws of Utah in reference to becoming sole surety upon bonds, undertakings and obligations.

Attorney-in-Fact

Subscribed and sworn to before me this _____ day of _____, 20__.

My Commission Expires:

Notary Public, residing in

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DOCUMENT 00 62 00
PAYMENT BOND

Know All Men By These Presents,

That _____
as Contractor, and _____ as Surety,
are held firmly bound unto Ogden City, a Utah Municipal Corporation, hereinafter referred to as
the "Owner" in the sum of _____
dollars, (\$ _____) for the payment of which sum, well and truly to be made,
we bind ourselves and our heirs, executors, administrators, successors, and assigns, jointly and
severally, firmly by these presents.

Whereas, said Contractor has been awarded and is about to enter into the annexed Agreement
with the Owner to perform all work required under those Contract Documents entitled: EN012 -
20th Street & Valley Drive Intersection Improvements.

Now, Therefore, if said Contractor, or subcontractor, fails to pay for any materials, equipment, or
other supplies, or for rental of same, used in connection with the performance of work contracted
to be done, or for amounts due under applicable state law for any work or labor thereon, said
Surety will pay for the same in an amount not exceeding the sum specified above, and in the
event suit is brought upon this bond, reasonable attorneys fees. This Bond shall inure to the
benefit of the Owner and any person, companies, or corporations entitled to file claims under
applicable state law.

Provided, that any alterations in the work to be done or the materials to be furnished, or changes
in the time or completion, which may be made pursuant to the terms of said Contractor, shall not
in any way release said Contractor or said Surety thereunder, nor shall any extensions of time
granted under the provisions of said contract release either said Contractor or said Surety, and
notice of such alterations or extensions of the contract is hereby waived by said Surety.

Signed and Sealed this _____ day of _____, 20__.

(Contractor)

(Surety)

By: _____
(Signature)

(Signature)

Note: 1. Signatures must be notarized - See attached page; 2. Attach current Power-of-Attorney

Acknowledgments
Contractor Acknowledgment

(Corporation)

State Of)
)ss.
County Of)

On the _____ day of _____, 20____, personally appeared before me _____, who being by me duly sworn, did say that he is the _____ of _____, a corporation, and that the foregoing instrument was signed in behalf of said corporation by authority of a resolution (or bylaws) of its Board of Directors; and said person acknowledged to me that said corporation executed the same.

My Commission Expires _____

Notary Public, residing in _____

Surety Acknowledgment

(Corporation)

State Of)
)ss.
County Of)

On the _____ day of _____, 20____, personally appeared before me _____, who being by me duly sworn, did say that he is the _____ of _____, a corporation, and that the foregoing instrument was signed in behalf of said corporation by authority of a resolution (or bylaws) of its Board of Directors; and said person acknowledged to me that said corporation executed the same.

My Commission Expires: _____

Notary Public, residing in _____

Attorney-In-Fact
Affidavit of Qualification

State Of _____)

)ss.

County Of _____)

_____ being first duly sworn on oath deposes and says that he is the Attorney-in-Fact of _____ and that he is duly authorized to execute and deliver the foregoing obligation; that said Company is authorized to execute the same, and has complied in all respects with the laws of Utah in reference to becoming sole surety upon bonds, undertakings and obligations.

Attorney-in-Fact

Subscribed and sworn to before me this _____ day of _____, 20__.

My Commission Expires:

Notary Public, residing in

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DOCUMENT 00 65 00

CERTIFICATE OF INSURANCE

PART 1 GENERAL

1.1 PROCEDURE

- A. For filing purposes, add Certificates of Insurance to the Contract Documents following this page. (Refer to Ogden City's Engineering Standards for Public Improvements 2025 Edition for requirements as reproduced below)

1.2 PART 5 BONDS AND INSURANCE (From General Conditions Section 00 72 00)

- 5.1 PERFORMANCE, PAYMENT, AND OTHER BONDS (Article 5.1 of the General Conditions is hereby repealed and the following is submitted therefore)

- A. Prior to OWNER executing the Agreement, CONTRACTOR shall file with the OWNER a good and sufficient performance Bond and a payment Bond, each in the sum of not less than 100 percent of the Contract Price.
- B. The Bonds shall be executed by the CONTRACTOR and secured by a company duly and regularly authorized to do a general surety business in the State of Utah and named in the current list of Companies holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies as published in current Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department, with an underwriting limitation equal to or greater than the Contract Price which the Bond guarantees or with a current "A-" rating or better in A.M. Best Co., Inc.'s, Best Insurance Reports, Property and Casualty Edition.
- C. Said Bonds shall guarantee the faithful performance of the Construction Contract by the CONTRACTOR and payment of labor and materials. They shall inure by their terms to the benefit of the OWNER. Neither this nor any other provision requiring a performance Bond shall be construed to create any rights in any third party Claimant as against the OWNER for performance of the Work under the Construction Contract.
- D. If the surety on any Bond furnished by CONTRACTOR is subject to any proceeding under the Bankruptcy Code (Title 11, United States Code) or becomes insolvent or its right to do business is terminated in the State of Utah or it ceases to meet the requirements of this Article, CONTRACTOR shall, within 15 days thereafter, substitute another Bond and surety, both of which must be acceptable to OWNER.

- 5.2 INSURANCE (Article 5.2 of the General Conditions is hereby repealed and the following is substituted therefore)

- A. **In General:** All policies of insurance provided shall be issued by insurance companies qualified to do business in the State of Utah and listed on the U.S. Treasury Department's current Department of Treasury Fiscal Services List 570, or having a general policy holder's rating of not less than "A-" in the most current available A. M. Best Co., Inc.'s, Best's Insurance Report.

- a. Each insurance policy required by the Agreement, excepting policies for Workers' Compensation and Professional Liability, shall include an

endorsement providing that Ogden City, its elected and appointed officials, employees, agents and volunteers are to be named as additional insured as respect to operations and activities of, or on behalf of, the named insured as performed under Agreement with the City.

- b. Insurance is to be placed with insurers acceptable to and approved by the CITY. CONTRACTOR's insurer must be authorized to do business in Utah at the time the contract is executed and throughout the time period the contract is maintained, unless otherwise agreed to in writing by the CITY. Failure to maintain or renew coverage or to provide evidence of renewal will be treated by CITY as a material breach of contract.
- c. The CITY shall be furnished with original certificated of insurance and endorsements effecting coverage required within, signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be received by the CITY before signing the Agreement.
- d. Any deductibles or self-insured retentions must be declared to and approved by the CITY. At the option of the CITY, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the CITY, its elected and appointed officials, employees, agents and volunteers; or CONTRACTOR shall provide a financial guarantee satisfactory to the CITY guaranteeing payment of losses and related investigations, claim administration and defense expenses.
- e. In addition to any other remedies CITY may have if CONTRACTOR fails to provide or maintain any insurance policies or policy endorsements to the extent and within the time limits required, CITY may, at its option:
 - 1. Obtain such insurance, deduct and retain the amount of premiums for such insurance from any sums due under the Agreement,
 - 2. Order CONTRACTOR to stop work under this Agreement and/or withhold any payment(s) which become due to CONTRACTOR until CONTRACTOR demonstrates compliance with requirements,
 - 3. Terminate this Agreement
 - 4. Or other reasonable remedy
- f. CONTRACTOR shall include all subcontractors and insured under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all of the requirements stated herein.
- g. Nothing contained herein shall be construed as limiting in any way the extent to which CONTRACTOR may be held responsible for payments of damages to persons or property resulting from CONTRACTOR's or its subcontractor's performance of the work covered under this Agreement.
- h. If requested, CONTRACTOR shall also furnish copies of the insurance policies secured for the Work. The CITY reserves the right to require complete, certified copies of all required insurance policies at any time. CONTRACTOR shall procure and maintain for the duration of the contact, insurance against claims for injuries to persons or damages to property, which may arise from or

in connection with the performance of the work hereunder by the CONTRACTOR, his agents, representatives, employees or subcontractors. The cost of such insurance shall be included in CONTRACTOR's Bid. The amount of the insurance shall not be less than the following:

1. **Worker's Compensation Insurance:** In addition to other required insurance, the CONTRACTOR shall obtain and maintain during the life of the Construction Contract, worker's compensation insurance as required by Laws and Regulations for all of CONTRACTOR's employees employed at the site of the Work, and in case any Work is subcontracted, the CONTRACTOR shall require the subcontractor similarly to provide worker's compensation insurance for all of the latter's employees, unless such employees are covered by protection as required by Laws and Regulations. Worker's compensation limits as required by the Labor Code of the State of Utah and employers' liability limits are \$1,000,000 per accident.
 2. **Business Automobile Liability:** \$1,000,000.00 combined single limit per accident for bodily injury and property damage for owned, non-owned and hired vehicles.
 3. **Commercial General Liability Insurance:** CONTRACTOR shall secure and maintain during the life of the Construction Contract and at all times thereafter when CONTRACTOR may be correcting, removing or replacing Defective Work, a comprehensive commercial general liability insurance policy. The policy shall protect the CONTRACTOR, the OWNER, the ENGINEER, and any subcontractor performing work covered by the Construction Contract from claims for damages for personal injury, including accidental death, and from claims for property damage which may arise from CONTRACTOR's operations under this Construction Contract, whether such operations be by itself or by any Subcontractor or by anyone directly or indirectly employed by either of them. Unless specified otherwise in the Supplementary Conditions, the minimum amounts of such insurance for combined single limit per occurrence shall be \$1,000,000.00 for bodily injury, personal injury and property damage and \$3,000,000 general aggregate.
- i. The policies are to contain, or be endorsed to contain, the following provisions:
 - a. The Contractor's insurance coverage shall be primary insurance and any insurance or self-insurance maintained by the City, its officers, official, employees or volunteers shall be excess of the Contractor's insurance and shall not contribute with insurance provided by this policy. Each policy shall be endorsed to state that coverage shall not be suspended, voided, canceled, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City.
 - b. Policy to include coverage for premises and operations. Contractual liability, personal injury liability, products/completed operations liability, broad-form property damage (if applicable) and independent

Contractor's liability (if applicable) written on an occurrence form.

- c. Any deductibles or self-insured retention must be declared to and approved by the City. Insurance is to be placed with insurers acceptable to and approved by the City. The City shall be furnished with certificates of insurance and with original endorsements affecting coverage required within, signed by a person authorized by the insurer to bind coverage on its behalf. All certificates and endorsements are to be received and approved by the City before work commences. The City reserves the right to require complete, certified copies of all required insurance policies at any time.
- d. The CONTRACTOR shall include all subcontractors as insured under its policies or shall furnish separated certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all of the requirements stated herein.
- e. **Automotive Public Liability Insurance:** Whenever CONTRACTOR or any subcontractor shall use and operate automobiles, trucks or other vehicles on public streets and highways in complying with the terms and conditions of the Construction Contract, CONTRACTOR or each subcontractor shall carry automobile public liability insurance with limits not less than \$1,000,000.00 for any one accident or loss.
- f. **Insurance Non-cancelable for 30 Days:** Each policy of insurance provided in the Contract Documents shall be absolutely non-cancelable for a period of not less than 30 days after notice and shall contain the following provisions or one substantially the same as the following:
"This policy shall not be subject to cancellation, change, or reduction of coverage by the other party or parties hereto, unless notice, as defined herein is sent to the OWNER, with a copy to the ENGINEER and the OWNER's attorney."
- g. **Builder's Risk:** CONTRACTOR agrees to and assumes the risk of loss for any damage or loss to the Work and Project by any means or occurrence until Substantial Completion. If this contract includes construction of an above ground structure, CONTRACTOR further agrees to obtain builder's risk or course of construction insurance in the total amount of the Contract Price.
- h. **Ogden City Corporation Additional Insured:** Each policy of insurance provided in the Contract Documents shall also protect the government of O.C.C. during the life of the Construction Contract and at all times thereafter from public liability and property damage claims indicated in paragraph 5.2D, and automotive public liability damage claims indicated in paragraph 5.2E above.

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DOCUMENT 00 72 00

GENERAL CONDITIONS

PART 1 GENERAL

1.1 DEFINED TERMS

- A. Wherever used in these General Conditions or in the other Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof. Any additions or changes to these General Conditions which appear in *italics* are taken from The current edition of Ogden City's Standards for Public Improvements. These italicized amendments or additions will supersede any terms, instructions or information printed in the 2025 Manual of Standard Specifications by the Utah Chapter of the American Public Works Association(2017).
- B. .
1. Addenda: Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the Contract Documents. *The term Addendum shall include bulletins and all other types of written notices issued to potential Bidders prior to opening of Bids.*
 2. Agreement: A written instrument which is part of the Contract Documents, and which when signed by the OWNER and CONTRACTOR, establishes the contract price, the Contract Time, the Punch List time, the identity of the ENGINEER and other matters pertaining to the construction contract.
 3. Agreement Supplement: A written instrument executed by OWNER and Bidder in the time period between the opening of Bids and the signing of the Agreement which clarifies, corrects or changes the Contract Documents.
 4. Application for Payment: The form accepted by ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation required by the Contract Documents.
 5. Asbestos: Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 6. Bid: The offer of the Bidder submitted on the prescribed form setting forth the price for the work to be performed.
 7. Bid Documents: The documents defined in the Bid, together with all Addenda and supplements issued prior to the effective date of the Agreement.
 8. Bid Security: Bid bond or cashier's check in an amount equal to a minimum of 5 percent of the Bid price.
 9. Bidder: Any person, firm, joint venture or corporation submitting a Bid directly to the OWNER, as distinct from a sub-bidder who submits a Bid to a Bidder.
 10. Bonds: Bid, Performance and Payment Bonds, cashiers or certified bank check and other instruments of security.
 11. Change Order: A written instrument prepared by the ENGINEER signed by CONTRACTOR and OWNER on or after the effective date of the construction contract, which authorizes an addition, deletion, or revision in the work, or an adjustment in the contract price, Contract Time or both.

12. Claimant: An individual or entity having a direct contract with the CONTRACTOR or with a subcontractor or supplier of the CONTRACTOR to furnish labor, materials, supplies or equipment for use in the performance of the work. The intent of this definition shall be to include without limitation in the terms “labor, materials, supplies or equipment” that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the work, 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 claim may be asserted where the labor, materials, supplies or equipment were furnished.
13. Construction Contract: The entire and integrated compact between the OWNER and CONTRACTOR, memorialized in the Contract Documents concerning the work to be performed which supersedes prior negotiations, representations of agreements, either written or oral.
14. Contract Documents: The Bid documents, Agreement, Agreement Supplement, General Conditions, supplementary conditions, Specifications, Standard Specifications, Drawings, Standard Plans together with all modifications issued pursuant to Article 3.3 herein after the effective date of the construction contract.
15. Contract Price: The total money payable by OWNER to the CONTRACTOR under the Contract Documents as stated in the Agreement and subject to the provisions of Paragraph 11.7A herein in the case of unit price work.
16. Contract Time: The number of consecutive calendar days or the date specified in the Agreement for substantial completion of the work.
17. CONTRACTOR: The person, firm or corporation named as such in the Agreement. *If the provisions are applicable to work performed by City personnel, under a permit or as a condition of development, the term shall also include the person, firm or corporation responsible for such work.*
18. Cost of the Work: The sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the work. See Article 11.4.
19. Day: Any 24-hour period measured from midnight to the next midnight.
20. Defective: An adjective which when modifying the word “work” refers to work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the contract documents, or has been damaged prior to ENGINEER’s final inspection (unless responsibility for the protection thereof has been assumed by OWNER at substantial completion in accordance with Paragraph 14.5A or 14.6B).
21. Drawings: The graphic and pictorial portions of the Contract Documents prepared or approved by ENGINEER, showing the design, location and dimensions of the work, and generally include the plan, elevations, sections, details, schedules and diagrams. Drawings are also known as plans.
22. Effective Date of the Construction Contract: The date indicated in the Agreement on which the construction contract becomes effective. If no such date is indicated, it means the date on which the construction contract is signed and delivered by the last of the two parties to sign and deliver.

23. ENGINEER: The person, firm or corporation designated in the Agreement as the OWNER's representative and agent for the construction contract, acting within the scope of the particular duties entrusted to such a person, firm or corporation. The person may be a licensed architect, licensed landscape architect, licensed ENGINEER, licensed land surveyor or other individual. *For Subdivisions and other projects issued under an engineering permit with Ogden City, which do not have an executed Agreement as noted above, the responsibilities of ENGINEER shall reside with Ogden City's Development ENGINEER.*
24. Final Inspection: An inspection of the work (or agreed-to-portion), conducted by ENGINEER, after work (or agreed-to-portion) is substantially complete.
25. General Requirements: Sections of Division 1 of the Standard Specifications and Specifications.
26. Hazardous Waste: The term hazardous waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
27. Inspection: The term "inspection" or its derivatives means a review of the project including, but not limited to, a visual review of the work completed to date. It does not include or imply an exhaustive or detailed review of the work, nor does it create a duty on the part of the ENGINEER or OWNER to detect latent defects.
28. Laws and Regulations; Laws or Regulations: Any federal, state, county, city or local jurisdiction's laws, rules, regulations, ordinances, codes and orders.
29. Lien: A charge, security interest or encumbrance upon materials or equipment.
30. Lump Sum Work: Work to be paid for on the basis of a stipulated price.
31. Major Unit Price Item of Work: Any item of unit price work which has total value greater than 5 percent of the initial contract price.
- 31.a. Measurement of Failure: *The act of performing quality assurance through measurement by the City ENGINEER in accordance with the Specifications for Work which meet the definition of Failure as in the Amendments and Clarifications to the APWA or Defective as defined in the Standard Specifications.*
32. Milestone: A principal event specified in the contract documents relating to an intermediate completion date or time prior to substantial completion of the work.
33. Modification: Any Addendum, Agreement Supplement, Change Order, or Work Directive Change.
34. Notice of Intent to Award: The written notice by OWNER to the apparent successful Bidder stating that on compliance by the apparent successful Bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the construction contract.
35. Notice to Proceed: A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Time will commence and on which CONTRACTOR shall start to perform CONTRACTOR's obligations under the Contract Documents.
36. OWNER: The public body or authority, corporation, association or firm with whom CONTRACTOR has entered into the Agreement and for whom the work is to be provided.
- 31.a. OWNER: *Ogden City, a Utah Municipal Corporation.*

37. Partial Utilization: Placing a portion of the work in service for the purpose for which it is intended (or a related purpose) before reaching substantial completion for all the work.
38. PCBs: Polychlorinated biphenyl.
39. Petroleum: Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (to deg. Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-hazardous wastes and crude oils.
40. Plans: Drawings. *Graphic and pictorial productions from the ENGINEER or DEVELOPER, prepared or approved by the City, showing the design, location and dimensions of the Work, and generally include, the plan, elevations, sections, details, schedules and diagrams.*
41. Project: The total construction of which the work to be provided under the Contract Documents may be the whole, or a part.
42. Project Manual: The bound documentary package prepared for bidding and constructing the work.
43. a. Public Works Inspector: *The resident project representative furnished by the ENGINEER and assigned the duties of "inspection".*
43. Punch List: The list of unacceptable, incorrectly accomplished, damaged or unfinished work items compiled by ENGINEER at final inspection.
44. Punch List Time: The number of days specified in the Agreement for the completion of the final inspection Punch List work.
45. Radioactive Material: Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
46. Regular Working Hours: Computation of regular working hours shall be based upon a 40-hour work week.
47. Resident Project Representative: The representative of ENGINEER assigned to the site or any part thereof.
47. a. Schedule of Values: *The CONTRACTOR's best estimate of costs associated with various portions of the work.*
48. Shop Drawings: All Drawings, diagrams, illustrations, schedule and other data prepared by or for CONTRACTOR to illustrate some portion of the work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by suppliers and submitted by CONTRACTOR to illustrate material or equipment for some portion of the work.
49. Specifications: Those portions of the Contract Documents consisting of written requirements for materials, equipment, construction systems, standards and workmanship as applied to the work and certain administrative details applicable thereto. Bidding requirements, contract forms, and conditions of the contract are **not** Specifications.
50. Standard Plans: *The Drawings (both graphical and text) contained in the latest edition of the Manual of Standard Plans published by the Utah Chapter of the American Public Works Association; also in the Amendments to the Manual of Standard Plans entitled "Standard Drawings" amended by Ogden City.*

51. Standard Specifications: The Specifications contained in this manual following these General Conditions.
52. Subcontractor: An individual, supplier, firm or corporation having a contract with CONTRACTOR or with any other subcontractor for the performance of a part of the work.
53. Substantial Completion: A point in time when, in the opinion of the ENGINEER as evidenced by ENGINEER's written notice, the work (or a specified part thereof) has progressed to where it is sufficiently complete, and only occasional construction personnel and equipment are required for correcting unfinished or defective work. The remaining work will not interfere with the work area's intended use or occupancy. The terms "substantially complete" and "substantially completed" as applied to any work refer to substantial completion thereof.
54. Supplementary Conditions: The part of the Contract Documents that amends or supplements these General Conditions.
55. Supplier: A manufacturer, fabricator, distributor, material producer or vendor who provides products to the CONTRACTOR or subcontractors.
56. Underground Facilities: All pipelines, conduits, ducts, cables, wires, access chambers, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials; electricity, gases, steam, liquid petroleum products, telephone or other communication, cable television, sewage and drainage removal, traffic or other control systems or water.
57. Unit Price work: Work to be paid for on the basis of unit prices.
58. Work: The construction and services required to be furnished under the Contract Documents which may be the whole or part of the project. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, as required by the Contract Documents.
59. Work Completion: The work and all contractual obligations under the Contract Documents have been fulfilled and when final payment is due in accordance with Paragraph 14.9A.
60. Work Directive Change: A written directive to CONTRACTOR, issued on or after the effective date of the construction contract, prepared by the ENGINEER and signed by the OWNER, ordering an addition, deletion or revision in the work as provided in Article 10.1, or responding to differing or unforeseen physical conditions under which the work is to be performed as provided in Article 4.2 or 4.3 or to emergencies under Article 6.13. A work directive change requires agreement by the OWNER and the ENGINEER and may or may not be agreed to by the CONTRACTOR.

1.2 TERMS

- A. *Unless otherwise stated, the words directed, required, permitted, ordered, instructed, designated, considered necessary, prescribed, approved, acceptable, satisfactory, or words of like meaning, refer to actions, expressions, and prerogatives of the ENGINEER.*

1.3 APPLICABILITY

- A. **Document 00 72 00**, "General Conditions" and Division 1, "General Requirements"

shall apply to all public works projects performed under contract with the city and also projects done under permit with Ogden City Engineering for work done on City property or within the City right-of-way, except as otherwise required by City Ordinance or recommended by the City Attorney. Except for definitions and terms applicable to other provisions of the manual, its provisions shall have no application to other work not performed under contract or permit with the city as indicated above.

PART 2 PRELIMINARY MATTERS

2.1 DELIVERY OF BONDS AND INSURANCE

- A. When CONTRACTOR delivers the executed Agreement to OWNER, CONTRACTOR shall also deliver required bonds and insurance certificates.

2.2 COPIES OF DOCUMENTS

- A. OWNER shall furnish to CONTRACTOR a digital copy of the Contract Documents unless hard copies are provided for in the Specifications. Additional copies will be available in electronic form for distribution from the OWNER at the request of CONTRACTOR.
- B. *OWNER shall not furnish to CONTRACTOR published Contract Documents which include the current editions of the Manual of Standard Plans the Manual of Standard Specifications and the Ogden City Standards. Such documents shall be purchased separately by the CONTRACTOR.*
- C. *Copies of all Contract Documents including the current edition of the Manual of Standard Plans, the Manual of Standard Specifications, and the Ogden City Standards shall be provided on site by the CONTRACTOR.*

2.3 COMMENCEMENT OF CONTRACT TIME – NOTICE TO PROCEED

- A. Contract Time: Time is the essence of the contract. Unless indicated otherwise in the Bid documents, Addendum, or in a Change Order, in no event will the Contract Time commence later than the 74th day after the day of bid opening or the 30th day after the effective date of the construction contract, whichever date is earlier.
- B. Notice to Proceed: A Notice to Proceed may be given at any time, even within 30 days after the effective date of the construction contract.

2.4 STARTING THE WORK

- A. CONTRACTOR shall start to perform work on the date when the time for the Contract Time commences. No work shall be done at the site prior to that date.

2.5 BEFORE STARTING CONSTRUCTION

- A. In General: Before starting each part of the work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error or discrepancy that CONTRACTOR may discover and shall obtain a written interpretation or clarifications from ENGINEER before proceeding with any work affected thereby.

- B. Submittals: Within 10 days after the effective date of the construction contract, CONTRACTOR shall submit to ENGINEER, in reasonable detail and form acceptable to ENGINEER, copies of the following documents.
1. Preliminary Progress Schedule: The preliminary progress schedule shall show starting and completion dates for each construction sequence and:
 - a. submittal dates and dates required for approved submittals for shop Drawings, product data and samples;
 - b. decision dates for products specified by allowances, selection of finishes and critical material or equipment release orders;
 - c. product procurement and delivery dates;
 - d. holiday cleanup preparations; and
 - e. specific dates for all special Inspections required prior to any utilities “turn-on” including temporary power.
 2. Preliminary Shop Drawing Schedule: A supplemental schedule to the preliminary progress schedule shall show all shop drawing submissions required for the work.
 3. Preliminary Schedule of Values: the preliminary schedule of values (for lump sum work), which includes provisions set forth in quantities and prices of items aggregating the contract price, shall subdivide the work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of work. Bond expense shall not be prorated, but shall be shown as a separate item.
 4. Mobilization Program: The site mobilization program shall allow for field office and trailer locations, material storage locations, power requirements for trailers, if any, and sanitary facilities.
 5. Permits: The listing of, and photocopies of permits that the CONTRACTOR is required to purchase and maintain in accordance with Article 6.7.
 6. Quality Control Program: The written program for the control of product quality and workmanship.
 7. Safety and Protection Plan: The safety and protection plan shall comply with Article 6.12.
- C. Field Office: *The CONTRACTOR shall establish and maintain a field office in such a location that ENGINEER may always contact the CONTRACTOR for transmittal of plans, instructions and dissemination of project information. CONTRACTOR shall provide and maintain a telephone, computer with e-mail capabilities and facsimile machine in the field office during performance of the work.*

2.6 PRECONSTRUCTION CONFERENCE

- A. Within 20 days after the Contract Time starts to run, but before starting any work, CONTRACTOR shall attend a conference with ENGINEER and others:
1. to discuss the schedules referred to in Paragraph 2.5B;
 2. to discuss procedures for handling shop Drawings and other submittals;
 3. to discuss procedures for processing applications for payment;
 4. to establish a working understanding among the parties as to the work;
 5. to review or discuss other items deemed necessary by ENGINEER or CONTRACTOR; and

6. to designate the name of the individual who shall be CONTRACTOR's resident superintendent at all times while work is in progress. When the CONTRACTOR is comprised of two or more persons, firms, partnerships or corporations functioning on a joint-venture basis, before starting the work, CONTRACTOR shall designate in writing the name of a representative who shall have the authority to represent and act for the joint venture persons, firms, partnerships or corporations at all times while work is in progress.

2.7 FINALIZING SCHEDULES

- A. At least 10 days before submission of the application for payment, CONTRACTOR shall attend a conference with ENGINEER and others as appropriate to finalize the schedules submitted in accordance with Paragraph 2.5B.
 1. Progress Schedule: The finalized progress schedule must be acceptable to ENGINEER as providing an orderly progression of the work to completion within the Contract Time. The critical path must be fully defined. Acceptance will neither impose on ENGINEER responsibility for the progress or scheduling of the work, nor release or relieve the CONTRACTOR from full responsibility therefore.
 2. Schedule of Shop Drawings: The finalized schedule of shop Drawings submissions must be acceptable to ENGINEER as providing a workable arrangement for processing the submissions.
 3. Schedule of Values: The finalized schedule of values shall conform to the requirements of Articles 11.4 and 11.5 and must be acceptable to ENGINEER in form and substance.

2.8 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

- A. Except as otherwise provided in the Contract Documents, or when direct communications have been specially authorized, the OWNER and CONTRACTOR shall communicate through the ENGINEER.
- B. Communication by and with ENGINEER's consultants shall be through the ENGINEER.
- C. Communications by and with subcontractors and suppliers shall be through the CONTRACTOR.
- D. Communications by and with separate CONTRACTORS shall be through the ENGINEER.

PART 3 CONTRACT DOCUMENTS, INTENT, AMENDING, REUSE

3.1 INTENT

- A. In General: It is the intent of the contract documents to describe a functionally complete project to be constructed in accordance with the contract documents.
- B. Contract Documents are Complementary: The Contract Documents are complementary *and cooperative and are intended to describe and provide for a complete project*; what is required by one document or provisions thereof is binding as if required by all the documents or provisions thereof. *Anything in the Specifications and not on the Plans, or on the Plans and not in the Specifications, shall be as though shown or mentioned in both.*

- C. Incidental Work: Any work, materials or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be supplied by CONTRACTOR at no additional cost to the OWNER whether or not specifically referenced.
- D. Technical or Trade Words: When words which have a well-known technical or trade meaning are used to describe work, materials or equipment, such words shall be interpreted in accordance with that meaning.

3.2 RESOLVING DISCREPANCIES

- A. References: Reference to manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest manual, code or laws or regulations in effect at the time of opening of Bids (or on the effective date of the construction contract if there were no Bids), except as may be otherwise specifically stated.
- B. Duties of CONTRACTOR or ENGINEER Not Changed: No provision of any referenced manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of CONTRACTOR or ENGINEER from those set forth in the contract documents, nor shall it be effective to assign to ENGINEER, or any of ENGINEER's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the work or any duty or authority to undertake responsibility contrary to the provisions of Paragraphs 9.9C or 9.9D.
- C. Conflict, Error, Discrepancy, Omission in Contract Documents: If, during the performance of the work, or omission in the Contract Documents, CONTRACTOR shall so report to ENGINEER in writing at once. Before proceeding with work affected thereby CONTRACTOR shall obtain a written interpretation or clarification from ENGINEER as provided in Article 9.4.
 - 1. Dimensions on Drawings: In the event of any discrepancy between the measured dimensions on any drawing and the written dimensions shown thereon, the written dimensions shall be taken as correct.
 - 2. Detail Drawings: Detail Drawings, regardless of trade or item of work, shall prevail over general Drawings.
 - 3. Work Shown on the Drawings: Any part of the work which is not mentioned in the Bid documents or specifications, but which is shown on the Drawings, shall be furnished and installed by CONTRACTOR as if fully described in the Bid documents or specifications and at no additional cost to the OWNER.
 - 4. Irreconcilable Conflict: Only in case of irreconcilable conflict between provisions within the Contract Document or between Contract Documents, the intent of the Contract Documents shall be interpreted in accordance within the following priorities.
 - a. A particular modification shall govern over all Contract Documents or modifications issued prior to said particular modification.
 - b. These General Conditions shall govern over all Contract Documents except the Agreement, Agreement Supplement, supplementary conditions, Addenda and modifications.

- c. The Specifications shall govern over Drawings, Standard Specifications, and Standard Plans.
- d. The Drawings shall govern over the Standard Specifications and Standard Plans.
- 5. Notification Still Required: The priority provisions of Paragraph 3.2C4 above shall not relieve CONTRACTOR of notifying OWNER of such an irreconcilable conflict.
- D. Capitalization: Terms capitalized in these General Conditions include those which are (1) *titles of OWNER, CONTRACTOR and ENGINEER*, (2) *the title of numbered Articles*, and (3) *the title of referenced documents*. Capitalization is for emphasis only and shall not affect the meaning, content or effect of the Contract Document. If any terms are capitalized which do not fit within these categories, the capitalization shall be ignored.
- E. Headings: Any headings preceding the text of paragraphs in a Contract Document are inserted solely for convenience of reference and shall not affect its meaning, content or effect or be referred to in any interpretation thereof.

3.3 AMENDING AND SUPPLEMENTING CONTRACT DOCUMENTS

- A. The Contract Documents may be amended on or after the effective date of the construction contract to provide for additions, deletions and revisions in the work or to modify the terms and conditions thereof in one or more of the following ways:
 - 1. a Work Directive Change (Paragraph 10.1B; or
 - 2. a Change Order (Paragraph 10.1C).
- B. As indicated in Articles 11.2 and 1.21, contract price and Contract Time may only be changed by a Change Order.
- C. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the work may be authorized, in one or more of the following ways:
 - 1. ENGINEER's review of a shop drawing or sample (pursuant to Paragraphs 6.14F and 6.14G); or
 - 2. ENGINEER's written interpretation or clarifications (pursuant to Article 9.4).

3.4 REUSE OF DOCUMENTS

- A. Neither CONTRACTOR nor any subcontractor or supplier or other person or organization performing or furnishing any of the work under a direct or indirect contract with OWNER shall 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 for ENGINEER; and they shall not reuse any of them on extensions of the project or any other project without written consent of OWNER.

3.5 INTERPRETATION AND VENUE

- A. The Contract Documents will be construed in accordance with the laws of the State of Utah. Any court action arising from the construction contract shall be brought in an appropriate federal or state court with appropriate jurisdiction in which the OWNER resides.

PART 4 AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.1 AVAILABILITY OF LANDS

- A. OWNER shall furnish the lands upon which the work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR in the Contract Documents. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER unless otherwise provided in the Contract Documents. In the event of OWNER's delay in furnishing these lands, rights-of-way or easements, if CONTRACTOR believes that any delay entitles CONTRACTOR to an increase in the contract price or an extension of the Contract Time, CONTRACTOR may make a claim therefore as provided in Parts 11 and 12 hereof. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2 PHYSICAL CONDITIONS – GENERAL

- A. Explorations and Reports: Reference, when applicable, is made to geotechnical data in the Bid documents for identification of those reports of explorations and tests of subsurface conditions at the site that have been utilized by ENGINEER in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such reports at the locations and the indicated depths where the data was obtained, but not upon the other information, interpretations or opinions contained therein or for the completeness thereof, expressed or implied. Except as indicated in the immediately preceding sentence and in Paragraph 4.2C, CONTRACTOR shall have full responsibility with respect to subsurface conditions at the site.
- B. Existing Structures: Reference, when applicable, is made to the supplementary conditions for identifications of those Drawings of physical conditions in or relating to existing surface and subsurface structures (except underground facilities referred to in Article 4.3) which are at or contiguous to the site that have been utilized in preparing the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such Drawings, but not upon the completeness thereof for CONTRACTOR's purposes. Except as indicated in the immediately preceding sentence and in Paragraph 4.2C, CONTRACTOR shall have full responsibility with respect to physical conditions in or relating to such structures.
- C. Differing Site Conditions: If CONTRACTOR believes that any technical data on which CONTRACTOR is entitled to rely as provided in Paragraphs 4.2A and 4.2B is inaccurate, or any physical condition uncovered or revealed at the site differs materially from that indicated in the Contract Documents, or unknown physical conditions exist at the site which are of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the construction contract, CONTRACTOR shall immediately notify ENGINEER in writing before performing any work in connection therewith. Failure by the CONTRACTOR to give notice about the inaccuracy or difference, and the performance of any work in connection with said differing site conditions (except in an emergency as permitted by Article 6.13), shall bar the

CONTRACTOR from making any claim for additional compensation in connection therewith.

1. ENGINEER's Review: ENGINEER will review the alleged or claimed differing conditions and determine if it is necessary to obtain additional explorations or tests with respect thereto.
 2. Possible Document Change: If the ENGINEER concludes that there is a material error in the Contract Documents, or that a change in the Contract Documents is required, a Change Order will be issued as provided in Part 10 to reflect and document the consequences of the inaccuracy or difference.
 3. Possible Price and Time Adjustments: For such possible document change an increase or decrease in the contract price or an extension or shortening of the Contract Time, or any combination thereof, may be allowable to the extent the ENGINEER determines that they are attributable to any such inaccuracy. If ENGINEER and CONTRACTOR are unable to agree as to the amount or length thereof, a claim may be made therefore as provided in Parts 11 and 12.
- D. Hazardous Substances: Neither OWNER nor ENGINEER are aware of any hazardous substances which may be encountered in performance of the work except as may be specifically disclosed elsewhere in the Contract Documents. Neither OWNER nor ENGINEER have specifically inspected the site to determine any such presence except as disclosed in the Contract Documents.

4.3 PHYSICAL CONDITIONS – UNDERGROUND FACILITIES

- A. Shown or Indicated: The information shown or indicated in the Contract Documents with respect to existing underground facilities at or contiguous to the site is based on information and data furnished to OWNER or ENGINEER by the OWNERS of such underground facilities or by others. OWNER shall not be responsible for the accuracy or completeness of any such information.
1. One-call Center: The CONTRACTOR shall have full responsibility for reviewing and verifying all such information, with the one-call center (Blue Stake location center) or other utility coordination service a minimum of 2 working days prior to any excavation to locate all underground facilities shown or indicated in the Contract Documents. The CONTRACTOR shall have full responsibility for any damages to underground facilities or costs resulting from the damage to such facilities, in those instances where the CONTRACTOR did not dependently locate and verify the location of such facilities.
 2. Tolerances: The information presented is considered accurate to within 3 feet vertical and 4 feet horizontal on each side of the utility location shown on the Drawings. Should a utility so shown not be within said tolerances, said utility shall be handled as outlined in Paragraph 4.3B below.
 3. Coordination: The CONTRACTOR shall coordinate the work with the OWNERS of such underground facilities during construction and shall be responsible for the safety and protection thereof as provided in Article 6.12.
 4. Costs: If work is performed within the above referenced tolerances, the cost of all of the above including repair of any damages therein resulting from performance of the work, will be considered as having been included in the contract price and no additional compensation will be allowed therefore.

- B. Not Shown or Indicated: If an underground facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of, CONTRACTOR shall, promptly after becoming aware thereof and before performing any work affected thereby (except in an emergency as permitted by Article 6.13), identify the OWNER of such underground facility and give written notice thereof to that OWNER and to ENGINEER.
1. ENGINEER to Modify Contract Documents: ENGINEER will promptly review the underground facility to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the underground facility, and the Contract Documents will be amended or supplemented to the extent necessary.
 2. Safety and Precaution: During such time, CONTRACTOR shall be responsible for the safety and protection of such underground facility as provided in Article 6.12.
 3. Contract Price or Contract Time Adjustment: CONTRACTOR may be allowed an increase in the contract price or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any underground facility that was not shown or indicated in the Contract Documents, or that was not identified by the CONTRACTOR where such identification could have been made through a reasonably prudent investigation by the CONTRACTOR.
 4. Claims: If the parties are unable to agree as to the contract price or Contract Time adjustments, CONTRACTOR may make a claim therefore as provided in Parts 11 and 12.

4.4 REFERENCE POINTS AND MONUMENTS

- A. OWNER shall provide land 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 shall make no changes or relocations without the prior written permission of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point 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 by professionally qualified personnel.
- B. CONTRACTOR shall not disturb any survey monuments found on the line of the improvements until ordered by the ENGINEER. No survey monument shall be disturbed or moved until ENGINEER has been notified and ENGINEER has referenced the survey monument for resetting.

4.5 ASBESTOS, PCBs, PETROLEUM, HAZARDOUS WASTE FOR RADIOACTIVE MATERIAL

- A. Neither OWNER nor ENGINEER are aware of any hazardous substances which may be encountered in performance of the work except as may be specifically disclosed elsewhere in the Contract Documents. Neither OWNER nor ENGINEER have specifically inspected the site to determine any such presence except as disclosed in

the Contract Documents. The provisions of Articles 4.2 and 4.3 shall not apply to asbestos, PCBs, petroleum, hazardous waste or radioactive material uncovered or revealed at the site.

PART 5 BONDS AND INSURANCE

5.1 PERFORMANCE, PAYMENT AND OTHER BONDS

- A. Prior to OWNER executing the Agreement, CONTRACTOR shall file with the OWNER a good and sufficient Performance Bond and a Payment Bond, each in the sum of not less than 100 percent of the contract price.*
- B. The bonds shall be executed by the CONTRACTOR and secured by a company duly and regularly authorized to do a general surety business in the State of Utah and named in the current list of companies holding certificates of authority as acceptable sureties on federal bonds and as acceptable reinsuring companies as published in current Circular 570 (amended) by the Audit Staff bureau of Accounts, U.S. Treasury Department, with an underwriting limitation equal to or greater than the contract price which the bond guarantees or with a current "A-" rating or better in A.M. Best Co., Inc.'s Best Insurance Reports, Property and Casualty Edition.*
- C. Said bonds shall guarantee the faithful performance of the construction contract by the CONTRACTOR and payment of labor and materials. They shall inure by their terms to the benefit of the OWNER. Neither this nor any other provision requiring a Performance Bond shall be construed to create any rights in any third party claimant as against the OWNER for performance of the work under the construction contract.*
- D. If the surety on any bond furnished by CONTRACTOR is subject to any proceeding under the Bankruptcy Code (Title 11, United States Code) or becomes insolvent or its right to do business is terminated in the State of Utah or it ceases to meet the requirements of this Article, CONTRACTOR shall, within 15 days thereafter, substitute another bond and surety, both of which must be acceptable to OWNER.*

5.2 INSURANCE

- A. In General: All policies of insurance provided shall be issued by insurance companies qualified to do business in the State of Utah and listed on the U.S. Treasury Department's current Department of Treasury Fiscal Services List 570, or having a general policy holder's rating of not less than "A-" in the most current available A.M. Best Co., Inc.'s Best's Insurance Report.*
- B. Insurance Requirements: CONTRACTOR shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONTRACTOR, its agents, representatives, employees or subcontractors. The cost of such insurance shall be included in CONTRACTOR's Bid. The amount of insurance shall not be less than:*
 - 1. Commercial General Liability: \$1,000,000 combined single limit per occurrence and \$3,000,000 general aggregate for bodily injury, personal injury and property damage. Policy to include coverage for premises and operations, contractual liability, personal injury liability, products/completed operations liability, broad-*

- form property damage (if applicable) and independent CONTRACTORs' liability (if applicable) written on an occurrence form.*
- 2. Business Automobile Liability: \$1,000,000 combined single limit per accident for bodily injury and property damage for owned, non-owned and hired autos.*
 - 3. Workers' Compensation and Employers' Liability: Workers' compensation limits as required by the labor code of the State of Utah and employers' liability with limits of \$1,000,000 per accident.*
- C. Each insurance policy required by this Agreement shall contain the following clauses:*
- 1. "This insurance shall not be suspended, voided, canceled, reduced in coverage or in limits except after thirty days prior written notice by certified mail, return receipt requested, has been given to the City."*
 - 2. "It is agreed that any insurance or self-insurance maintained by Ogden City, its elected and appointed officials, employees, agents and volunteers shall be excess of CONTRACTOR's insurance and shall not contribute with insurance provided by this policy."*
- D. Each insurance policy required by this Agreement, excepting policies for Workers' Compensation, shall contain the following clause:*
- 1. "Ogden City, its elected and appointed officials, employees, volunteers and agents are to be named as additional insureds as respect to operations and activities of, or on behalf of, the named insured as performed under Agreement with the City."*
- E. Insurance is to be placed with insurers acceptable to and approved by the City. CONTRACTOR's insurer must be authorized to do business in Utah at the time the contract is executed and throughout the time period the contract is maintained, unless otherwise agreed to in writing by the City. Failure to maintain or renew coverage or to provide evidence of renewal will be treated by City as a material breach of contract.*
- F. The City shall be furnished with original certificates of insurance and endorsements effecting coverage required within, signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be received by the City before work commences.*
- G. The City reserves the right to require complete, certified copies of all required insurance policies at any time.*
- H. Any deductibles or self-insured retentions must be declared to and approved by the City. At the option of the City, either:*
- 1. the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the City, its elected and appointed officials, employees, agents and volunteers;*
 - 2. or CONTRACTOR shall provide a financial guarantee satisfactory to the City guaranteeing payment of losses and related investigations, claim administration and defense expenses.*
- I. CONTRACTOR shall include all subcontractors and insured under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.*

- J. *Nothing contained herein shall be construed as limiting in any way the extent to which CONTRACTOR may be held responsible for payments of damages to persons or property resulting from CONTRACTOR's or is subcontractor's performance of the work covered under this Agreement.*
- K. *Builder's Risk: CONTRACTOR agrees to and assumes the risk of loss for any damage or loss to the work and project by any means or occurrence until substantial completion. If this contract includes construction of an above ground structure, CONTRACTOR further agrees to obtain builder's risk or course of construction insurance in the total amount of the contract price.*

PART 6 CONTRACTOR'S RESPONSIBILITIES

6.1 CONTROL OF THE WORK

- A. Means, Methods, Techniques, Sequences, Procedures of Construction: CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. CONTRACTOR shall be responsible to ensure that the completed work complies with the Contract Documents. CONTRACTOR shall supervise, direct and control the work competently and efficiently. CONTRACTOR shall devote such attention thereto and applying such skill and expertise as necessary to perform the work in accordance with the Contract Documents.
- B. Resident Superintendent: CONTRACTOR shall designate in writing and keep on site at all times during the progress of the work a competent resident superintendent. The superintendent shall not be replaced without written notice to ENGINEER except under extraordinary circumstances. The superintendent shall have authority to act on behalf of CONTRACTOR.
- C. Communications: All communications given to the resident superintendent by ENGINEER shall be as binding as if given to CONTRACTOR. If CONTRACTOR's resident superintendent is not present on site or on any part of the work, ENGINEER may give communications to an employee of the CONTRACTOR or to the CONTRACTOR's subcontractor or suppliers who may have charge of the particular portion of the work in reference to which the communications are given. Without being contrary to the provisions of Paragraphs 9.9C or 9.9D, such communications shall be considered given by the ENGINEER to the CONTRACTOR when confirmed in writing and delivered to the CONTRACTOR's resident superintendent.
- D. CONTRACTOR not Agent of OWNER: ENGINEER's right to enforce provisions of the Contract Documents shall not make the CONTRACTOR, nor the CONTRACTOR's agents, employees, subcontractors, or suppliers, agents of the OWNER. The liability of the CONTRACTOR for all damages to persons or to public or private property, arising from CONTRACTOR's execution of the work, shall not be diminished because of ENGINEER's enforcement of the Contract Documents.

6.2 LABOR, MATERIALS AND EQUIPMENT

- A. Personnel and Discipline: CONTRACTOR shall provide competent, qualified personnel to survey and lay out the work and perform construction as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and

- order at the site. If any subcontractor or employee or the CONTRACTOR shall appear to ENGINEER to be incompetent or to act in a disorderly or disobedient manner, the person shall be immediately removed from the project upon the request of the ENGINEER, and such person shall not be employed again on the work.
- B. Regular working hours: Except in connection with the safety or protection of persons or the work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all work at the site shall be performed during regular working hours.
- C. Overtime: If CONTRACTOR permits overtime work *beyond the standard hours of operation for Ogden City Engineering employees or permits the performance of work on Saturday, Sunday or any legal holiday* CONTRACTOR shall do so at no increase to the contract price and shall give prior written notice to ENGINEER. *CONTRACTOR shall be responsible for all additional costs associated with overtime incurred by OWNER, ENGINEER or their representatives or assistants. Said costs may be considered as deductions from the amounts payable to the CONTRACTOR at the discretion of the ENGINEER.*
- D. Temporary Facilities: Unless otherwise specified in the Contract Document (e.g. OWNER-supplied materials, etc.), CONTRACTOR shall furnish and assume full responsibility for all 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 furnishing, performance, testing, start-up, completion or suspension of the work.
- E. Materials and Equipment: All materials and equipment shall be applied installed, connected, erected, used, cleaned and conditioned in accordance with instructions of the applicable supplier, except as otherwise provided in the Contract Documents; but no provision of any such instructions shall be effective to assign to OWNER, ENGINEER or any of OWNER's representatives, consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the work or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.9C or 9.9D. All warranties and guarantees specifically called for in the specifications shall expressly run to the benefit of the OWNER.
1. Adequate, Safe and Suitable Equipment: The CONTRACTOR shall provide adequate, safe and suitable equipment to meet the work requirements, and when ordered by the ENGINEER, shall remove unsuitable equipment from the work.
 2. Operating Construction Equipment on Site: No construction equipment or machinery shall be operated upon paved streets, sidewalks, landscaped areas or prepared roadway shoulders which may be injurious to said areas.
 3. Quality, New: All materials and equipment to be installed in the work shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment.
 4. Certificate of Compliance: The ENGINEER may permit the use of certain materials or assembly prior to sampling and testing if accompanied with a certificate of compliance stating that materials involved comply in all respects

with the requirements of the Contract Documents subject to the following conditions:

- a. the form of a certificate of compliance and its disposition shall be as directed by the ENGINEER;
- b. the certificate shall be signed by the manufacturer of the materials or the manufacturer of the assembled material;
- c. the certificate must be furnished with each material or assembly of material delivered to the work and the material or assembly of material so certified must be clearly identified in the certificate;
- d. all materials used on the basis of a certificate of compliance may be contested at any time;
- e. the fact that material is used on the basis of a certificate of compliance shall not relieve CONTRACTOR from the responsibility of incorporating material in the work which conforms to requirements of the Contract Documents and any such material not conforming to such compliance, whether or not in place, shall be removed and replaced at no additional cost to the OWNER; and
- f. OWNER reserves the right to refuse to permit the use of material on the basis of a certificate of compliance.

6.3 ADJUSTING PROGRESS SCHEDULE

- A. Changes: CONTRACTOR shall submit to ENGINEER adjustments in the progress schedule which reflect the impact thereon of changes to the work.
 1. Proposed adjustments in the progress schedule that will not change the Contract Time or milestones will conform generally to the progress schedule then in effect and additionally will comply with any provisions of Paragraph 2.5. Such submittal must be accepted by ENGINEER before the adjusted schedule becomes effective.
 2. Proposed adjustments in the progress schedule that will change the Contract Time or milestones shall be submitted in accordance with the requirements of Article 12.1. Such adjustments may only be made by a Change Order in accordance with Article 3.3.
- B. Float Time: Any float time used in the progress schedule shall not be owned solely by OWNER or CONTRACTOR.
 1. Float time shall be allocated and used in the best interests of the work.
 2. CONTRACTOR's schedules shall reflect CONTRACTOR's use of float time and specify the reason for CONTRACTOR's use.
 3. The progress schedule shall reflect OWNER's use of float time.
 4. OWNER shall notify CONTRACTOR or OWNER's claim to use any float time and shall specify the reason for such use.

6.4 SUBSTITUTES OR "OR EQUAL" ITEMS

- A. Proprietary Item or Particular Supplier: Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier, such naming is intended to establish the type, function, and quality required. Unless the specification or description contains or is followed by words reading that no substitution is permitted, material and

equipment or other suppliers may be accepted by ENGINEER. Review and acceptance of the “or equal” substitute item may, in ENGINEER’s sole discretion, be accomplished without compliance with some or all of the following requirements for acceptance of proposed substitute items:

1. requests for review of substitute items of material and equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR;
 2. CONTRACTOR shall first make written application to ENGINEER for acceptance of proposed substitute item of material or equipment;
 3. CONTRACTOR shall certify that the proposed substitute will function and achieve the results called for by the general design, be similar in substance to that specified, and be suited to the same use as that specified;
 4. the application shall state that the evaluation and acceptance of the proposed substitute will not prejudice CONTRACTOR’s achievement of substantial completion on time, whether or not acceptance of the substitute for use 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 work on the project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the work is subject to payment of any license fee or royalty;
 5. all variations of the proposed substitute from that specified will be identified in the application and the nature and extent of available maintenance, repair and replacement service will be indicated;
 6. the application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of separate CONTRACTORS affected by the resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute;
 7. all data to be provided by CONTRACTOR in support of any substitute item or proposed substitute item will be at CONTRACTOR’s expense; and
 8. ENGINEER may require CONTRACTOR to furnish at CONTRACTOR’s expense additional data which ENGINEER determines to be necessary to evaluate the proposed substitute item.
- B. Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to ENGINEER, if CONTRACTOR submits sufficient information to allow ENGINEER, in ENGINEER’s sole discretion, to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in Paragraph 6.4A as applied by ENGINEER and as supplemented in Section 01 25 00 of the General Requirements in the Standard Specifications.
- C. Time Require for Review of Substitute: Proposed substitutes shall be made in ample time to permit review and written approval without delaying the work. ENGINEER will be the sole judge of acceptability, and no substitute will be ordered, installed or

- utilized without ENGINEER's prior written acceptance which will be evidenced by either a Change Order or an approved shop drawing.
- D. Special Performance Guarantee: OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute.
 - E. OWNER's Costs: CONTRACTOR shall reimburse OWNER for all charges or expenses incurred by OWNER regarding any request for substitution per this part whether or not such request is approved.
 - F. No Extra Time for Review: CONTRACTOR's request to use substitute materials and equipment or methods per this Article and ENGINEER's review of such request shall not extend the Contract Time.

6.5 SUBCONTRACTORS, SUPPLIERS AND OTHERS

- A. General: CONTRACTOR shall not employ any subcontractor, supplier or other person or organization (including those acceptable to OWNER as indicated in Paragraph 6.5B), whether initially or as a substitute, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any subcontractor, supplier or other person or organization to furnish or perform any of the work against whom CONTRACTOR has reasonable objection.
- B. Adjustment for Substitution of Subcontractor, Suppliers and Other Person: If any subcontractor, supplier or other person or organization, which was identified by CONTRACTOR prior to the effective date of the construction contract, is to be replaced by the CONTRACTOR, or on request of the OWNER on the basis of reasonable investigation, CONTRACTOR shall propose in writing to the OWNER an acceptable subcontractor, supplier or other person or organization substitute. If OWNER's request is based upon defective work or CONTRACTOR's failure to comply with the Contract Documents, the contract price shall remain unchanged, otherwise, the contract price will be adjusted by the difference in the cost occasioned by such replacement and an appropriate Change Order signed. No acceptance by OWNER of any subcontractor, supplier or other person or organization shall constitute a waiver of any right of OWNER or ENGINEER to reject defective work or any other right under the Contract Documents or under law or regulations.
- C. OWNER – CONTRACTOR – Subcontractor Relationships: CONTRACTOR shall be fully responsible to OWNER for all acts and omissions of subcontractors, suppliers and other persons and organizations performing or furnishing any of the work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for acts and omissions of CONTRACTOR's own agent or employee. Nothing in the Contract Documents shall create any contractual relationship between OWNER and any such subcontractor, supplier or other person or organization, nor shall it create any obligation on the part of OWNER to pay or to see to the payment of any moneys due any such subcontractor, supplier or other person or organization except as may otherwise be required by laws and regulations.
- D. Responsibility for Subcontractor Licensing: Proper licensing under state or local law and regulations to perform the work of a subcontract shall be the responsibility of the CONTRACTOR and the subcontractor or subcontractors involved. OWNER does not assume any responsibility for the terms and conditions of the contract between

CONTRACTOR and subcontractor. OWNER's requirement that CONTRACTOR submit a subcontractor and supplier report shall not be construed as an assumption by OWNER of any responsibility for said licensing requirements or terms and conditions of subcontracts.

- E. Contract Documents Do Not Subdivide the Work: The divisions and sections of the specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the work among subcontractors or suppliers or delineating the work to be performed by any specific trade.
- F. Subcontractor Agreements: All work performed for CONTRACTOR by a subcontractor will be pursuant to an appropriate written agreement between CONTRACTOR and the subcontractor which specifically binds the subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of OWNER. If requested by OWNER, CONTRACTOR shall provide copies of such agreements to OWNER.
- G. Subcontractor or Supplier Default: When any part of the work has been subcontracted and is not being prosecuted in a manner satisfactory to ENGINEER, CONTRACTOR shall cause such failure to be corrected as required by the Construction Contract. In such a case, no additional compensation will be paid to CONTRACTOR for completing the part of the work.
- H. Conflict of Interest, Subcontractors: No agency or company which is or has been under contract to the OWNER to provide design, design reviews, soil testing, material testing, surveying and any other such functions associated with the design phase of the work shall be used as a subcontractor by the CONTRACTOR.

6.6 PATENT FEES AND ROYALTIES

- A. In General: 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 a particular 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 the OWNER 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 shall be disclosed by OWNER in the Contract Documents.

6.7 PERMITS

- A. In General: Unless otherwise provided in the supplementary conditions, CONTRACTOR shall obtain and pay for all permits, licenses and inspections. The CONTRACTOR shall, without additional cost to the OWNER, give all notices and pay all necessary fees (including plan check fees) in connection with the performance of the construction contract. CONTRACTOR shall furnish a copy of permits and licenses (except permanent easements) to the ENGINEER prior to CONTRACTOR commencing work thereunder.
- B. Governmental Charges and Inspection Fees: CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the work, which are applicable at the time of opening Bids, or if there are no Bids, on the effective date of the construction contract.

- C. Utility Connection Fees and Plant Investment Fees: CONTRACTOR shall pay all charges of utility OWNERS for connections to the work, and OWNER shall pay all charges of such utility OWNERS for capital costs related thereto such as plant investment fees.
- D. Temporary Utilities: CONTRACTOR shall make all arrangements for electricity, sewer, gas and telephone from the appropriate utility companies. All utility lines will be on the surface of the ground, underground or placed on temporary poles and shall conform to the appropriate load requirements. No pole shall be erected without approval of the ENGINEER. Relocation of temporary utilities shall be paid for by the CONTRACTOR at no additional cost to the OWNER.
- E. Uniform Building Code: CONTRACTOR shall arrange for all necessary inspections required by the appropriate governmental authority(ies). Before final payment is issued, CONTRACTOR shall deliver to the ENGINEER copies of all certificates of inspection.
- F. Waterworks Connections: If CONTRACTOR desires to use OWNER's water, it shall first contact ENGINEER and make arrangements therefore. CONTRACTOR shall pay all necessary charges, and usage costs.
- G. Utah Pollutant Discharge Elimination System (UPDES) Permit: An UPDES permit shall be secured by CONTRACTOR at CONTRACTOR's sole expense, if the construction site requires such a permit under Utah Water Quality Act, Title 19, Chapter 5, Utah Code Annotated 1953, as amended. The agency responsible for verifying permit requirement is the State of Utah Department of Environmental Quality, Division of Water Quality.
- H. Ogden City Permits: *In addition to any other permits required for the work, the CONTRACTOR shall obtain permits from Ogden City Corporation for work on the project.*
1. OWNER-Paid Permits: *CONTRACTOR shall be responsible for submitting plans, scheduling inspections and paying all costs incidental to such actions as required for any building, plumbing, mechanical, electrical, water, sewer or drainage permit required by Ogden City Corporation. Except for construction water meter fees, the fees for these permits shall be paid by the OWNER and shall not be included in CONTRACTOR's Bid. The following listed permit is not exclusive and does not relieve CONTRACTOR of the responsibility of obtaining all permits.*
 - a. *Permit for Work in the Public Way: From Ogden City's Engineering division, ENGINEER's One Stop counter, 2549 Washington Boulevard, Suite 240, Ogden City, Utah, 84401. Phone (801) 629-8986.*
 2. CONTRACTOR-Paid Permits: *The fees for permits not paid for by the OWNER shall be included in the CONTRACTOR's Bid. The following list is not exclusive and does not relieve CONTRACTOR of the responsibility of obtaining all permits:*
 - a. Construction Water: *If water for construction is required to be taken from fire hydrants or from a new water service, CONTRACTOR shall be solely responsible for obtaining and paying for necessary permits and water usage to Ogden City. Construction water permits to connect to a new water service can be obtained, along with a description of backflow requirements at Ogden City One Stop Counter, 2549 Washington*

Boulevard, Ogden City, Utah 84401. (801) 629-8985. Construction water obtained from a fire hydrant must be metered from an Ogden City hydrant meter. Meters can be rented with a deposit from Ogden City Utilities 133 W. 29th St. Ogden City, Utah 84401. (801) 629-8321. Connections made without proper backflow prevention or hydrants connected without an Ogden City hydrant meter may be subject to penalties or fines.

- b. *Building, Electrical and Plumbing Permits: From Ogden City Building Inspections office, 2549 Washington Boulevard, Suite 240, Ogden, Utah, 84401. Phone (801) 629-8985.*
- c. *Permit and Fees for Tap of Water Mains: From Ogden City One Stop Counter, 2549 Washington Boulevard, Suite 240, Ogden, Utah 84406. Phone (801) 629-8986. Ogden City Water Utility, 175 West 29th Street, Ogden, Utah. Phone (801) 629-8321.*
- d. *Permit and Fees for Tap of Sewer Mains: From Ogden City One Stop Counter, 2549 Washington Boulevard, Suite 240, Ogden, Utah, 84401 Phone (801) 629-8986.*
- e. *General Permit for Storm Water Discharge:*
 - 1. *Between 5,000 square feet and 0.99 acres:* From Ogden City One Stop Counter, 2549 Washington Boulevard, Suite 240, Ogden, Utah 84401, (801) 629-8986
 - 2. *1 acre or more:* From the State of Utah, Department of Environmental Quality, Division of Water Quality. Fee varies; contact the State for a quote.
- f. *Ogden City Business License: In addition to any other licenses required for the work, the CONTRACTOR shall obtain a business license from Ogden City Corporation for work on the project.*
 - 1. *A general CONTRACTOR who performs labor will be required to show evidence of a current Ogden City Business License, if he/she has a business in Ogden City.*
 - 2. *Only those major subcontractors, i.e. mechanical, electrical, and plumbing that are required to secure permits from the Ogden City Inspection Division will be required to secure an Ogden City Business License, if they have a business in Ogden City.*
- g. *Other Permits: All other permit fees required by Ogden City, the State of Utah, the United States of America, and any of their agencies, or by any private utility companies, shall be paid for and obtained by the CONTRACTOR and included in the CONTRACTOR's Bid. The following list is not exclusive and does not relieve CONTRACTOR of the responsibility of obtaining all permits:*
 - 1. *UDOT Digging Permit: ; State of Utah, District 1. Phone (801)620 1604/1639.*
 - 2. *Private Property OWNER Permit: Written permission to use private water.*
 - 3. *Private Property OWNER Permit: Written permission to store product, equipment, materials and supplies outside of work site boundaries.*

4. General Permit for Storm Water Discharge: *From the State of Utah, Department of Environmental Quality, Division of Water Quality. Fee varies. Contact the State for a quote.*
5. Flood Control Permit: *Weber County, Department of Public Works, Engineering, Ogden City, Utah.*

6.8 LAWS AND REGULATIONS

- A. CONTRACTOR shall give all notices and comply with all laws and regulations applicable to furnishing and performance of the work. Except where otherwise expressly required by applicable laws and regulations, OWNER shall not be responsible for monitoring CONTRACTOR's compliance with any laws and regulations nor the compliance of any of CONTRACTOR's agents, employees, subcontractors or suppliers.
- B. If CONTRACTOR observes that the specifications or Drawings are at variance with any laws or regulations, CONTRACTOR shall give ENGINEER prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated in Paragraph 3.3A. If CONTRACTOR performs any work knowing or having reason to know that it is contrary to such laws or regulations, and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising there from.

6.9 TAXES

- A. Except for OWNER-supplied material, CONTRACTOR shall pay all sales, consumer, use and other similar taxes which are required to be paid during the performance of the work in accordance with applicable laws and regulations.

6.10 USE OF PREMISES

- A. Use of Premises, Damage: CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the project site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted by laws and regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the OWNER or occupant thereof, or of any such land or areas contiguous thereto, resulting from the performance of the work.
- B. Clean Work Site: During the progress of the work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the work. At the completion of each portion of the work CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by OWNER.
- C. Restoration of Property, Clean Neighborhood, Costs: CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents. Failure by CONTRACTOR to repair damage or disturbance or to maintain the job site, adjacent areas and haul routes in a clean and neat condition in

accordance with Contract Documents will result in OWNER, after reasonable notice to CONTRACTOR, providing the equipment and labor necessary to clean up the said areas and charging the costs thereof to CONTRACTOR. "Cleanliness" requires removal of rocks, dirt and spillage.

- D. Load Safety: CONTRACTOR shall not load or permit any part of any structure at the work site to be loaded in any manner that will endanger the structure. CONTRACTOR shall not subject any part of the work or adjacent property to stresses or pressures that will endanger either of them.
- E. CONTRACTOR to Indemnify; Save OWNER Harmless: CONTRACTOR shall assume full responsibility for any damage to:
1. the project site, land and areas identified in and permitted by the Contract Documents and laws and regulations, rights-of-way, permits easements; and
 2. other property which may be damaged by CONTRACTOR, subcontractors or suppliers during the performance of the work such as walls, utilities, streets, ways, sidewalks, curbs gutters and property of third part including other governmental agencies).

Should any claims be made against OWNER by any owner or occupant of any land or area damaged by CONTRACTOR, subcontractors or suppliers during performance of the work, CONTRACTOR shall promptly attempt to resolve the claim. CONTRACTOR shall indemnify and save OWNER harmless from and against all claims, damages, losses and expenses (including, but not limited to fees of ENGINEERS, architects, attorneys and other professionals and court costs arising directly, indirectly or consequentially out of an claim brought by any such other party against OWNER arising out of CONTRACTOR's performance of the work.

6.11 RECORD DOCUMENTS

- A. CONTRACTOR shall maintain in a safe place at the work site one record copy of all Contract Documents and written interpretations and clarifications (issued pursuant to Article 9.4) in good order and annotated to show all changes made during construction. These record documents, together with all acceptable samples and a counterpart of all reviewed shop Drawings, shall be available to ENGINEER for reference. Upon completion of the work, these record documents, samples and shop Drawings shall be delivered to ENGINEER for OWNER.
- B. CONTRACTOR shall maintain thorough records of all transactions and shall give the OWNER and other agencies required by law or regulation, access to and the right to examine all records, books, papers, or documents to all operations funded in whole or in part under the Construction Contract for a period of three (3) years following work completion.

6.12 SAFETY AND PROTECTION

- A. In General: CONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work.
- B. Protection Against Damage, Injury, Loss:
1. CONTRACTOR's Responsibility: CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

- a. all employees on the work and other persons and organizations who may be affected thereby;
 - b. all work and materials and equipment to be incorporated therein, whether in storage on or off the site except as otherwise specifically directed by OWNER, as e.g. OWNER-supplied materials, builder's risk insurance, etc.; and
 - c. other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, curbs, gutters, structures, utilities and underground facilities not designated for removal, relocation or replacement in the course of construction.
2. Risk: Except as provided above, until substantial completion or as indicated in other Contract Documents, CONTRACTOR shall have the charge and care of the work and materials and shall bear the risk of damage, injury or loss to any part thereof by any acts of God or the elements or from any other cause. Except as provided above, OWNER, its officers, employees and agents and the ENGINEER shall not be answerable nor accountable in any manner for any damage or loss that may occur to the work or any part thereof; for any material or equipment used in performing the work; for property damage, personal injury, or death; or for damage to adjoining property from any cause whatsoever during the progress of the work or at any time before substantial completion.
- C. Repairs by CONTRACTOR: All damage, injury or loss to any property referred to in Paragraph 6.12B.1.b. or 6.12B.1.c. above, caused directly or indirectly, in whole or in part, by CONTRACTOR, any subcontractor, supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR at no additional cost to the OWNER.
- D. Safety, Warnings: CONTRACTOR shall comply with all applicable laws and regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. CONTRACTOR shall erect and maintain, as required by existing conditions and performance of the work, reasonable safeguards for safety, and protection, including posting danger signs and other warning against hazards, and promulgating and giving notice of safety regulations.
- E. Notification: CONTRACTOR shall notify OWNERs of adjacent property, underground facilities and separate utilities when prosecution of the work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property.
- F. Temporary Repairs by OWNER: When not performed by CONTRACTOR within the time requested by ENGINEER, OWNER may make or cause to be made such temporary repairs as are necessary to restore to service any damaged facility. The cost of such repairs shall be borne by the CONTRACTOR and, if paid by OWNER, may be deducted from any monies due or to become due the CONTRACTOR.
- G. Safety Representative: CONTRACTOR shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be CONTRACTOR's resident superintendent unless designated otherwise in writing by CONTRACTOR.

- H. Hazard Communications Standards (Employee Right to Know): During performance of the work, CONTRACTOR shall be subject to federal regulations outlined in 29CFR 1910.1200 entitled Hazard Communication Standard. CONTRACTOR shall be solely responsible for any and all violations of the hazard communication standard resulting from the negligent or intentional acts or omission or commission of officers, employees, representatives, agents, servant, subcontractors, suppliers, successors and assigns of CONTRACTOR. CONTRACTOR and subcontractor personnel required under the terms of the Contract Documents to work with or in close proximity to hazardous materials and hazardous wastes shall have completed and be current with the personal training required by Occupational Health and Safety Administration (OSHA) regulations as outlined in 29CFR 1910.1200. CONTRACTOR and subcontractor personnel required under the terms of the Contract Documents to work with hazardous materials or hazardous wastes, or perform services in an area identified as a hazardous material or hazardous waste remediation site, shall have completed and be current with the OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) training program as outlined in 29CFR 1910.120.
- I. Encountering Hazardous Substances: In the event the CONTRACTOR encounters on the site substance reasonably believed to be asbestos or polychlorinated biphenyl (PCB) or any other hazardous waste or substance which may endanger the health of those persons performing the work or being on the site, which has not been rendered harmless, the CONTRACTOR shall immediately stop work in the area affected and immediately report the condition to the ENGINEER and OWNER, and confirm the report immediately in writing. The OWNER shall retain a special consultant qualified to investigate, evaluate and mitigate any potentially hazardous substances. The work in the affected area shall be resumed in the absence of asbestos, polychlorinated biphenyl (PCB) or said hazardous waste or substance, or when it has been rendered harmless according to the federal and state health standards. Except to the extent provided otherwise in the Contract Documents, the CONTRACTOR shall not be required to perform, without consent, any work relating to asbestos, polychlorinated biphenyl (PCB) or any other hazardous waste substance. In the event of OWNER's delay in investigating, evaluating and mitigating any potentially hazardous substances, if CONTRACTOR believes that any delay entitles CONTRACTOR to an increase in the contract price or an extension of the Contract Time, CONTRACTOR may make a claim therefore as provided in Parts 11 and 12 hereof.
- J. Using Hazardous Substances: When use or storage of explosives or other hazardous substances or construction equipment or unusual methods are necessary for execution of the work, the CONTRACTOR shall notify OWNER in writing of where and when such will be used and shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.
- K. Cost to Protect or Repair in Contract Price: The full cost of furnishing all labor, materials, tools equipment and incidentals, and for doing all the work involved in protecting or repairing property and for insuring against risk of loss or damage shall be deemed included in the Contract Price and no additional compensation shall be allowed therefore.

6.13 EMERGENCIES

- A. CONTRACTOR to Act: In emergencies affecting the safety or protection of persons, the work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from ENGINEER, shall prevent threatened damage, injury or loss.
- B. Written Notice: 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 responding to such an emergency.
- C. Change Order: If ENGINEER determines that a change in the Contract Documents is required because of the action taken in response to an emergency, a Change Order will be issued to document the consequences of such actions.

6.14 SHOP DRAWINGS AND SAMPLES

- A. Not Contract Document: Shop Drawings, product data, samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate, for those portions of the work for which submittals are required, the way the CONTRACTOR proposes to conform to the information given and the design concept expressed by the Contract Documents.
- B. Shop Drawings: CONTRACTOR shall submit shop drawing to ENGINEER for review and acceptance in accordance with the accepted schedule for submissions (see Paragraph 2.7A), or for other appropriate action if so indicated in the supplementary conditions.
 - 1. Before submission, CONTRACTOR shall check and verify all field measurements and comply with applicable procedures specified in the General Requirements.
 - 2. All submissions will be identified as ENGINEER may require, and will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to CONTRACTOR's review of the submission, including those of CONTRACTOR's subcontractors.
 - 3. The data shown on the shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable ENGINEER to review the information as required.
- C. Samples: CONTRACTOR shall also submit to ENGINEER for review with such promptness as to cause no delay in work, all samples required by the Contract Documents.
 - 1. All samples, whether supplied by CONTRACTOR, or CONTRACTOR's subcontractors, or CONTRACTOR's suppliers shall be checked by the CONTRACTOR. Such samples shall be accompanied by a specific written annotation indicating that CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to CONTRACTOR's review of the sample.
 - 2. All submissions will be identified clearly as to material and supplier.
 - 3. Pertinent data such as catalog numbers and the use for which intended shall be indicated.

- D. Verifications: Before submission of each shop drawing or sample, CONTRACTOR shall have determined and verified the following:
1. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto;
 2. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the work; and
 3. all information relative to CONTRACTOR's sole responsibilities in respect of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.
- E. Notice of Variance: At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of each variation that the shop Drawings or samples may have from the requirements of the Contract Documents. In addition, CONTRACTOR shall cause a specific notation to be made on each shop drawing submitted to ENGINEER for review and approval of each such variation. CONTRACTOR shall direct specific attention in writing to CONTRACTOR's or other's revisions other than the corrections called for by ENGINEER on previous submittals.
- F. Review by ENGINEER: ENGINEER will review with reasonable promptness shop Drawings and samples. ENGINEER's review will be only for conformance with the design concept of the project and for compliance with the information given in the Contract Documents. ENGINEER's review shall not extend to means, methods, techniques, sequences or procedures or construction (except where a specific means, method, technique, sequence or procedure or construction is indicated in or required by the Contract Documents) or to safety precautions or programs incident thereto. The review of a separate item as such will not indicate approval of the assembly in which the item functions. 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.
- G. Accuracy of Dimensions, Errors and Omissions: ENGINEER's review of shop Drawings or samples shall not relieve CONTRACTOR from responsibility for accuracy of dimensions and details or any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of submission, as required by Paragraph 6.14E, and ENGINEER has reviewed each such variation and given specific written notation thereof incorporated in or accompanying the shop drawing or sample submittal. Such review by ENGINEER will not relieve CONTRACTOR from responsibility for errors or omissions in the shop Drawings or from responsibility for having complied with the provisions of Paragraph 6.14D above.
- H. Distribution of Drawings: The CONTRACTOR shall furnish prints of final shop Drawings, erection Drawings, equipment layouts, and other data to CONTRACTOR's subcontractors and suppliers for the proper coordination of their work. CONTRACTOR shall keep 1 complete set of the approved documents with the record documents on the premises at all times.

- I. Compensation: Full compensation for furnishing all shop Drawings and samples shall be considered as included in the prices paid for the items of work to which such Drawings relate and no additional compensation will be allowed therefore.
- J. Work Performed Before ENGINEER's Review: Where a shop drawing or sample is required by the specifications, any related work performed by CONTRACTOR, prior to ENGINEER's review of the pertinent submission will be at CONTRACTOR's sole risk of non-acceptance. Correction of non-acceptable work shall be at CONTRACTOR's expense.
- K. Rejection: No extra Contract Time shall be given for rejection of shop Drawings or samples.
- L. Certificate of Compliance: The ENGINEER may permit the use of certain materials or assembly prior to sampling and testing if accompanied with a certificate of compliance stating that materials involved comply in all respects with the requirements of the Contract Documents. The certificate shall be signed by the manufacturer of the materials or the manufacturer of the assembled material. The certificate of compliance must be furnished with each line of material delivered to the work and the line so certified must be clearly identified in the certificate. All materials used on the basis of a certificate of compliance may be contested by ENGINEER at any time. The fact that material is used on the basis of a certificate of compliance shall not relieve CONTRACTOR from the responsibility of incorporating material in the work which conforms to requirements of the Contract Documents and any material not conforming, whether or not in place, shall be removed and replaced at the CONTRACTOR's expense. OWNER reserves the right to refuse to permit the use of material on the basis of a certificate of compliance. The form of a certificate of compliance and its disposition shall be as ordered by the ENGINEER.

6.15 CONTINUING THE WORK

- A. During Disputes or Disagreements: CONTRACTOR shall carry on the work and adhere to the progress schedule during all disputes or disagreements with OWNER. No work shall be delayed or postponed pending resolution of any disputes or disagreements, except as CONTRACTOR and OWNER may otherwise agree in writing.
- B. No Damage for Delay:
 - 1. *In all cases where CONTRACTOR is delayed, hindered, or obstructed in the execution of the work, or any part thereof, for any reason whatsoever, the CONTRACTOR shall not be entitled to claim or recover any damages or additional payment from the OWNER or ENGINEER. It is, however, the intent of this contract that in all cases where the CONTRACTOR is substantially delayed, hindered, or obstructed in the execution of the work through no fault of the CONTRACTOR and because of conditions beyond the CONTRACTOR's control, the Contract Time shall be extended by change order by such amount as conditions, in the judgment of the ENGINEER, justify, and such extension of Contract Time shall be the exclusive remedy of the CONTRACTOR.*
 - 2. *Claims relating to time shall be made in accordance with the applications provisions of Article 12.1. CONTRACTOR's plea that insufficient time was*

specified is not a valid reason for extension of Contract Time. Contract time shall not be extended for any weather-related delays.

3. *Permitting the CONTRACTOR to continue and finish the work or any part of it after the time fixed for its completion, or after that date to which the time may have been extended, will in no way operate as a waiver on the part of the OWNER of any of its rights under the contract.*

6.16 CONTRACTOR'S GENERAL WARRANTY AND GUARANTEE

- A. Defects or Damage Exclusion: CONTRACTOR warrants and guarantees to OWNER that all work will be in accordance with the Contract Documents and will not be defective. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:
 1. Abuse, modification or improper maintenance or operation by persons other than CONTRACTOR, subcontractors or suppliers; or
 2. Normal wear and tear under normal usage.
- B. CONTRACTOR's Continuing Obligation: CONTRACTOR's obligation to perform and complete the work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of work that is not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the work in accordance with the Contract Documents:
 1. observations by ENGINEER;
 2. recommendation of any progress or final payment by ENGINEER;
 3. the issuance of a certificate of substantial completion or any payment by OWNER to CONTRACTOR under the Contract Documents;
 4. use or occupancy of the work or any part thereof by OWNER;
 5. any acceptance by OWNER or any failure to do so;
 6. any review and approval of a shop drawing, sample or product data submittal or the issuance of a notice of acceptability by ENGINEER;
 7. any Inspection, test or approval by others; or
 8. any correction of defective work by OWNER.
- C. Acceptance is Not a Waiver of OWNER's Rights: OWNER's acceptance of defective work shall not release or relive CONTRACTOR from warranty and guarantee provisions of this article.
- D. Survival of Obligations: All representations, indemnifications, warranties and guaranties made in, required by or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion and acceptance of the work and termination or completion of the Agreement.

6.17 INDEMNIFICATION

- A. Indemnification of OWNER: CONTRACTOR shall indemnify, *defend*, and hold harmless OWNER and ENGINEER, *and their elected officials, officers, agents, employees and volunteers* from and against any and all claims, damages, losses and expenses, direct, indirect or consequential (including, but not limited to, fees and charges of ENGINEERS, architects, attorneys and other professionals and court costs) arising out of or resulting from the negligent acts or omissions in performance of the

- work by CONTRACTOR, any subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the work or anyone for whose acts any of them may be liable, regardless of whether or not the claim, damage, loss, etc. arising from the act or omission is caused in part by a party indemnified hereunder or arises by or is imposed by law and regulations regardless of the negligence of any such party.
- B. Indemnification Not Limited: In any claims against OWNER or ENGINEER or any of their *elected officials, officers, agents, employees or volunteers* by any employees of CONTRACTOR, any subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the work or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.17.A shall 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 or other person or organization under worker's compensation acts, disability benefit acts or other employee benefit acts.
- C. Liability of ENGINEER, etc.: The obligations of CONTRACTOR under Paragraph 6.17A shall not extend to the liability of ENGINEER, OWNER's consultants, agents or employees arising out of the preparation or approval of maps, Drawings, opinions, reports, surveys, Change Orders, designs or specifications.
- D. CONTRACTOR to Save OWNER Harmless: CONTRACTOR shall assume the OWNER's defense, and save OWNER harmless from any claims directly or indirectly arising from CONTRACTOR's use or alleged use of patented or trademarked materials, design, equipment, devices, product or processes on or ultimately successful. In the event of such claims:
1. OWNER shall promptly notify CONTRACTOR and CONTRACTOR shall defend against such claims, in OWNER's name, but at CONTRACTOR's expense;
 2. OWNER shall have the right to be represented by counsel, but such representations shall be at the OWNER's own expense; and
 3. at the request and expense of CONTRACTOR, the OWNER shall actively cooperate and assist CONTRACTOR to the fullest extent in the defense of any such proceedings.

In the event that CONTRACTOR shall fail to defend against any such claims, the OWNER may, in addition to any other legal remedies which the OWNER might have, at OWNER's election, defend such suit and be reimbursed by CONTRACTOR of all reasonable expenses (including attorney's fees) incurred by the OWNER in this connection, and CONTRACTOR shall pay all damages and costs awarded or otherwise suffered by OWNER in any such claim against OWNER.

6.18 HAZARDOUS WASTE GENERATION

- A. In General: The CONTRACTOR shall be responsible for ensuring that all services the CONTRACTOR and its subcontractors are required to provide under the terms of the Contract Documents are performed in accordance with applicable federal, state and local environmental regulations and within generally accepted professional performance standards for the services to be provided.

- B. Hazardous Wastes Generated by CONTRACTOR: The CONTRACTOR shall be responsible for the interim handling, evaluation and disposal of any hazardous materials and hazardous wastes generated by the CONTRACTOR or any of its subcontractors during the performance of any services under the terms of the Contract Documents, and shall ensure that handling, evaluation and final disposal of all hazardous materials and hazardous wastes are performed in accordance with the requirements outlined in 40 CFR Parts 261 and 262 and Utah Administrative Code R-450-5.
1. The CONTRACTOR shall notify the ENGINEER immediately upon discovery that the CONTRACTOR or its subcontractors has generated a hazardous waste material. If the hazardous waste material was generated as the result of a hazardous material spill, the CONTRACTOR shall be responsible for completing spill reporting requirements for all applicable environmental regulatory programs.
 2. The CONTRACTOR shall also provide the ENGINEER with documentation within eight (8) hours of the discovery indicating:
 - a. the date of waste generation;
 - b. specific waste classification or characterization;
 - c. waste quantity;
 - d. waste profile and acceptance identifying the intended disposal facility; and
 - e. copies of all Uniform Hazardous Waste Manifest documenting off-site transportation and disposal activities.
 3. CONTRACTOR shall contain hazardous material and protect workers and the public from exposure.
- C. Hazardous Wastes Generated by OWNER: The CONTRACTOR shall ensure that any services the CONTRACTOR or its subcontractors perform under the terms of the Contract Documents that involve the interim handling, evaluation and disposal of any hazardous materials and hazardous waste generated by, or the responsibility of the OWNER, shall be performed in accordance with the requirements outlined in 40 CFR Parts 261 and 262 and Utah Administrative Code R-450-5.
1. The CONTRACTOR shall also provide the ENGINEER with documentation indicating:
 - a. the date of waste generation;
 - b. specific waste classification or characterization;
 - c. waste quantity;
 - d. waste profile and acceptance identifying the intended disposal facility; and
 - e. copies of all Uniform Hazardous Waste Manifest documenting off-site transportation and disposal activities.
 2. If handling of hazardous wastes generated by OWNER is not indicated in the Contract Documents, such cost of handling shall be determined as indicated in Article 11.3.
- D. Final Disposal of Hazardous Materials and Hazardous Wastes: CONTRACTOR shall be responsible for ensuring that all hazardous materials and hazardous wastes, identified as subject to the provisions of Paragraphs 6.17A, B and C above, regardless of generator, be submitted to a facility or facilities permitted and qualified to recycle, process, or perform final disposal as required for the type of hazardous material or hazardous waste being submitted.

- E. Documentation: CONTRACTOR shall provide OWNER with documentation of appropriate disposal.

PART 7 OTHER WORK

7.1 RELATED WORK AT SITE

- A. Owners of Utilities and Franchises to Enter upon the Premises: The right is reserved to the owners of utilities and franchises to enter upon the premises for the purposes of making repairs or changes of their property that may become necessary by the work.
- B. Separate Work: OWNER may perform other work related to the project at the site by OWNER's own forces, or let other direct contracts therefore which shall contain general conditions similar to these, or have other work performed by utility owners. If the fact that such other work is to be performed was not noted in the Contract Documents, written notice thereof will be given to CONTRACTOR prior to starting any such other work. If CONTRACTOR believes that such performance will involve additional expense to CONTRACTOR or requires additional time and the parties are unable to agree as to the extent thereof, CONTRACTOR may make a claim therefore as provided in Parts 11 and 12.
- C. Access to Site: CONTRACTOR shall coordinate all phases of the work and afford each utility owner and other CONTRACTOR who is a party to such a contract (or OWNER, if OWNER is performing the additional work with OWNER's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the work with theirs.
- D. Cutting, Fitting and Patching: CONTRACTOR shall do all cutting, fitting and patching of the work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected.
- E. Delays Caused by Other Work, Defects or Deficiencies in Other Work: If the proper execution or results of any part of CONTRACTOR's work depends upon work performed by others under this Part 7, CONTRACTOR shall inspect and promptly report to ENGINEER in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. CONTRACTOR's failure so to report will constitute an acceptance of the other work as fit and proper for integration with CONTRACTOR's work except for latent or non-apparent defects and deficiencies in the other work.

7.2 COORDINATION

- A. Coordinating Agent, Identified in Supplementary Conditions: If OWNER contracts with others for the performance of other work on the project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime CONTRACTORS will be identified in the supplementary conditions. The specific matters to be covered by such authority and responsibility will be itemized, and the extent of such authority and responsibilities

will be provided in the supplementary conditions, OWNER shall have sole authority and responsibility in respect of such coordination.

- B. Ceasing Work Temporarily: If other CONTRACTORS under separate OWNER contracts are unable to join their work in a manner acceptable to all, ENGINEER will decide if CONTRACTOR or other CONTRACTORS shall cease work temporarily. Should CONTRACTOR be adversely affected by the work of other CONTRACTORS, additional compensation or project completion time will be granted provided the delays or interference are not the results of the CONTRACTOR's own actions or inactions. The OWNER also reserves the right to deduct from sums of money due the CONTRACTOR for all costs incurred by the OWNER which are the result of the CONTRACTOR not properly coordinating work.

7.3 UTILITY ARRANGEMENTS

- A. Should CONTRACTOR desire a rearrangement made in any utility facility for CONTRACTOR's convenience in order to facilitate construction operations, which is an addition to or different from the arrangements indicated on the Drawings or in the specifications, CONTRACTOR shall make such arrangements as are necessary with the utility and bear all expenses in connection therewith.

7.4 WORK DONE BEYOND THE SITE

- A. Any work done beyond the limits shown on the Drawings or established in writing by ENGINEER, will be considered as unauthorized and no payment will be made therefore.

PART 8 OWNER'S RESPONSIBILITIES

8.1 OWNER'S RESPONSIBILITIES

- A. Communications: OWNER shall issue all communications to CONTRACTOR through ENGINEER as per Article 2.8.
- B. Tests and Observations: OWNER's responsibility in respect of certain Inspections, tests and observations is set forth in Article 13.3.
- C. Work Suspension: In connection with OWNER's right to stop work or suspend work, see Article 15.1. Article 15.2 deals with OWNER's right to terminate services of CONTRACTOR under certain circumstances.
- D. Furnishing Data: OWNER shall promptly furnish the data required of OWNER under the Contract Documents.
- E. Prompt Payment: OWNER shall promptly make payments to CONTRACTOR after they are due as provided in Paragraphs 14.4 and 14.9.

PART 9 ENGINEER'S STATUS DURING CONSTRUCTION

9.1 OWNER'S REPRESENTATIVE

- A. General: ENGINEER will be OWNER's representative and agent during the Contract Time, until final payment is due and, with the OWNER's concurrence, from time to time during the correction period described in Article 13.7.
- B. Limitations: ENGINEER shall have the authority to act on behalf of the OWNER only to the extent provided in the Contract Documents.

- C. Changing Representative: ENGINEER may be changed by the OWNER upon written notice to the CONTRACTOR.

9.2 PROJECT REPRESENTATIVE

- A. ENGINEER may furnish a resident project representative and such other assistants as ENGINEER deems necessary to observe that the materials to be furnished and the work done strictly conforms to the Contract Documents.

9.3 AUTHORITY AND DUTIES OF RESIDENT PROJECT REPRESENTATIVE

- A. General: The resident project representative:
1. shall be permitted to observe all work done and all material furnished. Such observation may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used;
 2. is not authorized to revoke, alter, or waive any requirement of the Contract Documents;
 3. is authorized to call the attention of CONTRACTOR to any failure of the work or materials to conform to the Contract Documents;
 4. shall have authority to reject materials and suspend all or any part of the work until any question at issue can be referred to and decided by the ENGINEER; and
 5. shall in no case act or be considered as CONTRACTOR's foreman or perform duties for CONTRACTOR.
- B. Limitations: Any advice that the resident project representative may give the CONTRACTOR, other than set forth in Paragraph 9.3A above, shall not be binding upon the ENGINEER or OWNER. Nor shall such advice release or relieve CONTRACTOR of compliance with the Contract Documents.
- C. Suspension of Work: If work is to be suspended; the resident project representative shall issue a written order giving the reason for shutting down the work. In the absence of such written order, CONTRACTOR shall not deem the work to be suspended. After placing the order in the hands of the CONTRACTOR's agent in charge at the site, any work done thereafter may not be accepted, at ENGINEER's discretion.

9.4 CLARIFICATIONS AND INTERPRETATIONS

- A. Should it appear that the work or any of the matters relative thereto are not sufficiently detailed or explained in the Contract Documents, the CONTRACTOR shall request the ENGINEER to provide such further explanations as may be necessary for CONTRACTOR. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as ENGINEER may determine necessary. These shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. CONTRACTOR shall conform to such explanations as part of the work.
- B. Any order or instruction given to the CONTRACTOR by the ENGINEER shall either be given or confirmed in writing. However, the ENGINEER's failure to put such an order or instruction in writing shall not relieve the CONTRACTOR of

CONTRACTOR's responsibility to comply with the terms and conditions of the Contract Documents.

- C. If CONTRACTOR disputes ENGINEER's explanation or interpretation of the requirements of the Contract Documents, CONTRACTOR may request dispute resolution as specified in Part 16.

9.5 AUTHORIZED VARIATIONS IN WORK

- A. ENGINEER may authorize minor variations in the work from the requirements of the Contract Documents which do not involve an adjustment in the contract price or the Contract Time and are consistent with the overall intent of the Contract Documents. These may be accomplished by a work directive change. If CONTRACTOR believes that an increase in the contract price or an extension of the Contract Time is justified, and the OWNER and the CONTRACTOR are unable to agree as to the amount or extent thereof, CONTRACTOR may make a claim therefore as provided in Part 11 or 12.

9.6 REJECTING DEFECTIVE WORK

- A. ENGINEER has the authority to reject work which ENGINEER believes to be defective or that ENGINEER believes will not produce a completed project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed project as a functioning whole as indicated by the Contract Documents. ENGINEER also has the authority to require special Inspection or testing of the work, whether or not the work is fabricated, installed or completed. The failure of the ENGINEER to reject such work shall not release or relieve CONTRACTOR from conformance to the contract document requirements.

9.7 NOTICE OF INTENTION TO APPEAL

- A. ENGINEER will determine the actual quantities and classifications of unit price work performed by CONTRACTOR and will review with CONTRACTOR any preliminary determinations on such matters before rendering a written decision. ENGINEER's written decision will be final and binding upon CONTRACTOR, unless, within 10 days after the receipt of any such decision CONTRACTOR delivers to ENGINEER written notice of intention to appeal such a decision. Such an appeal may be taken in accordance with the provisions of Part 16 of these general conditions and applicable laws and regulations, but during any such appeal, CONTRACTOR shall carry on the work and adhere to the progress schedule as provided in Article 6.15.

9.8 DECISIONS ON DISPUTES

- A. Interpretation of Contract Documents: ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the work thereunder. Claims or disputes concerning a question of fact or other matters relating to the acceptability of the work, the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the work or claims under Parts 11 and 12 in respect of changes in the contract price or Contract Time will be referred initially to ENGINEER in writing with a request for a formal

decision in accordance with this paragraph. ENGINEER will render decision in writing within 3 days of submission of the request for decision. Failure by ENGINEER to respond within said time shall be deemed a denial of CONTRACTOR's request for relief.

- B. Time for Notice of Dispute: CONTRACTOR shall submit written notice of each claim or dispute to ENGINEER promptly after occurrence of the event(s) giving rise thereto, but in no case shall said notice be delivered later than 30 days after said occurrence. Failure to submit said notice within said 30 days shall be deemed a waiver thereof by CONTRACTOR. CONTRACTOR shall also submit all written supporting data to ENGINEER within 60 days after said occurrence unless ENGINEER allows an additional period of time.
- C. Effect of ENGINEER's Decision: ENGINEER's decision concerning such claim or dispute (except any which have been waived by the making or acceptance of final payment as provided in Paragraph 14.9) will be the final expression of OWNER's position on said claim or dispute. Further, said decision shall be a condition precedent to any exercise by OWNER or CONTRACTOR of any rights or remedies as either may have under the Contract Documents or by law in respect of any such claim or dispute. ENGINEER's decision as to any allowable deviations shall be final and binding on CONTRACTOR.

9.9 LIMITATIONS ON ENGINEER'S RESPONSIBILITIES

- A. ENGINEER Not CONTRACTOR's Agent: Neither ENGINEER, ENGINEER's representative or OWNER shall act nor be considered as the CONTRACTOR's, subcontractor's, supplier's or surety's superintendent, foreman or part of their work force in any manner or form not shall they perform work or duties of the CONTRACTOR.
- B. Evaluate the Work for Contract Compliance: Whenever in the Contract Documents the terms "as ordered", "as directed", "as required", "as allowed", "as approved", or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper" or "satisfactory", or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of ENGINEER as to the work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the work for compliance with Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective does not assign to ENGINEER or OWNER any duty or authority to supervise or direct the furnishing or performance of the work or any duty or authority to undertake responsibility contrary to the provisions of Paragraphs 9.9C or 9.9D. Neither ENGINEER's taking or failing to take such actions or make any such reviews shall release or relieve the CONTRACTOR from CONTRACTOR's responsibility to comply with the contract document requirements.
- C. Not Responsible for CONTRACTOR's Construction Operations: Neither the ENGINEER nor the OWNER will be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto. ENGINEER and OWNER will not be responsible for CONTRACTOR's failure to perform or furnish the work in accordance with the Contract Documents. Any advice which ENGINEER may give

- the CONTRACTOR, other than as set forth in Paragraph 9.3A above, shall not be binding in any way upon the ENGINEER or the OWNER. Such instruction or statement shall not release or relieve the CONTRACTOR from compliance with all of the terms and conditions of the Contract Documents.
- D. Not Responsible for CONTRACTOR's Acts or Omissions: ENGINEER and OWNER will not be responsible for the acts or omissions of CONTRACTOR or of any subcontractor, any supplier, or of any other person or organization performing or furnishing any of the work.
 - E. Intimidation of ENGINEER: ENGINEER or ENGINEER's representatives shall at all times be free to perform ENGINEER's duties without any intimidation. At ENGINEER's request, the CONTRACTOR shall remove from the work any employee causing such intimidation. Failure to do so shall be sufficient reason for ENGINEER to recommend to OWNER and for the OWNER's cancellation or termination of the construction contract.

PART 10 CHANGES IN THE WORK

10.1 ADDITIONS, DELETIONS, REVISIONS

- A. Modifications: Without invalidating the construction 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. These will be authorized by a work directive change or a Change Order.
- B. Work Directive Change: Work directive changes shall be issued by the ENGINEER. If the contract price or Contract Time are affected by a work directive change, the work specified in the work directive change shall be incorporated in a subsequently issued Change Order following negotiations by the CONTRACTOR and ENGINEER as to its effect on the contract price and Contract Time. During disputes or disagreements with the OWNER or ENGINEER regarding a work directive change, the CONTRACTOR shall promptly proceed with the work described in the work directive change as indicated in Article 6.15.
- C. Change Order: OWNER and CONTRACTOR shall execute appropriate Change Orders covering changes in the work, contract price or Contract Time which are agreed to by the parties. ***Any Change Order request shall be submitted using the form in "Exhibit B"***
- D. Drawings: Drawings accompanying work directive changes and Change Orders shall be deemed a part of such documents.
- E. Payment: It is understood and agreed by the OWNER and CONTRACTOR that no money will be paid to the CONTRACTOR for any new or additional labor, materials or equipment furnished, unless a Change Order for such has been made in writing and executed by the OWNER and CONTRACTOR.

10.2 WORK NOT REQUIRED BY CONTRACT DOCUMENTS

- A. CONTRACTOR shall not be entitled to an increase in the contract price or an extension of the Contract Time with respect to any work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in Article 3.3 except in the case of an emergency as provided in Article 6.13 and except in the case of uncovering work as provided in Paragraph 13.5B.

10.3 NOTICE TO SURETY

- A. If notice 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 Time) is required by the provisions of any bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility, and the amount of each applicable bond will be adjusted accordingly.

PART 11 CHANGE OF CONTRACT PRICE

11.1 CONTRACT PRICE

- A. The contract price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at CONTRACTOR's expense without change in the contract price.

11.2 CONTRACT PRICE ADJUSTMENT

- A. In General: The contract price may only be changed by Change Order. No claim for an adjustment on the contract price will be considered or paid if not submitted in accordance with the requirements of this Article 11.2.
- B. Written Notice: Any claim for an increase or decrease in the contract price shall be based on written notice. Notice shall be promptly delivered by the party making the claim to the other party (but in no event later than 30 days) after the occurrence of the event giving rise to the claim. The notice shall state the general nature of the claim.
- C. Deadline for Claim Submittal: A complete detailed statement of the amount and nature of the claim, with all necessary supporting data shall be delivered within 60 days after such occurrence. ENGINEER may allow an additional period of time to ascertain more accurate data in support of the claim.
- D. Notice Required: Failure to submit the notice, and detailed statement referenced above shall bar Claimant from pursuing said claim in any other forum, judicial or administrative.
- E. Acknowledgement: The notice shall be accompanied by Claimant's written statement that the amount claimed covers all known cost amounts (direct, indirect and consequential costs, including without limitation, delay costs, third party costs, lost profits and any other costs) to which the Claimant is entitled as a result of the occurrence of said event.
- F. All Claims Determined by ENGINEER: All claims for adjustment in the contract price shall be determined by ENGINEER in accordance with Paragraph 9.8A if OWNER and CONTRACTOR cannot otherwise agree.

11.3 DETERMINING CONTRACT PRICE ADJUSTMENT

- A. The value of any work covered by a Change Order or of any claim for an increase or decrease in the contract price shall be determined by ENGINEER in one of the following ways:

1. Unit Prices: Where the work involved is covered by unit prices contained in the Contract Documents, the contract price change will be recalculated by application of unit prices to the quantities of the items involved (subject to the provisions of Article 11.7).
2. Lump Sum Price:
 - a. Contract Price Increases: the CONTRACTOR and OWNER may mutually accept a stipulated sum (which may include an allowance for overhead and profit not necessarily in accordance with Article 11.5).
 - b. Contract Price Decreases: The amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in the contract price will be the net amount of the decrease plus a deduction in CONTRACTOR's fee. The deduction in the CONTRACTOR's fee shall be 10 percent of the net amount of the decrease.
3. Force Account (Cost of the Work Plus CONTRACTOR's Fee): If the cost of unit price work cannot be calculated or the cost of lump sum work cannot be agreed to, contract price adjustment shall be calculated on the basis of the cost of the work (determined as provided in Article 11.4) plus a CONTRACTOR's fee for overhead and profit (determined as provided in Article 11.5).

11.4 COST OF THE WORK

- A. Cost of the Work Includes: Except as otherwise agreed to in writing with OWNER, the Cost of the Work (1) shall be in amounts no higher than those prevailing in the locality of the project, (2) shall not include any of the costs itemized in Paragraph 11.4B, and (3) shall include only the following items:
 1. Certified Payroll Costs: Certified 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. Payroll costs for employees not employed full time on the work shall be apportioned on the basis of their time spent on the work. Payroll costs shall include salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. These expenses of performing work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above only to the extent such work was authorized by OWNER.
 2. Cost of All Materials and Equipment: 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 shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.
 3. Payments Made by CONTRACTOR to Subcontractors: If required by ENGINEER, CONTRACTOR shall obtain competitive Bids from subcontractors

acceptable to CONTRACTOR and shall deliver such Bids to ENGINEER who will then determine, which Bids will be accepted. If a 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 shall be determined in the same manner as CONTRACTOR's cost of the work. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

4. Costs of Special Consultants: Costs of special consultants (including, but not limited to, ENGINEERS, architects, testing laboratories, surveyors and accountants) employed for services specifically related to the work.
5. Supplemental costs: Supplemental costs include the following:
 - a. Expenses of Employees: The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR's employees reasonably incurred in discharge of duties connected with the work, except the following:
 - 1) costs for commute between residence and the work site;
 - 2) meals taken at locations within commuting distance of the work site; and
 - 3) clothing.
 - b. Consumable Products and Equipment: cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the work, and cost, less the difference in market value, of items used but not consumed which remain the property of CONTRACTOR.
 - c. Depreciation: cost, less the difference in market value, of items used but not consumed which remain the property of CONTRACTOR.
 - d. Rentals: Rentals of all construction equipment and machinery and the parts thereof, whether rented from CONTRACTOR or others, in accordance with rental agreements approved by ENGINEER, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the work.
 - e. Sales, Consumer, Use or Similar Taxes: Sales, consumer, use or similar taxes related to the work, and for which CONTRACTOR is liable, imposed by laws and regulations.
 - f. Royalty Payments, Fees for Permits and Licenses, Deposits: royalty payments, fees for permits and licenses, and 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.
 - g. The Cost of Utilities: The cost of utilities, fuel and sanitary facilities at the site in connection with the work.
 - h. Minor Expenses: Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, express delivery and similar petty cash items in connection with the work.

- i. Additional Bonds and Insurance: Cost of premiums for additional Bonds and insurance required solely because of changes in the work and premiums for property insurance coverage.
- B. Cost of Work Does Not Include: The term “Cost of the Work” shall not include overhead or general expense costs including, but not limited to, the following:
 1. Payroll Costs and Other Compensation: Payroll costs and other compensation of CONTRACTOR’s officers, employees and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR’s principal or a branch office for general administration of the work and not specifically included I the agreed upon schedule or job classifications referred to in Paragraph 11.4A.1. or specifically covered by Paragraph 11.4A.4.
 2. Principal and Branch Offices: Expenses of CONTRACTOR’s principal and branch offices other than CONTRACTOR’s office at the site.
 3. Capital Expenses: Any part of CONTRACTOR’s capital expenses, including interest on CONTRACTOR’s capital employed for the work and charges against CONTRACTOR for delinquent payments.
 4. General Bonds and General Insurance: Cost of premiums for Bonds and insurance not directly related to the work, whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by Paragraph 11.4A.5.i. above).
 5. Negligence: 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 of payments for personal injury or death.
 6. Other Expenses: Other overhead or general expense cost of any kind and the costs of any item not specifically and expressly included in Paragraph 11.4A.
 7. Dispute Costs: Cost of court fees, attorneys or experts retained for presenting evidence pertaining to any dispute with OWNER and ENGINEER concerning CONTRACTOR’s cost of work.
- C. Documentation Supporting Cost of the Work: Whenever the cost of any work is to be determined, CONTRACTOR will submit in form acceptable to ENGINEER an itemized cost breakdown together with supporting data.
 1. Reports by subcontractors or others shall be submitted through the CONTRACTOR. In the event of irreconcilable disagreement, pertinent notes shall be entered on the daily reports by each party to explain points which cannot be resolved immediately.
 2. For work covered by force account at the close of each working day, the CONTRACTOR shall submit such daily report to the ENGINEER together with applicable delivery tickets listing all labor, materials and equipment involving the force account work for that day. Failure to submit the daily report by the close of the next working day will waive any rights for that day. The report shall be signed by CONTRACTOR and ENGINEER.

11.5 CONTRACTOR’S FEE

- A. Allowable Fee: The CONTRACTOR's fee allowed for overhead and profit shall be determined as follows:
1. A mutually acceptable fixed fee; or,
 2. If no acceptable fixed fee can be agreed upon, a fee based on the following percentages of the various portions of the cost of the work:
 - a. For costs incurred under Paragraphs 11.4A.1. and 11.4A.2., the CONTRACTOR's fee shall be 15 percent;
 - b. For costs incurred under Paragraph 11.4A.3., the CONTRACTOR's fee shall be five (5) percent.
 - c. If a subcontract is on the basis of the cost of the work plus a fee, and no fixed fee is agreed upon, the maximum allowable to the subcontractor who actually performs or furnished the work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such subcontractor under Paragraphs 11.4A.1., and 11.4A.2., and that any higher tier subcontractor and CONTRACTOR will each be paid a fee of five (5) percent of the amount paid to the next lower tier subcontractor.
 - d. No fee shall be payable on the basis of costs itemized under Paragraphs 11.4A.4., 11.4A.5., and 11.4B.
- B. Adjustment to CONTRACTOR's Fee: When both additions and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.5A.2.a. through 11.5A.2.c., inclusive.
- C. Allowable Credit: the amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual decrease plus a deduction in CONTRACTOR's fee by an amount equal to the equivalent amount authorized under Paragraph 11.5A above.

11.6 CASH ALLOWANCES

- A. In General: Cash allowances, if indicated in the Contract Documents, are provided for the payment of fees or the purchase and installation of products, the cost of which is to be determined upon performance of the work. It is understood that CONTRACTOR has included in the contract price all allowances so named in the Contract Documents. CONTRACTOR shall cause the work so covered, to be done for such sums within the limit of the allowances as may be acceptable to ENGINEER.
- B. Allowances Include: CONTRACTOR agrees:
1. that the 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 costs, overhead, profit and other expenses contemplated for the allowances have been included in the contract price and not in the allowances. No demand for additional payment on account of any thereof will be valid.
- C. Allowances Payment: Prior to final payment, an appropriate Change Order shall be issued to reflect actual amounts due the CONTRACTOR on account of work covered by allowances, and the contract price shall be correspondingly adjusted.

11.7 UNIT PRICE WORK

A. Contract Price:

1. Initial Contract Price: Where the Contract Documents provide that all or part of the work is to be unit price work, the contract price shall initially include, for all unit price work an amount equal to the sum of the established unit prices for each separately identified item of unit price work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of unit price work are not guaranteed. They are solely for the purpose of comparing Bids and determining an initial contract price.
2. Actual Contract Price: The actual contract price shall be established when CONTRACTOR accepts final payment from OWNER. Determinations of the actual quantities and classifications of unit price work performed by CONTRACTOR will be made by ENGINEER in accordance with Article 9.7.

B. Overhead and Profit: 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 and no additional payment for overhead or profit will be claimed or paid.

C. Quantity of Unit Price Work: An increase in the quantity of any unit price work which does not involve any basic change in the nature or conditions of the work will be paid for at the unit prices. Where work alterations increase, diminish or eliminate any of the unit price work, CONTRACTOR shall be paid for the work actually done and materials supplied at the unit prices. Unit prices which have not been set as stated in Paragraph 11.7N above shall be adjusted to comply with said paragraph before payment for such changes is made.

D. Adjusting Contract Price: If a claim is made to the ENGINEER, which states the quantity of an item of unit price work performed by the CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement, and if CONTRACTOR or OWNER believes that an increase or a decrease of expenses as a result thereof has occurred, CONTRACTOR or OWNER may claim for an increase or decrease in the contract price if:

1. there is an enlargement or reduction of the work under the original Contract Documents by more than 25 percent; or
2. there is an increase or decrease of more than 25 percent in the initial contract price; or
3. there is an increase or decrease of more than 25 percent in the quantity of a major unit price item of work.

Notwithstanding the foregoing, the OWNER and the CONTRACTOR shall be entitled to claim a cost increase or decrease only for that portion of the cost of the work which exceeds 25 percent.

E. Adding Unit Price Work to the Contract Documents: If new, additional, or unforeseen work or material is required which, due to the nature or conditions of the work, or locations, does not conform to the quantities and classifications of unit price work provided for in the Contract Documents, then such work or material will be considered as additional work. The work shall be executed by the CONTRACTOR, in the manner and under the quantities and classifications of unit price work set forth

in a Change Order which will be entered into between the OWNER and the CONTRACTOR.

11.8 FORCE ACCOUNT WORK (COST OF THE WORK PLUS CONTRACTOR'S FEE)

- A. In General: When contract price adjustments cannot be agreed upon in advance of additional work requested by ENGINEER, OWNER may require CONTRACTOR to do such work on a force account basis.
- B. Determining Contract Price Adjustment: The value of the force account work shall be determined in accordance with Paragraph 11.3A.3.
- C. OWNER Furnished Materials: OWNER reserves the right to furnish part or all materials or equipment and CONTRACTOR shall have no claim for profit on the cost of such material or equipment so furnished.

PART 12 CHANGE OF CONTRACT TIME

12.1 CONTRACT TIME ADJUSTMENT

- A. In General: The Contract Time or milestones may only be changed by a Change Order. No claim for an adjustment in the Contract Time or milestones will be valid if not submitted in accordance with requirements of this Article 12.1.
- B. Preliminary Written Notice: Except for delays due to weather, any claim for an extension or shortening of the Contract Time shall be based on a preliminary written notice delivered by the party making the claim to the other party promptly (but in no event later than 15 days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim.
- C. Deadline for Submitting Claim Data Notice: Final notice of the extent of the claim with supporting data shall be delivered within 60 days after such occurrence. ENGINEER may allow an additional period of time to ascertain more accurate data in support of the claim.
- D. Acknowledgement: The final notice shall be accompanied by CONTRACTOR's written statement that the amount claimed is the entire adjustment to which the CONTRACTOR has reason to believe the CONTRACTOR is entitled as a result of the occurrence of said event.
- E. No Time for lack of Submittal: No time extensions will be allowed in the progress of the work attributable to CONTRACTOR's failure to make submittals required by Article 2.5.
- F. All Claims Determined by ENGINEER: All claims for adjustment in the Contract Time shall be determined by ENGINEER in accordance with Paragraph 9.8A if OWNER and CONTRACTOR cannot otherwise agree.

12.2 DELAY NOT CAUSED BY CONTRACTOR

- A. Delays caused by war, public enemy or acts of God shall be considered just cause for OWNER to grant time extensions.
- B. CONTRACTOR shall be granted time extensions for which liquidated damages will not be claimed when the delay is determined to be caused by the OWNER, other CONTRACTORS or utility companies working at OWNER's request, except when

such delays are the result of CONTRACTOR's own lack of project coordination or work effort.

12.3 DELAYS RELATED TO WEATHER

- A. Delays related to weather shall only be reviewed or considered by ENGINEER after 90 percent or more of the Contract Time has been expended.
- B. In requesting weather time CONTRACTOR shall:
 - 1. Submit all weather data to ENGINEER, and
 - 2. Provide a written explanation of how weather prevented work on an item on the progress schedule's critical path.
- C. The OWNER shall grant additional time for weather delays if OWNER finds:
 - 1. Both the amount and length of inclement weather were excessive or unexpectedly severe for the time and season the work was scheduled to be performed.
 - 2. The inclement weather prevented work pursuant to a scheduled critical path item of work. If the CONTRACTOR's progress schedule during the inclement weather does not show the anticipated critical path, ENGINEER will judge which activities were critical; and
 - 3. Appropriate measures were taken by the CONTRACTOR to mitigate the effects of inclement weather.
- D. No time will be granted if the work claimed to have been delayed would not have been on the critical path except for earlier delays caused by CONTRACTOR.
- E. No time extensions will be granted for weather delay outside of the Contract Time period or the punch list time period.

PART 13 TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.1 NOTICE OF DEFECTS

- A. Prompt notice of all defective work of which OWNER or ENGINEER have actual knowledge will be given to CONTRACTOR. All defective work, whether or not in place, may be rejected, corrected or accepted as provided in this Part 13.

13.2 ACCESS TO WORK

- A. ENGINEER and ENGINEER's representatives, other representatives of OWNER, testing agencies and governmental agencies with jurisdictional interests will have access to the work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide proper and safe conditions for such access and advise them of CONTRACTOR's site safety procedures and programs so that they may comply therewith as applicable.

13.3 TESTS AND INSPECTIONS

- A. In General:
 - 1. Determining Contract Compliance and Acceptance: testing, or work for determining contract compliance shall be performed by CONTRACTOR. OWNER anticipates performing tests and Inspections or having tests and Inspections performed as part of its acceptance procedure.

2. CONTRACTOR Furnish Labor: CONTRACTOR shall furnish, at no additional cost to the OWNER, such labor as may be required to enable a thorough Inspection and culling of all materials.
 3. CONTRACTOR Furnish Samples: Upon ENGINEER's request, CONTRACTOR shall furnish to ENGINEER such samples of materials as proposed to be used, in sufficient amounts as required to make proper tests.
 4. Notice, 24 Hours: CONTRACTOR shall give ENGINEER at least 24 hours notice of readiness of the work for all required observations, tests and Inspections.
- B. Inspections, Tests and Retests:
1. If ENGINEER determines that material or equipment fails the contract requirements, ENGINEER may reject such material or equipment, or accept such as defective work in accordance with Article 13.8.
 2. Inspection and testing of materials and equipment made by ENGINEER shall not release or relieve CONTRACTOR from compliance with the Contract Documents.
 3. Any re-Inspection and retesting of work or materials rejected by ENGINEER after the initial testing or Inspection shall be at CONTRACTOR's expense until a retest meets the requirements of the Contract Documents.
- C. Costs of Inspections Assessable to:
1. If laws or regulations of any public body having jurisdiction require any work (or part thereof) to specifically be inspected, tested or approved, CONTRACTOR shall assume full responsibility therefore, pay all costs in connection therewith and furnish ENGINEER the required certificates of Inspection, testing or approval.
 2. CONTRACTOR shall be responsible for and shall pay all costs in connection with any Inspection or testing required in connection with OWNER's or ENGINEER's acceptance of a supplier of materials or equipment proposed to be incorporated in the work, or of materials or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the work. Adequate facilities shall be furnished free of charge to make the necessary Inspection. ENGINEER assumes no obligation to observe materials at the source of supply nor does such Inspection assure conformance to the Contract Documents.
 3. The cost of all Inspections, tests and approvals in addition to the above which are required by the Contract Documents shall be paid by OWNER (unless otherwise specified in the supplementary conditions).

13.4 DEFECTIVE WORK

- A. Any work or materials not in accordance with the Contract Documents that may be discovered before work completion shall be corrected at no additional cost to the OWNER upon notification by the ENGINEER. Failure on the part of ENGINEER to discover, condemn or reject materials or work shall not be construed to imply acceptance of the same should their noncompliance become evident before or after work completion. It is expressly understood that nothing in this paragraph waives any of the OWNER's rights under the guarantee provision of this Part 13.

- B. Work may be judged defective by ENGINEER regardless of cause, except when such defect or failures are the result of ENGINEER's design deficiencies, acts of God, misuse by OWNER, or due to vandalism.
- C. CONTRACTOR shall immediately remove all rejected materials and equipment from the premises and to such a point distant therefrom as ENGINEER may require.

13.5 UNCOVERING WORK

- A. If any work is covered contrary to ENGINEER's written request, it must, if requested by ENGINEER, be uncovered for ENGINEER's observation and be recovered at CONTRACTOR's expense.
- B. If ENGINEER considers it necessary or advisable that covered work be observed by ENGINEER or inspected or tested by others, 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. CONTRACTOR shall furnish all necessary labor, material and equipment.
 - 1. If it is found that such work is defective, CONTRACTOR shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, Inspection and testing and of satisfactory reconstruction, including, but not limited to, fees and charges of ENGINEERS, architects, and other professionals. If OWNER accepts such defective work, OWNER shall be entitled to an appropriate decrease in the contract price. If the parties are unable to agree as to the amount thereof, OWNER may make a claim therefore as provided in Part 11 of these general conditions.
 - 2. If such work is not found to be defective, CONTRACTOR shall be allowed an increase in the contract price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, Inspection, testing and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a claim therefore as provided in Parts 11 and 12.

13.6 CORRECTION OR REMOVAL OF DEFECTIVE WORK BY CONTRACTOR

- A. If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct all defective work, whether or not fabricated, installed or completed, or, if the work has been rejected by ENGINEER, remove it from the site and replace it with non-defective work. No rejected material, the defects of which have been subsequently corrected, shall be used in the work unless approval in writing has been given by the ENGINEER. CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including, but not limited to, fees and charges of OWNER, ENGINEERS, architects, and other professionals) made necessary thereby.

13.7 CORRECTION PERIOD

- A. If any portion of the work is found to be defective within 1 year after the date of substantial completion, CONTRACTOR shall correct it or replace it with non-defective work. The 1 year correction period may be superseded by such longer

period of time as prescribed in the Contract Documents or by special guarantee terms required by the Contract Documents.

- B. If CONTRACTOR fails to correct defective work within 15 days after rejection or notice by OWNER or ENGINEER, or in an emergency where notice and delay would cause serious risk of loss or damage, OWNER may have the defective work corrected or removed and replaced. The CONTRACTOR and CONTRACTOR's surety shall be liable for and pay for all direct, indirect and consequential costs of such correction or removal and replacement by OWNER (including, but not limited to, fees and charges of ENGINEERS, architects and other professionals).
- C. In circumstances where a portion of the work or a particular item of equipment is placed in continuous service before substantial completion of all the work, the correction period for that work or item may start from an earlier date if so provided in the Contract Documents or by Change Order.
- D. If material or equipment fails during the one year correction period or during its warranty or guarantee period and is therefore repaired or replaced by CONTRACTOR, the one year correction period or the warranty or guarantee period shall be extended by the CONTRACTOR for such repair or replacement from the date of such repair or replacement for a length of time equal to the original one year correction period or warranty or guarantee period.

13.8 ACCEPTANCE OF DEFECTIVE WORK

- A. Acceptance is OWNER's Choice: OWNER may accept defective work instead of requiring correction or removal and replacement. CONTRACTOR shall bear all direct, indirect and consequential costs attributable to ENGINEER's evaluation of and determination to accept such defective work (such costs to be approved by ENGINEER as to reasonableness and may include, but are not limited to, fees and charges of ENGINEERS, architects, and other professionals).
- B. Decrease in Contract Price: If acceptance of defective work occurs prior to final payment, a Change Order will be issued in the case of lump sum work, or in the case of unit price work, the quantities will be adjusted accordingly. Any necessary revisions in the Contract Documents with respect to the work will be described and the OWNER shall be entitled to an appropriate decrease in the contract price. If the parties are unable to agree as to the amount thereof, OWNER may make a claim therefore as provided in Part 11.
- C. Acceptance is Not a Waiver of OWNER's Rights: OWNER's acceptance of defective work shall not release or relieve CONTRACTOR from warranty and guarantee provisions of this Part 13.

13.9 OWNER MAY CORRECT DEFECTIVE WORK

- A. Notice: OWNER may correct and remedy any work deficiency:
 - 1. If CONTRACTOR fails after 15 days' written notice of ENGINEER to proceed to correct defective work or to remove and replace rejected work as required by ENGINEER in accordance with Article 13.6; or
 - 2. If CONTRACTOR fails to perform the work in accordance with the Contract Documents; or,

3. If CONTRACTOR fails to comply with any other provision of the Contract Documents.
- B. OWNER to Expedite Work: In exercising the rights and remedies under this paragraph, OWNER shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, OWNER may:
 1. Exclude CONTRACTOR from all or part of the site;
 2. Take possession of all or part of the work, and suspend CONTRACTOR's services related thereto;
 3. Take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the site; and
 4. Incorporate in the work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere.
- C. CONTRACTOR to Allow Access: CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees such access to the site as may be necessary to enable OWNER to exercise the rights and remedies under this Article.
- D. Direct, Indirect and Consequential Costs: All direct, indirect and consequential costs of OWNER in exercising such rights and remedies will be charged against CONTRACTOR in an amount determined to be reasonable by ENGINEER. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the work and the OWNER shall be entitled to an appropriate decrease in the contract price. Such direct, indirect and consequential costs will include, but not be limited to, fees and charges of ENGINEERS, architects and other professionals, all court costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR's defective work.
- E. CONTRACTOR Can Appeal: CONTRACTOR may appeal OWNER's claim in accordance with the dispute resolution process established in the Agreement.
- F. Contract Time Extension: CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the work attributable to the exercise by OWNER of OWNER's rights and remedies.

PART 14 PAYMENTS TO CONTRACTOR AND COMPLETION

14.1 BASIS FOR PROGRESS PAYMENTS

- A. Lump Sum Work: The schedule of values (as defined in Paragraph 2.5B.3. and established as provided in Article 2.7) will serve as the basis for progress payments and will be incorporated into an Application for Payment form acceptable to ENGINEER.
- B. Unit Price Work: Progress payments will be based on the number of units completed.

14.2 APPLICATION FOR PROGRESS PAYMENTS

- A. Once a Month: Progress payments shall not be processed more often than once a month.
- B. Contents of Applications: **To request payment, CONTRACTOR shall submit to ENGINEER a signed Application for Payment, utilizing form attached as Exhibit A to General Conditions,** which accurately reflects the work completed as of the date of the application and which is accompanied by such supporting

documentation as is required by the Contract Documents. Completed Quantities shall be in whole units and total of all billings shall not exceed one hundred percent (100%) of any Bid Item.

1. Such application may include requests for payment on account of changes in the Work which have been properly authorized by Work Directive Changes but not yet included in a Change Order, if such request does not exceed the current Contract Price.
 2. Such applications may not include requests for payment of amounts the CONTRACTOR does not intend to pay to a Subcontractor or Supplier because of dispute or other reason.
- C. Materials and Equipment Supplied but Not Installed: Payment may be made for materials and equipment not incorporated in the work but delivered and suitably stored at the site or at another location agreed to in writing if the CONTRACTOR satisfies the following requirements:
1. A bill of sale, invoice or other documentation shall be attached to the application warranting that OWNER has received the materials and equipment free and clear of all liens.
 2. Evidence shall be provided which indicates the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER's interest therein.
 3. All documentation shall be satisfactory to the ENGINEER.
- D. Withholding of Payment: The OWNER reserves the right to withhold the first and all subsequent partial payments due the CONTRACTOR until submittals listed in Paragraph 2.5B are submitted in a form acceptable to the ENGINEER.
- E. Retainage: The amount of retainage (if any) with respect to progress payments will be as stipulated in the Agreement or supplementary conditions.

14.3 REVIEW OF APPLICATIONS FOR PROGRESS PAYMENT

- A. CONTRACTOR warrants and guarantees that title to all work, materials and equipment covered by any Application for Payment, whether incorporated in the project or not, will pass to OWNER no later than the time of payment free and clear of all liens or other claims.

14.4 REVIEW OF APPLICATIONS FOR PROGRESS PAYMENT

- A. Submittal: ENGINEER will, within 10 days after receipt of each Application for Payment, either process the application or return the application to CONTRACTOR indicating reasons for refusing to approve payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the application. Within 30 days after presentation of an approved Application for Payment, the amount approved will (subject to the provisions of Paragraph 14.4C) be paid by OWNER to CONTRACTOR.
- B. ENGINEER May Reject Submission: ENGINEER may refuse to approve the whole or any part of any payment if, in ENGINEER's opinion:
1. the work is unsafe or inaccessible and therefore ENGINEER cannot determine if the work is acceptable;

2. the work is defective, or completed work has been damaged requiring correction or replacement;
 3. the OWNER has been required to correct defective work or complete work in accordance with Article 13.9;
 4. the ENGINEER has actual knowledge of the occurrence of any of the events enumerated in Article 15.2; or
 5. Subsequently discovered evidence, or the results of subsequent tests, nullify any payments previously made.
- C. OWNER May Reject Submission: OWNER may refuse to make payment of the full amount because:
1. claims have been made against the OWNER on account of CONTRACTOR's performance or furnishing of the work;
 2. liens or claims have been filed in connection with the work and remain unsatisfied more than 45 days;
 3. there are other items (e.g. pay reductions for defective work) entitling OWNER to an off-set against the amount recommended, and OWNER has given CONTRACTOR written notice stating the reasons for such action;
 4. the OWNER does not have in its possession an accurate updated construction progress schedule; or
 5. subsequently discovered evidence, or the results of subsequent tests, nullify any payments previously made to the extent necessary, in ENGINEER's opinion, to protect OWNER from loss.

14.5 SUBSTANTIAL COMPLETION

- A. CONTRACTOR to Certify Work is Substantially Complete: When CONTRACTOR considers the work (or portion thereof) ready for its intended use, CONTRACTOR shall certify in writing to ENGINEER that the work (or portion thereof) has been completed in accordance with the Contract Documents. CONTRACTOR shall include in such written certification a list of any items not finished.
- B. ENGINEER to Review CONTRACTOR's Certifications: Within five (5) days after ENGINEER receives CONTRACTOR certification and list of work items not finished, ENGINEER will issue written notice either agreeing the work is substantially complete or stating reasons why the work is not substantially complete.
- C. Final Inspection: If substantially complete, ENGINEER shall within a reasonable time, schedule a Final Inspection preparatory to writing the Final Inspection punch list.
- D. OWNER's Rights: OWNER shall have the right to exclude CONTRACTOR from the work after the date of substantial completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the Final Inspection punch list.

14.6 PARTIAL UTILIZATION

- A. In General: No occupancy or separate operation of part of the work will be accomplished prior to execution of a Change Order between OWNER and CONTRACTOR which fully describes the liability between OWNER and CONTRACTOR in respect of property insurance.

- B. Part of the Work is Substantially Complete: Any finished part of the work may be used by the OWNER prior to substantial completion of all of the work if:
1. the part of the work has specifically been identified in the Contract Documents; or
 2. the ENGINEER and the CONTRACTOR agree the finished parts constitute a completed separately functioning and usable part of the work which can be used without significantly interfering with CONTRACTOR's performance of the remainder of the work.
 3. the OWNER requests in writing that the OWNER is to be permitted to use any such part of the work, and
 4. the CONTRACTOR agrees any finished part of the work may be used by the OWNER prior to substantial completion of all of the work. CONTRACTOR will certify in writing to OWNER that said part of the work is ready for its intended use and is substantially complete.
- C. Part of the Work is Not Substantially Complete: Any unfinished part of the work may be used by the OWNER prior to substantial completion of all of the work if:
1. the OWNER has requested in writing that it is to be permitted to take over operation of any part of the work although it is not substantially complete.
 2. the CONTRACTOR and the ENGINEER have made an Inspection of that part of the work to determine its status of completion and they have prepared a list of the items remaining to be completed or corrected thereon before final payment;
 3. the CONTRACTOR does not object to OWNER taking over that part of the work which is not ready for separate operation by OWNER.
 4. the ENGINEER has prepared and delivered to the CONTRACTOR a list of items to be completed or corrected.
 5. the ENGINEER has prepared written recommendation as to the division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety maintenance, utilities, insurance, warranties and guarantees for that part of the work, which will become binding upon OWNER and CONTRACTOR at the time when OWNER takes over such operation (unless they shall have otherwise agreed in writing); and
 6. during such operation and prior to substantial completion of such part of the work, OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the list provided by the ENGINEER and to complete other related work.
- D. CONTRACTOR to Have Access: During OWNER's occupancy and operation within said part of the work, OWNER shall allow CONTRACTOR access to complete or correct items on the above-referenced list and to complete other related work.

14.7 FINAL INSPECTION

- A. When ENGINEER agrees the work (or portion of the work) is substantially complete, ENGINEER will make Final Inspection. ENGINEER will prepare a Final Inspection punch list and will deliver such list to CONTRACTOR in writing.
- B. Except for hidden or latent defects, damage due to punch list rework, fraud, gross mistakes amounting to fraud, or work required by the Contract Documents, the list shall be considered complete and final.

- C. Delivery of the Final Inspection punch list or accomplishment of the work thereon by CONTRACTOR does not relinquish any of the OWNER's rights under the CONTRACTOR's warranty and guarantee.

14.8 FINAL APPLICATION FOR PAYMENT

- A. In General: After CONTRACTOR has completed all punch list work to the satisfaction of ENGINEER and after ENGINEER has indicated that the work is acceptable (subject to the provisions of Article 14.10), CONTRACTOR may follow the procedures for progress payments and make application for final payment.
- B. Submittals Required for Final Payment: final payment (including any remaining retained money) shall not become due until CONTRACTOR submits all documentation called for in the Contract Documents and the following:
1. an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the work for which the OWNER or the OWNER's property might be responsible or encumbered, have been paid or otherwise satisfied;
 2. a current or additional certificate evidencing that insurance required by the Contract Documents, which is to remain in force after final payment, is currently in effect and will not be canceled or allowed to expire until OWNER has been given at least 30 days prior written notice, by certified mail, return receipt requested.
 3. a written statement that the CONTRACTOR knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents;
 4. if previously requested by CONTRACTOR's surety, consent of surety to final payment;
 5. a certificate of occupancy if required by law, regulation or Contract Documents;
 6. all maintenance an operating instructions, schedules, guarantees, Bonds, certificates of Inspection, marked up record documents (Article 6.11) and other documents required by the Contract Documents; and
 7. if required by the OWNER, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the contract, to the extent and in such form as may be designated by the OWNER. If a subcontractor refuses to furnish a release or waiver required by the OWNER, the CONTRACTOR shall furnish a bond satisfactory to the OWNER to indemnify the OWNER against such claim. If such claims remain unsatisfied after payments are made, CONTRACTOR shall refund to the OWNER all money that the OWNER may be compelled to pay in discharging such liens or claims, including all costs and reasonable fees and charges.

14.9 FINAL PAYMENT AND ACCEPTANCE

- A. ENGINEER's Determination: ENGINEER shall review CONTRACTOR's final Application for Payment and, based upon ENGINEER's observation of the work during construction and Final Inspection, submission by CONTRACTOR of all required documentation and determination of CONTRACTOR's compliance with the

Contract Documents, either forward the application to OWNER for payment or return it to CONTRACTOR.

- B. Work Has Been Completed: When forwarding the application to OWNER, ENGINEER shall state in writing that the work is acceptable, subject to the provisions of Article 14.10.
- C. Work Has Not Been Completed: If the work has not been completed, ENGINEER will return the application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment. CONTRACTOR shall make the necessary corrections and resubmit the application. Unless indicated otherwise in the Contract Documents, and subject to provisions of Paragraph 14.4B, 40 days after presentation to ENGINEER of the application and accompanying documentation, and with ENGINEER's recommendation and notice of acceptability, the amount requested by CONTRACTOR and confirmed by ENGINEER will become due and owing by OWNER to CONTRACTOR.
- D. Delays Not CONTRACTOR's Fault: If after substantial completion of the work, final completion is materially delayed through no fault of CONTRACTOR, or by issuance of Change Orders affecting final completion, CONTRACTOR may submit final Application for Payment as stated above. Upon ENGINEER's recommendation, OWNER may, without terminating the Construction Contract, make payment of the balance due for that portion of the work fully completed and accepted. Such payment shall be deemed a final payment, except that it shall not constitute a waiver of claims.

14.10 WAIVER OF CLAIMS

- A. The making and acceptance of final payment constitutes:
 - 1. a waiver of all claims by OWNER against CONTRACTOR, except from unsettled liens, claims from defective work appearing after Final Inspection pursuant to Article 14.7 or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein. Further, however, it will not constitute a waiver by OWNER of any rights in respect of CONTRACTOR's continuing obligations under the Contract Documents or of claims which have been specifically reserved by the OWNER; and
 - 2. a waiver of all claims by CONTRACTOR under the Contract Documents except those previously made in writing and still unsettled, or remaining in dispute after processing as required by Article 9.8.

14.11 POST CONSTRUCTION CONFERENCE

- A. *Within 20 days after the CONTRACTOR has completed all Punch List work to the satisfaction of the ENGINEER and after the ENGINEER has indicated that the work is acceptable, but prior to final application for payment, the CONTRACTOR shall attend a conference with the ENGINEER and others:*
 - 1. *to discuss the project's successes and failures;*
 - 2. *to discuss project procedures;*
 - 3. *to discuss change orders or work directives from the project;*
 - 4. *to discuss retainage and final payment;*
 - 5. *to discuss procedures pertaining to the processing of payments;*
 - 6. *to discuss the submittal of the "as-builts"; and*

7. *to review or discuss other items deemed necessary by ENGINEER or CONTRACTOR.*
- B. *The conference will be held at a mutually agreed time and place attended by CONTRACTOR, its superintendent and its subcontractors as appropriate. Other attendees will be:*
 1. *ENGINEER and/or resident project representative;*
 2. *representatives of OWNER;*
 3. *governmental representatives, as appropriate;*
 4. *others as requested by CONTRACTOR, OWNER or ENGINEER.*
- C. *The purpose of the conference is to review the project's successes and shortcomings, and to discuss improvements for future projects and improved communications.*
- D. *ENGINEER will preside at the post-construction conference and will arrange for recording and distributing minutes to all persons in attendance.*

PART 15 SUSPENSION OF WORK AND TERMINATION

15.1 OWNER MAY SUSPEND WORK

- A. Notice: By written notice to the CONTRACTOR, the OWNER shall have the authority to suspend the work or any portion thereof) for a period of not more than 160 days upon the occurrence of any one or more of the following events:
 1. if the work is defective;
 2. if CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment;
 3. if CONTRACTOR fails to furnish or perform the work in such a way that the completed work will conform to the Contract Documents; or
 4. the occurrence of unsuitable weather or other such conditions ENGINEER considers unfavorable for suitable prosecution of the work.
- B. Suspension Shall Not Benefit CONTRACTOR: This right of OWNER to stop the work shall not give rise to any duty on the part of OWNER or ENGINEER to exercise this right for the benefit of CONTRACTOR or any other party.
- C. Safe, Secure and Smooth Site: If work is suspended by the OWNER, the CONTRACTOR shall do work necessary to provide a safe and secure site. If pedestrian or vehicular access is required, a smooth and unobstructed passageway shall be provided through the construction site. In the event the CONTRACTOR fails to perform this work, the OWNER may perform such work and the cost thereof will be deducted from money due or to become due the CONTRACTOR.
- D. Contract Time During Suspension: If a suspension of work is ordered by OWNER or ENGINEER because the CONTRACTOR refuses or fails to comply with the Contract Documents, the days on which the suspension order is in effect shall be considered as part of the Contract Time. Such suspension of work shall not release or relieve the CONTRACTOR from the CONTRACTOR's responsibilities set forth in the Contract Documents.
- E. Resumption of the Work: the suspended work shall be resumed on the date fixed by ENGINEER, which date shall be the earlier of 120 days after the issuance of the suspension order or the date all of the conditions cited in the order are satisfied.

- F. Work Suspension claims: Except as listed below, CONTRACTOR shall be allowed an increase in the contract price or an extension of the Contract Time, or both, if CONTRACTOR makes an approved claim as provided for in Parts 11 and 12.
1. Any work done during the suspension of the work will not be accepted and paid for unless approved in writing by the ENGINEER.
 2. There shall be no claim against or liability on the part of the OWNER and ENGINEER for failure on the part of the CONTRACTOR to comply with the Contract Documents.

15.2 OWNER MAY TERMINATE

- A. Notice, and Reason Therefore: OWNER may terminate the services of the CONTRACTOR and exclude the CONTRACTOR from the site after giving CONTRACTOR and the surety 10 days written notice. Such termination by OWNER may result from the occurrence of any one or more of the following events:
1. if a petition is filed against CONTRACTOR under any chapter of the bankruptcy code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other federal or state law in effect at the time relating to bankruptcy or insolvency, and if such involuntary petition remains unsatisfied for more than 30 days.;
 2. if CONTRACTOR makes a general assignment for the benefit of creditors;
 3. if a trustee, receiver, custodian or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose of enforcing a lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR's creditors;
 4. if CONTRACTOR admits in writing an inability to pay its debts generally as they become due;
 5. if CONTRACTOR fails 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 established under Paragraph 2.7A.1. as revised from time to time);
 6. if CONTRACTOR disregards laws or regulations of any public body having jurisdiction;
 7. if CONTRACTOR disregards the authority of ENGINEER; or
 8. if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents.
- B. Completion of Work by Others: OWNER may, to the extent permitted by laws and regulations, either allow the surety to complete the work or take possession of the work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to complete the work (without any liability to CONTRACTOR for trespass or conversion). OWNER may 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 finish the work as ENGINEER may deem expedient. CONTRACTOR shall cooperate in any way necessary to allow the work to be completed.
- C. Adjustment to Cost of the Work:

1. Upon terminating the services of the CONTRACTOR, the CONTRACTOR shall not be entitled to receive any further payment until the work is finished. Final payment to CONTRACTOR or CONTRACTOR reimbursement to the OWNER shall be as follows:
 - a. if unpaid balance of the contract price exceeds the direct, indirect and consequential costs of completing the work (including, but not limited to, fees and charges of ENGINEERs, architects, and other professionals), such excess will be paid to CONTRACTOR; and
 - b. if the direct, indirect and consequential costs of completing the work exceed the unpaid balance, CONTRACTOR and the surety shall be liable to pay the OWNER for such costs exceeding the unpaid balance.
2. Such direct, indirect and consequential costs incurred by the OWNER to complete the work will be incorporated in a Change Order. To secure such a Change Order, when exercising any rights or remedies under this paragraph ENGINEER shall not be required to obtain the lowest price for the work to be performed.
- D. Waiver of Any Default: Waiver of any default shall not be deemed to be a waiver of any subsequent default. Waiver of breach of any provision of the Contract Documents shall not be construed to be a modification of the Contract Documents, unless stated to be such in a Change Order, signed by OWNER.
- E. Termination Will Not Affect Any Right or Remedies: 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. An retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.
- F. Termination for OWNER's Convenience: Upon 10 days' written notice to CONTRACTOR, OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the work and terminate the construction contract. In such case, CONTRACTOR shall be paid for all work executed and any expense sustained plus reasonable termination expenses, which will include, but not be limited to, direct, indirect and consequential costs *less OWNER's costs*. Anticipated profit upon terminated work shall not be included as part of CONTRACTOR's termination costs.

15.3 TERMINATION OF WORK BY CONTRACTOR

- A. In General: If the work is stopped for a period of more than 120 days through no act or fault of the CONTRACTOR or CONTRACTOR's agents or employees or any other persons performing portions of the work under contract with any of the above, the CONTRACTOR may terminate the Construction Contract in accordance with 15.3B herein below for any of the following reasons:
 1. the OWNER has persistently failed to fulfill fundamental OWNER's obligations under the Contract Documents with respect to matters important to the progress of the work;
 2. issuance of an order of a court or other public authority having jurisdiction, except that where the CONTRACTOR has standing, the CONTRACTOR must cooperate in efforts to stay or appeal such order;

3. an act of government, such as a declaration or national emergency, making necessary materials unavailable; or
 4. unavoidable casualties or other similar causes as acts of God or of the public enemy, acts of the state or federal government in either their sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather which materially interfere with CONTRACTOR's ability to complete the work, but in every case the failure to perform must be beyond the control and without the fault or negligence of the CONTRACTOR or anyone for whom the CONTRACTOR may be liable.
- B. Notice: If one of the reasons for termination in 15.3A still exists after the CONTRACTOR gives an additional 10 days written notice to the ENGINEER, the CONTRACTOR may terminate the Construction Contract and recover from the OWNER payment for work executed and for proved loss with respect to materials, equipment, tools, construction equipment and machinery, including reasonable overhead. Anticipated profit on work not performed shall not be allowed.
- C. Continuing the Work: the provisions of 14.2A and 15.3B shall not release or relieve the CONTRACTOR from CONTRACTOR's obligation under Article 6.15 to carry on the work in accordance with the progress schedule and without delay during disputes and disagreements with the OWNER.

PART 16 DISPUTE RESOLUTION

16.1 APPEALS PROCESS

- A. Any written decision rendered by ENGINEER pursuant to Paragraph 9.8A may be appealed by CONTRACTOR. Such appeal may be taken from any such decision in accordance with any provisions provided in the Agreement or supplementary conditions concerning dispute resolution and with applicable laws and regulations.
- B. During any such appeal, OWNER may issue a work directive change requiring the CONTRACTOR to perform such disputed work and to continue the work as provided in Article 6.15.
- C. No demand for dispute resolution of any claim, dispute or other matter that is required to be referred to ENGINEER initially for decision in accordance with Paragraph 9.8A will be made until (a) the ENGINEER has rendered a written decision or (b) by the 31st day after the claim, dispute or other matter was presented to the ENGINEER.
- D. No demand for dispute resolution of any claim dispute or other matter will be made later than 30 days after the date on which ENGINEER has rendered a written decision in respect thereof in accordance with Paragraph 9.8; and the failure to demand dispute resolution within said 30 days' period will result in ENGINEER's decision being final and binding upon OWNER and CONTRACTOR.
- E. If the ENGINEER renders a decision after dispute proceedings have been initiated, such decision may be entered as evidence but will not supersede the dispute resolution proceedings, except where the decision is acceptable to the parties concerned.
- F. No demand for dispute resolution of any written decision of ENGINEER rendered in accordance with Paragraph 9.8 will be made later than 10 days after the party making

such demand has delivered written notice of intention to appeal as provided in paragraph 9.7.

- G. Notice of the demand for dispute resolution will be filed in writing with the ENGINEER. The demand for dispute resolution will be made within the 30 day or 10 day period specified in Paragraph 16.1C and 16.1F as applicable, and in all other cases within a reasonable time after the claim, dispute or other matter in question has arisen, and in no event shall any such demand be made after the date when institution of legal or equitable proceedings based on such claim, dispute or other matter in question would be barred by the applicable statute of limitations.

PART 17 MISCELLANEOUS

17.1 GIVING NOTICE

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly received if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or it is received by registered or certified mail, postage prepaid or by facsimile.
- B. Notices sent as required by paragraph 17.1A shall be effective on the date on which such notice was sent.
- C. Facsimile notice shall be effective on the date of transmission provided that a confirmation establishing the successful transmission of the notice is sent by first-class mail, postage prepaid, along with a copy of the notice transmitted, no later than 24 hours after the facsimile notice is transmitted.
- D. If any notice requires a period of less than seven (7) days for response, the notice shall be sent by facsimile.
- E. Sureties shall receive notice at the business addresses shown on the Bonds.
- F. CONTRACTOR shall receive notice at the business address shown on the Agreement.

17.2 COMPUTATION OF TIME

- A. When any period of time is referred to in the Contract Documents 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 laws or regulations, such day will be omitted from the computation.

17.3 NOTICE OF CLAIM TIME LIMITS

- A. Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

17.4 CUMULATIVE REMEDIES

- A. The duties, obligations, rights and remedies imposed by these general conditions are in addition to any right and remedies available to OWNER and CONTRACTOR under available laws or regulations, special warranty or special guarantee. All representations, warranties and guarantees made in the Contract Documents will survive final payment and termination or completion of the Construction Contract.

END OF DOCUMENT

EXHIBIT A

[illegible]

EXHIBIT B
OGDEN CITY ENGINEERING
CONTRACT CHANGE ORDER REQUEST FORM

Change Order No. 1				Contractor:			
Date:				Project:			
PO:				PA No.:			
Funding Account(s):				Contract No.:			

Item No.	Bid Item No.	Description	Est Qty	Unit	Unit Price	Amount
						\$0.00
Sub Total for Bid Items						\$0.00
Additional Items						
						\$0.00
SUB TOTAL FOR ADDITIONAL ITEMS						\$0.00
		Total Changes				\$0.00

Original Contract Price:	Percent of Contract Price Change:	✔	#DN/0!
Net Change Increase:			0.00
Previous Change Request(s):			0.00
Contract Extensions:			0.00
Original Contract Price:			
New Contract Price:			

The contract time shall be extended by **0 Calendar days**. All other terms and conditions shall remain the same.

Change Order Justification:	
0	Ogden City Corporation, A Utah Municipal Corporation

By: _____	By: _____
Title/Date _____	Title/Date _____
	(Div Mgt/Dept Dir/CAO)

Approving Agencies:	Attest: _____
_____	City Recorder/Date
City Engineer/Eng Mgr/ Date	Approved as to form:
_____	_____
PS Director/Date	City Attorney/Date

Comptroller	Funding Source:

	Division Mgr
Mgmt Serv Dir/Date	

DOCUMENT 00 81 00
MODIFICATIONS TO GENERAL CONDITIONS
(Supplementary Conditions)

- A. Section 00 72 00 (General Conditions), add to paragraph 14.2.A, subparagraph 1 to read as follows:
1. Submittal of a progress payment application shall be the Contractor's certification that the Record Documents required per **Section 01 78 50** have been updated to reflect the work which has occurred on the project to date and records actual construction information. Engineer may verify the accuracy of such certification prior to approval of progress payment application and within the allowable 10 days review period as indicated in Article 14.4 of **Section 00 72 00** (General Conditions). Failure of the Engineer to verify certification accuracy shall not release Contractor of his obligations toward Record Drawings under the Contract.
- B. Section 00 72 00 (General Conditions), modify paragraph 14.5.A, by adding subparagraph 1 to read as follows:
1. Written certification as to substantial completion submitted by the Contractor shall also be the Contractor's certification that the Record Documents required per Section 01785 have been updated to reflect the work which has occurred on the project to date and records actual construction information relating to the work (or portion thereof). Engineer may verify the accuracy of such certification prior to his written agreement as to the work being substantially complete. Failure of the Engineer to verify certification accuracy shall not release Contractor of his obligations toward Record Drawings under the Contract. The Engineer may deny or reject the Contractor's certification as to Substantial Completion (or portion thereof) based solely upon Contractor's failure to accurately maintain the required Record Documents.
- C. Section 01 29 00 (Payment Procedures), add paragraph D to Article 1.2 to read as follows:

1.2 SUBMITTAL PROCEDURES

- D. Submit certification that the Record Documents required per Section 01 78 39 have been updated to reflect the work which has occurred on the project to date and records actual construction information.

Paragraph 13.3c.3 of the General Conditions is hereby repealed and the following is substituted therefore.

13.3 TESTS AND INSPECTIONS

- C. Costs of Inspections Assessable to:
3. The cost of all inspections tests and approvals in addition to the above which are required by the Contract Documents shall be paid by Contractor.

END OF SECTION

DOCUMENT 00 90 00
ADDENDA AND MODIFICATIONS

PART 1 GENERAL

1.1 PROCEDURE

- A. For filing purposes, add Addenda and Modifications to the Contract Documents following this page.

END OF SECTION

SECTION 01 11 00 SUMMARY OF WORK

PART 1 GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- A. Work of this Construction Contract comprises of roadway reconstruction with utility replacement, work located at 20th St - Valley Drive & Harrison Blvd.

1.2 CONTRACT METHOD

- A. Construct the work under a single unit price contract.

1.3 WORK BY OTHERS

- A. Work of the project which will be executed prior to start of work of this Construction Contract, and which is specifically excluded from this Contract:
 - 1. 3rd Party Utility Conflict (Rocky Mountain Power Vault Relocation)
- A. Work of the project which will be executed after completion of work of this Construction Contract, and which is specifically excluded from this Contract:
 - 1. UDOT Summer (August) Harrison Blvd resurfacing project (Geneva Rock Contractor).

1.4 FUTURE WORK

- A. Valley Drive is anticipated to be rehabilitated on the first curve North of the project. Scope of work is yet to be determined with plans coming soon and work expected to be completed with the same construction season. Contractor will have opportunity to receive this work if pricing and schedule align with City needs/estimate.

1.5 PRE-ORDERED PRODUCTS

- A. Owner has placed orders with suppliers for specific products, to expedite delivery and for other purposes in Owner's interests.
- B. On execution of the Construction Contract, Contractor shall execute purchase agreement with the designated Supplier, in accordance with terms stated in the attachment.
- C. Contractor responsibility for purchase, handling, and installation for pre-ordered products is the same as for other Contractor-furnished products.
- D. Schedule of Pre-Ordered Products:
 - 1. State Furnished Products (Traffic Signal System, Lighting Fixtures (LEDs not included)).

1.6 SUBSTANTIAL COMPLETION

- A. OWNER defines the project as substantially completed after all utility work, concrete (including collars), paving, lighting, striping, and signal work is complete and road (Valley Drive, 20th Street) is open to traffic again. CONTRACTOR is to follow SECTION 01 78 50 CLOSEOUT PROCEDURES once they consider the project substantially completed.

PART 2 **PRODUCTS** (Not Used)

PART 3 **EXECUTION** (Not Used)

END OF SECTION

SECTION 01 31 13 COORDINATION

This specification changes a portion of the current 2025 Manual of Standard Specifications by the Utah Chapter of the American Public Works Association Section 01 31 13. All other provisions of the Section remain in full force and effect.

Add the following paragraph to Article 1.5

1.5 COORDINATION WITH ADJACENT PROPERTY OWNER

- A. Once each week hand deliver a written **"Construction Status Update Notice"** to all residents, businesses, schools and property owners adjacent to and affected by the work. Notice shall be on Contractor's company letter head paper and be secured to door knob should occupants not be home. Obtain Engineer's review of notice prior to distribution. As a minimum the notice shall contain the following:
1. name and phone number of Contractor's representative for the project;
 2. work anticipated for the next seven (7) days including work locations and work by subcontractors and utility companies;
 3. rough estimate of construction schedule through end of project;
 4. anticipated driveway approach closures;
 5. anticipated water, sewer or power outages;
 6. anticipated vehicular traffic impacts, rerouting or lane closures;
 7. anticipated pedestrian impacts and sidewalk closures;
 8. changes to public transportation bus routes; and
 9. any other construction or work items which will impact or restrict the normal use of streets and amenities.

Failure to comply with this contract provision is considered grounds for project suspension per Article 15.1 of the General Conditions (APWA Document 00 72 00).

Add the following Article to Part 1.

1.8 PUBLIC AGENCIES PERSONNEL TO CONTACT

- A. Utility Companies: Utility companies generally require a 48 hour notice (minimum) if their utility requires location, relocation or protection. Contact the following OWNERS to coordinate.
1. Questar Gas Company: phone (801) 395-6754. Call two (2) weeks prior to requiring Questar work on gas mains and 1 week on service lines to property owners. A Questar representative must be present at the pre-construction meeting and when working around high pressure gas mains.
 2. PacifiCorp (Utah Power Company): phone (801) 629-4426.
 3. US West: (Blue Stakes): phone 1 (800) 662-4111.
 4. Ogden City Water Utility: phone (801) 629-8363.
 5. AT&T: Repair Service Center, phone 1 (800) 222-3000.

6. Sprint Communications: phone 1 (800) 877-4646.
7. UTA: phone (801) 627-3500.
8. Utah Department of Transportation: phone (801) 620-1660.
9. Ogden City Urban Forester: Damien Reeves, (801) 629-8369, a minimum of 48 hours prior to removing trees.
10. Ogden City Public Storm Sewer Utility: Bill Simpson, (801) 629-8331.
11. Ogden City Public Sanitary Sewer Utility: Bill Simpson, (801) 629-8331.
12. Ogden City Public Safety Division: Notify 48 hours prior to street closure or water main work.
 - a. Fire: phone (801)629-8314.
 - b. Police: phone (801) 629-8221.
13. Pine View Water Users Association: phone (801) 621-6555
14. Weber Basin Water Conservancy District: phone (801) 771-1677
15. Central Weber Sewer District: phone (801) 731-3011
16. Bona Vista Water: phone (801) 621-0474
17. Lynn Irrigation: phone (801) 392-2695
18. Other Companies:

END OF SECTION

SECTION 01 31 20 PARTNERING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Administrative requirements for partnering.

1.2 VOLUNTARY PARTNERING

- A. The Owner intends to create a foundation for a strong partnership with the Contractor and the Contractor's Subcontractors and Suppliers. The partnership will be structured to draw on the strengths of the Owner and the Contractor to achieve the following goals.
 - 1. To expedite the project in full compliance with the plans and specifications with all issues among the Owner, the Contractor, the Contractor's sub-contractors, and interested outside agencies resolved in a timely manner at the appropriate decision making level.
 - 2. To mitigate to the fullest extent possible any disruptions to the Contractor's and Owner's use of the facilities at the construction site;
 - 3. To emphasize value engineering considerations and expedite submittal and review of all proposals;
 - 4. To foster an atmosphere of trust and team work;
 - 5. To appreciate the fiscal objectives of all stakeholders; and
 - 6. To assure there are no unsettled issues at the completion of the work.
- B. "Voluntary Partnering" initiatives will not change the legal relationship of the parties to the Construction Contract, nor release, nor relieve either party from any of the terms of the Construction Contract.

PART 2 PRODUCTS Not Used

PART 3 EXECUTION Not Used

END OF SECTION

SECTION 01 32 16

PROGRESS SCHEDULE

This specification changes a portion of APWA Standard Specification Section 01 32 16. All other provisions of the Section remain in full force and effect.

Change paragraph 1.2A to read as follows.

1.2 TYPE OF SCHEDULE

- A. Critical Path Method (CPM) with activity on node (AON) required. *[This method is also known as the Precedence Diagram Method (PDM)].*

***** or *****

Change paragraph 1.2A to read as follows.

1.2 TYPE OF SCHEDULE

- A. Activity Bar Chart (Gantt) Schedule required.

END OF SECTION

SECTION 01 33 00 SUBMITTAL PROCEDURE

This specification replaces APWA Standard Specification Section 01 33 00 in its entirety.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal register requirements.
- B. Transmittal form requirements.
- C. Important submittal due dates.

1.2 SUBMITTALS

- A. Use the attached Transmittal Form (Form 01 33 50-1) when making submittals.

1.3 SUBMITTAL REGISTER PROCEDURE

- A. Use the Contract Documents to identify product data, samples and materials which require submission for information only. See Article 1.5.
- B. For submittals requiring Engineer's review or action, see Article 1.4.
- C. Determine appropriate review due dates for the submittals.
- D. Prepare register and transmit it to the Engineer.

1.4 SUBMITTALS REQUIRING REVIEW OR ACTION

- A. The following table lists submittals which require Engineer's review or action. Transmit these submittals to the Engineer, at 2549 Washington Boulevard, suite 761, Ogden, Utah 84401.

Table 1 - SUBMITTALS REQUIRING REVIEW OR ACTION

No.	Submittal	Section Reference	When Due
1	Submittal Register	01 33 50	Pre-construction conference
2	Preliminary Progress Schedule	00 72 00	Pre-construction conference
3	Shop Drawing Schedule, Schedule of Values, Mobilization Plan, Safety Plan	01 71 13	Pre-construction conference
4	Quality Control Program	01 45 00	Pre-construction conference
5	Testing Agency Name, Address, Telephone No., Manager Name, Licenses and certificates	01 45 00	Pre-construction conference
6	Permits for Work	00 80 10	Prior to Starting Work
7	Traffic Control Plan	01 55 26	72 Hours Prior to Starting Work
8	Construction Land Surveyor Name, Address, Registration No.	01 71 34	72 Hours Prior to Starting Work
9	Progress Schedule	01 32 16	Every two weeks, and with each pay application.
10	Redline Certification	01 78 39	With Each Pay Request
11	Written Permission to use Private Citizen's Property and Water	01 31 13	24 Hours Prior to Use
12	Common Fill	31 05 13	Prior to Placement

No.	Submittal	Section Reference	When Due
13	Aggregate Base Courses	32 11 23	10 days Prior to Placement
14	3" Minus Structural Fill	32 11 23	Before Mobilization
15	Passing Untreated Base Course Compaction Test Control Reports	31 23 26	Daily as UTBC is placed
16	Geotextile & Geogrid	31 05 19	Prior to Placement
17	Arborist Certification/Contact		Prior to Mobilization
18	Equipment List	00 72 00	As requested by OWNER
19	Field Test Reports	01 45 00	End of Current Day
20	Laboratory Test Reports	01 45 00	Within 48 Hours
21	Select Fill Mix Design	32 11 23	7 Days Prior to Use
22	Asphalt Concrete Mix Design Supplier's Mix No.	32 12 03	7 Days Prior to Use
23	Asphalt Concrete Batch Delivery Ticket	32 12 05	Upon Delivery to Site
24	Seal Source Data and Supplier's Mix No.	32 01 13.50-71	10 days Prior to Use
25	Portland Cement Concrete Source Data and Supplier's Mix No.	03 30 04	7 Days Prior to Use
26	Water System Product Data	33 11 00	7 Days Prior to Installation
27	Water System Disinfection Report	33 13 00	Prior to Water Line Use
28	Pipeline Commissioning	33 08 00	Prior to System Use
29	Name, Certification Number and renewal date for all ACI Certified Finishers	03 30 04	7 Days Prior to 1st Concrete Placement
30	Portland Cement Concrete Quality Control Test Reports	03 30 04 03 30 05 03 30 10	Daily as applicable
31	Portland Cement Concrete Batch Delivery Ticket	03 30 10	Upon Delivery to Site
32	Portland Cement Concrete Curing Compound Source, Type, and Data	03 39 00	7 Days Prior to 1st Concrete Placement
33	Certification of Compliance and Request for Final Inspection	01 75 50	7 Days Prior to Substantial Completion
34	Evidence of Payment to Suppliers and Subcontractors	01 78 50 00 72 00	Prior to Final Payment
35	Redlines	01 78 39	Prior to Final Payment
36	Water Line Commissioning Test Reports	01 78 39 33 08 00	Prior to Final Payment
37	O&M Manuals	01 78 23	Prior to Final Payment
38	Submittal Reports	01 45 00	Prior to Final Payment
NOTES: 1. Section references listed in this table but not found in the Contract Documents may be found in the APWA Standard Specifications.			

1.5 SUBMITTALS FOR INFORMATION ONLY

- A. Submittals identified in the Standard Specifications or in the Contract Documents, which are not identified in this section are for information only and do not require review or action by Engineer or resident project representative. Such submittals,

however, will be monitored and spot checked. When spot checks indicate non-compliance, Contractor will be notified.

1.6 ENGINEER'S STAMP

A. Form of the Engineer's stamp is as follows:

	<u>SUBMITTAL REVIEW</u>
<input type="checkbox"/> NO EXCEPTIONS TAKEN	<input type="checkbox"/> REJECTED
<input type="checkbox"/> MAKE CORRECTIONS NOTED	<input type="checkbox"/> RESUBMIT
<input type="checkbox"/> SUBMIT SPECIFIED ITEM	<input type="checkbox"/> DO NOT RESUBMIT
This review is for general conformance with the design concepts of the work and general compliance with the Contract Documents and does not constitute an approval or variance. Corrections or comments, or the failure to make them, on this review does not relieve the Contractor from full contract compliance.	
The Contractor is responsible for compliance with all contract provisions, dimensions, sizes, capacities, fabrication and construction techniques, installation, coordinating work with others, and performing the work in a safe and satisfactory manner.	
Date: _____ By: _____	
	OGDEN CITY ENGINEERING

B. Meaning of Engineer's stamp:

1. No Exceptions Taken: Submittals which have been reviewed without requested correction.
2. Make Corrections Noted: Submittals which have only minor discrepancies. Resubmission will not be required unless the stamp is marked "Resubmit".
3. Submit Specified Item: Submittals which are incomplete or require more than minor corrections will be annotated to indicate necessary corrections. Resubmit the part of the submittal showing the corrections.
4. Rejected: Submittals which are fundamentally in error, cover wrong equipment or construction, or require extensive corrections.
5. Resubmit: Submittals which require resubmission. Make corrections required, note any changes by dating the revisions to correspond with the change require date, and resubmit the corrected material.
6. Do Not Resubmit: Submittals which are not necessary to resubmit.

PART 2 PRODUCTS Not Used

PART 3 EXECUTION Not Used

INSTRUCTIONS FOR SUBMITTAL REGISTER

GENERAL

1. Contractor to Complete Form: Review the Contract Documents to insure completeness. Expand general category listings. Show individual entries on this form for each item.
 - a. As an example, a general category would be "Plumbing Fixtures" which the Contractor is to breakdown into individual entries such as "Toilet P-1, Lavatory P-2, etc." Complete the Submittal Register, attach it to Form 01 33 50-1 and submit it to Engineer.
2. Resubmittals: If a submittal is returned for correction, provide a new Submittal Identification Number. Identify the number on the submittal register and resubmit the information for review. Do not amend the data already contained on the submittal register.

SUBMITTAL REGISTER

1. Scheduled Activity: If an activity on the Progress Schedule is assigned to the submittal, place the schedule activity number in the "Scheduled Activity" column.
2. Submittal Item No.: Assign to each entry on the Submittal Register a sequential number in the "Submittal Identification (Item Number)" column.
3. Review Action: The "Review Action" column identifies technical review responsibility of submittal. Review of all products and materials is the Contractor's responsibility; however, certain specified submittals will also require Engineer's review.
 - a. If "Review Action" Column is Blank: Identified submittal shall be approved by the Contractor and then submitted to the Engineer for information.
 - b. If the Engineer is identified in the "Review Action" Column: Identified submittals shall be first approved by the Contractor and then submitted to the Engineer for review.
4. Engineer Action Dates: This column is for Engineer's use to record date submittal was received and the action code assigned in the submittal review process.

END OF SECTION

SUBMITTAL REGISTER				PROJECT TITLE EN012 - 20th Street & Valley Drive Intersection Improvements																No.	
				LOCATION																	
				CONTRACTOR																	
SCHEDULED ACTIVITY	SUBMITTAL ITEM No	SPECIFICATION PARAGRAPH NUMBER	DESCRIPTION OF SUBMITTAL	TYPE OF SUBMITTAL										REVIEW ACTION	CONTRACTOR NEED DATES			ENGINEER ACTION DATES		OTHER	
				SAMPLES	SHOP DRAWINGS	PARTS LIST	PRODUCT DATA	DESIGN DATA	SPECIFICATIONS	CERTIFICATES	INSTRUCTIONS	TESTING RE-	O & M MANUAL	OTHER	REVIEW RE-QUIRED BY	SUBMITTAL DATE	APPROVAL NEEDED BY	MATERIAL NEEDED BY	DATE RECEIVED		ACTION CODE

SUBMITTAL REGISTER - FORM 01 33 00-1

SECTION 01 33 50 TRANSMITTALS

This specification is an addition APWA Standard Specification, Section 01 33 50.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal register requirements.
- B. Transmittal form requirements.
- C. Important submittal due dates.

1.2 TRANSMITTALS

- A. Use the attached Transmittal Form (Form 01 33 50-1) when making submittals.

1.3 TRANSMITTAL OF SUBMITTAL REGISTER

- A. Use the Contract Documents to identify product data, samples and materials which require submission for information only. See Article 1.5.
- B. For submittals requiring Engineer's review or action, see Article 1.4.
- C. Determine appropriate review due dates for the submittals.
- D. Prepare register and transmit it to the Engineer.
- E. Transmit these submittals to the Engineer, at 2549 Washington Boulevard, suite 761, Ogden, Utah 84401.

TRANSMITTAL FORM				DATE		<input type="checkbox"/> NEW SUBMITTAL <input type="checkbox"/> RESUBMITTAL	
Section I	REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (This section will be initiated by the CONTRACTOR)						
TO		FROM				TRANSMITTAL No.	
						PREVIOUS TRANSMITTAL No.	
SPECIFICATION SECTION NUMBER (See instructions)		CONTRACT TITLE				CONTRACT No.	
SUBMITTAL ITEM No. a.	DESCRIPTION OF ITEM SUBMITTED (Type, size, model number, etc.) b.	SAMPLE OR CER- TIFICATE (See instructions) c.	NO. OF COPIES d.	CONTRACT REFERENCE DO- CUMENT		VARIATION (See instruc- tions) g.	ENGINEER REVIEW CODE (See instruc- tions) h.
				SPEC. PARA. No. e.	DRAWING SHEET No. f.		
REMARKS				I certify that the above submitted items have been reviewed in detail and are correct and conform with the contract Drawings and specifications except as otherwise noted. <div style="border-top: 1px solid black; width: 100%;"></div> NAME AND SIGNATURE OF CONTRACTOR			
Section II	OWNER'S ACTION This section will be completed by the ENGINEER)						
ENCLOSURES RETURNED (List by Item No.)			SIGNATURE OF REVIEWING AGENT				DATE

FORM 0133 50-1 (Read Instructions on the next page prior to initiating this form)

INSTRUCTIONS

GENERAL

1. Form is self-transmittal. Letter of transmittal is not required.
2. Submittals requiring expeditious handling will be submitted individually on this Form.
3. Engineer's review of submittals does not release or relieve Contractor from complying with all requirements of the Contract Documents.

SECTION I

1. Transmittal No: Number each transmittal consecutively in the space entitled "Transmittal No." This number will identify each submittal.
2. Previous Transmittal No: Mark the box for re-submittal and insert the transmittal number of last submission as well as the new submittal number in the spaces provided. Each re-submittal will become a new transmittal.
3. Specification Section No.: Cover only one specification section with each transmittal.
4. Column "a": For each entry on this form, the "Submittal Item No." will be the same as the Submittal Item No. indicated on the Submittal Register (Form 01330-1).
5. Column "c": When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate".
6. Column "g": Contractor will place a check mark in the "Variation" column when a submittal is not in accordance with the plans and specifications - also, a written statement to that effect shall be included in the space provided for "Remarks" or on a separate page.
7. Column "h": For each item reviewed, Engineer shall assign action codes as follows:
 - A. No Exceptions Taken
 - B. Make Corrections Noted. Re-submission not required.
 - C. Submit Specified Item.
 - D. Rejected.
 - E. Resubmit
 - F. Do not resubmit. Receipt acknowledged.
 - G. Will be returned by separate correspondence.
 - H. Other (specify).

END OF SECTION

SECTION 01 45 00 QUALITY CONTROL

This specification changes a portion of Section 01 45 00. All other provisions of the Section remain in full force and effect.

Add the following Article to Part 1.

1.7 QUALITY CONTROL PROGRAM

- A. Quality Control Program: Provide a quality control program which includes procedures and organization so equipment, workmanship, fabrication, construction, operations, and inspections comply with the Contract Documents.
- B. Quality Control Program Manager Qualifications:
 - 1. Not Contractor's work or site superintendent.
 - 2. Quality control experience with projects of similar type and magnitude.
 - 3. Authorized as Contractor's representative for all quality control and quality assurance matters.
- C. Quality Control Program Manager Responsibilities:
 - 1. Manage and supervise quality control plan and quality control surveillance personnel.
 - 2. Verify that testing procedures comply with contract requirements.
 - 3. Verify that facilities and testing equipment are available and comply with testing standards.
 - 4. Check test instrument calibration data against certified standards.
 - 5. Verify that recording forms, including all the documentation requirements, have been prepared.
 - 6. Prepare copies of each test result with all necessary data recorded and with documentation and computations compiled.
 - 7. Provide more testing, if, in Engineer's opinion, work is not being adequately controlled.
 - 8. Immediately report any non-compliance of materials and mixes to Engineer and Contractor.
 - 9. When an out-of-tolerance condition exists, perform additional control testing until tolerance is attained.
 - 10. Correlate Contractor's quality assurance testing program (Section 01 43 00) with Engineer's acceptance testing program (Section 01 46 00).

END OF SECTION

SECTION 01 55 26

TRAFFIC CONTROL - A

This specification changes a portion of **APWA Standard Specification Section 01 55 26**. All other provisions of the Section remain in full force and effect.

Add the following articles to Part 3.

3.3 SPECIAL TRAFFIC CONTROL PROVISIONS

A. In General:

1. Provide, maintain and control all traffic information signs and traffic control devices as indicated in the current edition of the Manual of Uniform Traffic Control Devices.
2. Regulate traffic as indicated in Manual of Uniform Traffic Control Devices.
3. Sandbag all temporary traffic control signs and barricades.
4. Operate large equipment on major streets only during off-peak hours. Peak hours are normally 7:00 A.M. to 9:00 A.M. and 4:00 P.M. to 6:00 P.M.
5. Provide and maintain one 12 feet wide traffic lane for each direction of travel at all times.

B. Traffic Control Plan:

1. Submit a Traffic Control Plan which satisfies requirements in Manual of Uniform Traffic Control Devices and those of the Ogden City Transportation Engineer.
 - a. All signalized intersections shall be treated as a separate construction phase.
2. Show street improvement work in progressive construction phases to provide least amount of traffic disruption.
3. Local Business Signs: Provide signs which display name of businesses located in the work zone. Show motorist by signage, how to reach business destination.

C. Traffic Control Supervisor Responsibilities:

1. Update traffic control plan to correct deficiencies in time limits not to exceed 24 hours.
2. Make at least four inspections of all traffic control devices each day as follows:
 - a. before beginning work shift;
 - b. at mid-shift;
 - c. half an hour after the end of the shift;
 - d. once during the night.
3. Coordinate project traffic control with emergency services and local law enforcement agencies.
4. Prepare and submit revisions to the traffic control plan.
5. Complete a daily record of traffic control activities.

D. Major Streets:

1. Owner controlled major streets in the project area are:
 - a. 20th Street
 - b. Valley Drive
2. UDOT controlled major streets in the project area are:
 - a. SR-203 (Harrison Blvd)

E. Traffic Control Devices:

1. Install traffic control devices before work activities start.
 2. Maintain devices to ensure proper function.
 3. Wash devices weekly unless conditions warrant more frequent cleaning.
 4. Replace any device missing any part of the message or background.
 5. Remove devices when no longer required.
- F. Lane Striping:
1. Temporary striping: NA.
 2. Permanent striping: NA.
- G. Access:
1. Provide access to all affected properties [except for durations of less than 24 hours]. In all cases:
 - a. Provide alternate access whenever normal access is blocked and an alternate access method is possible.
 - b. Notify property owners 48 hours in advance of change or loss of access and the anticipated duration.
 2. Keep open for travel at all times each section of roadway or sidewalk being worked on or provide alternate vehicular and pedestrian passage ways. Follow provisions of the Manual of Uniform Traffic Control Devices for walkway signing and barricading.
 3. Construct temporary ramps over concrete curb, gutter and sidewalk and other construction to each business entrance as required for uninterrupted access.
- H. Parking Restrictions:
1. Post "No Parking" signs every 50 feet 24 hours in advance of need.
 2. Bag or remove and replace meter heads.
- I. Public Transit: Keep existing bus stops open and clear for bus service operation. Minimize bus service disruption in and around the stops. Provide at least 48 hours advance notice to the Utah Transit Authority; coordinate the scheduling of bus service at existing stops.
- J. Intersections:
1. For each approach to a major street provide a UDOT certified flagger. Flagger shall only control traffic outside the limits of a signalized intersection.
 2. Existing left turn lanes may be used for through traffic movement when the need to reduce the through traffic to one lane approach to signalized intersections. Install "No Left Turn" signs stating the "Bus Exception" message.
 3. Provide off-duty police officer to direct traffic within 100 feet of a signal head and when vehicular traffic has been reduced to one lane approach to the intersection.
- K. Partial or Complete Lane Closure Authorization (Permit Required): (All partial or complete road or lane closures require a permit issued by the City Engineer upon review and recommendation of the City Transportation Engineer)
1. Provide flagger when work momentarily affects travel lanes. Example: A backhoe maneuvering in a travel lane outside of the construction work zone.
 2. Do not stop traffic during peak hours (7:00 A.M. to 9:00 A.M. and 4:00 P.M. to 6:00 P.M.).
 3. If one traffic lane for each direction cannot be maintained, provide one 12-foot wide lane with certified flaggers alternating traffic flow for each direction.

4. Major streets may be reduced to one 12 feet wide travel lane for each direction during work hours. Left turn prohibition shall be required when through lanes are reduced to one lane of travel. Install "No Left Turn" signs stating the "Bus Exception" message.
- L. Street Closure: (All partial or complete road or lane closures require a permit issued by the City Engineer upon review and recommendation of the City Transportation Engineer)
 1. Valley Drive may be closed to through traffic for full width construction.
 - a. Maintain access to abutting properties at all times via detour route.
 - b. Provide alternative access whenever normal access is blocked and an alternative access method is possible.
 - c. Coordinate with property owners and Owner's Public Services Sanitation Division [Phone 629-8271] for garbage pickup. Provide access for sanitation service or provide a reasonable, centralized pickup point.
 - d. Parking on the street may be restricted as needed during construction on drainage curb and gutter work provided restrictions are posted 24 hours prior to need.
 2. Detour routes:
 - a. Harrison Blvd NB to SR-39. SR-39 to Valley Drive (Rainbow Gardens).

3.4 LOST OR DAMAGED TRAFFIC FIXTURES

- A. Replace lost or damaged traffic regulation signs and traffic information signs at no additional cost to Owner.

END OF SECTION

SECTION 01 58 00

PROJECT IDENTIFICATION AND SIGNS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary on-site identification and informational signs to identify key elements of construction facilities and traffic routing.

1.2 SUBMITTALS

- A. Sketch of informational signs.

1.3 QUALITY ASSURANCE

- A. Sign Painter: Professional experienced in type of work required.
- B. Finishes, Painting: Adequate to resist weathering and fading for scheduled construction period.

PART 2 PRODUCTS

2.1 SIGN MATERIALS

- A. Structure and Framing: May be new or used, wood or metal, in sound condition, structurally adequate to work and suitable for specified finish.
- B. Sign Surfaces: Exterior grade plywood.
 - 1. Type 4' x 4': 4-feet high by 4-feet wide.
 - 2. Type 4' x 8': 4-feet high by 8-feet wide.
 - 3. Thickness: As required by standards to span framing members, resist wind loading, and to provide even, smooth surface without waves or buckles.
- C. Rough Hardware: Galvanized steel or equal.
- D. Paint: Exterior quality.
 - 1. Background: White.
 - 2. Lettering: Black
 - 3. Accents: Green.

PART 3 EXECUTION

3.1 PROJECT IDENTIFICATION SIGN

- A. Content to include:
 - 1. Title of Project.
 - 2. City logo and Public Services logo.
 - 3. Name of Mayor.

4. Names of city council members and the district they represent.
 5. Names of professional consultants and their titles.
 6. Name of Engineer and title.
 7. Name of Contractor.
- B. Graphic design, style of lettering, colors: See Drawing.
- C. Paint exposed surfaces of supports, framing and surface material; one coat of primer and one coat of exterior paint.
- D. Erect on the site at a lighted location of high public visibility, adjacent to main entrance to site, as approved by Engineer.

3.2 INFORMATIONAL SIGNS

- A. Size of signs and lettering: As required by regulatory agencies, or as appropriate to usage.
- B. Colors: As required by regulatory agencies, otherwise of uniform colors throughout project.
- C. Paint exposed surfaces: One coat of primer and one coat of exterior paint.
- D. Paint graphics in styles, sizes and colors selected.
- E. Install at a height for optimum visibility, on ground-mounted poles or attached to temporary structural surfaces.

3.3 MAINTENANCE

- A. Maintain signs and supports in a neat, clean condition; repair damages to structure, framing or sign.
- B. Relocate informational signs as required by progress of the work.
- C. Remove graffiti from signs immediately.

3.4 REMOVAL

- A. Remove signs, framing, supports and foundations at completion of project.
- B. Repair landscaping and surface improvements damaged by removals.

END OF SECTION

SECTION 01 78 50 CLOSEOUT PROCEDURES

This specification changes a portion of **APWA Standard Specification Section 01 78 50**. All other provisions of the Section remain in full force and effect.

Add paragraph 1.4E to read as follows.

1.5 CLOSEOUT SUBMITTALS

- E. **Form 01 78 50-1**: Certificate of Compliance and request for final inspection. (See copy on the page following this one).

Add the following article to Part 1.

1.6 CLOSEOUT SCHEDULE

- A. As defined in APWA Standard Plan No. 110.

END OF SECTION

**CONTRACTOR'S
CERTIFICATION OF COMPLIANCE**
(and request for Final Inspection)

Certification of Compliance and Punch List of Uncompleted items must be submitted with final request for payment.

DATE _____

PROJECT NAME AND NUMBER

PORTION OF WORK COMPLETE

All of the work as per the contract has been completed and approved.

CERTIFICATION

I certify that I, _____ (name) am
an authorized official of _____ (company)
working in the capacity of _____ and have
been duly authorized by said company to make the following statements.

1. As the CONTRACTOR's representative, I do hereby certify by personal knowledge that all Work or portion of the Work described above has been performed in every particular in accordance with and conformance to the Contract Documents and that the Work or portion of the Work is ready for Final Inspection.
2. It is understood that neither the determination of the ENGINEER that the Work is Substantially Complete, nor the acceptance thereof, shall operate to bar claims against the CONTRACTOR for non-compliance with the Contract Documents.
3. As the CONTRACTOR's representative, I do hereby certify by personal knowledge that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the OWNER or the OWNER's property might be responsible or encumbered, have been paid or otherwise satisfied.

I hereby request the ENGINEER accept the Work as being Substantially Complete and schedule the Final Inspection.

Signature

PUNCH LIST FOR PROJECT COMPLETION/APPROVAL

This list contains both generic and project-specific items that will need to be completed before final payment can be made on this project. These items will be discussed at the post-construction meeting.

1. Final Inspection was completed.
2. All items as bid have been completed.
3. Example (The change order, was completed and approved to replace the curb and inlet box).
4. _____
5. _____
6. _____
7. _____

This project has been completed to the satisfaction of the Project Inspector and the Project Engineer/Manager and final payment to contractor is requested.

Signature of Engineer

Date

SECTION 03 30 04 CONCRETE

Add the following subparagraph:

2.5 MIX DESIGN

A. Selection of Cement:

1. Concrete used for this project shall be 4500 Class Concrete conforming to the following specification:

Concrete Properties	Concrete Classification
	4500
Coarse Aggregates (see requirements shown below)	
Maximum Water/Cement Ratio***	0.45
Slump (inches)**	2.0 to 4.0
Air Content (percent)	5.0 to 7.0
Required Average 28 Day Compression Strength Test (psi)****	4700
Required Minimum 28 Day Compression Strength Test (psi)****	4300

Notes: * All concrete installed shall be f'c 4500 unless otherwise required in the Contract Documents.

 ** When water reducing agents are not used.

 *** Cement content shall be appropriate to produce a mixture meeting the requirements for water/cement ratio and workability for the specific job conditions.

 **** One strength test shall be the average of the strengths of at least two 6x12 in. cylinders or at least three 4x8 in. cylinders made from the same sample of concrete and tested at 28 days or at test age designated for f'c. (ACI 318-14 26.12.1.1)

END OF SECTION

SECTION 03 30 10 CONCRETE PLACEMENT (COLD WEATHER PROCEDURES)

Add the following items to Section 03 30 10 when the Definition of Cold Weather is met.

Definition of Cold Weather: Cold weather is defined as a period when for more than three (3) successive days the mean daily temperature falls below 40° F or any day when the temperature is expected to fall or falls below freezing.

PART 1 GENERAL

1.2 REFERENCES

- A. APWA:
 - 1. Section 03 30 04: Cast-In-Place Concrete
 - 2. Section 03 39 00: Concrete Curing
 - 3. Section 03 30 10: Concrete Placement

1.3 SUBMITTALS

- A. Not less than 30 days prior to expected placement of concrete under cold weather conditions, a complete procedure shall be submitted for review covering all aspects of protection of concrete and its ingredients from the detrimental effects of cold weather. Concrete placement during cold weather shall not commence prior to return of the procedure marked "Reviewed".

1.4 QUALITY ASSURANCE

- A. The concrete temperature, during placement in cold weather, shall not be less than 50° F. Temperature measurements of the concrete as delivered to the job site shall confirm this requirement.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Water and aggregates may be preheated for cold weather placement; however, their temperature shall not exceed 150° F. All methods and equipment for heating of water and aggregate shall be subject to the approval of the Engineer and shall conform to ACI 306.

PART 3 EXECUTION

3.2 PREPARATION

- A. No concrete shall be placed on frozen ground.
- B. The ground, against which concrete is to be poured, must be protected against freezing after its preparation, or the concrete placement shall be delayed until the ground has fully thawed out.

- C. When temperatures are expected to be below 32° F. the night before the concrete is placed, then all reinforcing steel, forms and the ground shall be preheated, for a minimum of 12 hours, under a minimum temperature of 50° F.
- D. When temperatures are expected to be below 32° F any time before the concrete has reached a strength of 1000 psi, the concrete must be adequately protected against frost damage by heating blankets, straw or insulation materials for a minimum of 7 days or until at least 1000 psi concrete strength has been reached. The concrete temperature shall at no time fall below 40° F based on recording temperature monitors placed at a maximum of 50 feet on centers, each way, and around the circumference of the floor slab, and retaining wall. Contractor shall provide heat as required to keep the concrete temperature as specified throughout the entire curing period of 7 days.
- E. Weather prediction made by the nearest NOAA station, and corrected for the local elevation and environmental conditions, may be used to determine whether cold weather protection shall be required. Thermometers will be used by the Engineer and these readings shall determine whether cold weather protection shall be required and whether cold weather protection is adequate.
- F. When combustion type heaters are used to maintain concrete temperatures within an enclosure, the exhaust gases shall be vented from the heater to the outside atmosphere so that the concrete is not exposed to the products of combustion.

END OF SECTION

SECTION 09 96 00 SP THERMOPLASTIC COMPOUNDING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This section includes the requirements for thermoplastic compounding, including material composition, performance characteristics, and application for protective coatings in construction applications.
- B. Thermoplastic Compounding is for use in protective coating applications for the proposed vehicle protection system.

1.2 REFERENCES

- A. Manual of Standard Specifications
 - 1. APWA Section 05 50 00 – Metal Fabrications
 - 2. APWA Section 09 90 00 – Protective Coatings
- B. American Society for Testing and Materials
 - 1. ASTM D2240 - Standard Test Method for Rubber Property (Durometer Hardness)
 - 2. ASTM D792 – Standard Test Methods for Density and Specific Gravity of Plastics
 - 3. ASTM D412 – Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers
- C. Project Special Provisions
 - 1. Section 32 31 00 S – Vehicle Protection System

1.3 QUALITY ASSURANCE

- A. The thermoplastic compound shall be supplied by a manufacturer with a demonstrated history of providing high-performance coatings.
- B. The compound shall be UV stabilized and designed to withstand outdoor environmental conditions.
- C. Materials shall comply with all applicable federal and local environmental regulations.

1.4 SUBMITTALS

- A. Manufacturer's product data, including technical specifications and application guidelines.
- B. Certification of compliance with REACH/RoHS environmental standards.

- C. Samples of finished coatings for approval by the Engineer.
- D. Test reports verifying compliance with ASTM standards.

PART 2 Materials

2.1 MANUFACTURER

- A. The thermoplastic compound shall be supplied by a manufacturer with demonstrated experience in producing high-performance coatings for construction applications.
- B. Approved Manufacturer: OTECH OMNIFLEX or approved equal.

2.2 MATERIAL

- A. Thermoplastic Compound
 - 1. The compound shall be OTECH OMNIFLEX- PF9025-UV or an approved equal.
 - 2. The material shall be a UV-stabilized, flexible PVC compound suitable for extrusion applications.
 - 3. The compound shall be REACH and RoHS compliant.
- B. Physical Properties
 - 1. Durometer Hardness: 90 (Shore A) per ASTM D2240.
 - 2. Specific Gravity: 1.25 per ASTM D792.
 - 3. Tensile Strength: 2,900 psi per ASTM D412.
 - 4. Elongation: 300% per ASTM D412.
- C. Application Requirements
 - 1. Suggested processing temperature: 340°F.
 - 2. Shall be compatible with metal substrates requiring protective coatings.
 - 3. Coating shall provide uniform thickness and adhesion to substrate.

PART 3 EXECUTION

3.1 PREPARATION

- A. Surface preparation shall conform to the manufacturer's recommendations to ensure proper adhesion.

- B. All surfaces shall be clean, dry, and free from contaminants before application.
- C. Any sharp edges or weld seams shall be smoothed to prevent coating defects.

3.2 APPLICATION

- A. The thermoplastic compound shall be applied per manufacturer's specifications.
- B. Coating shall be applied uniformly to achieve the specified thickness and ensure long-term performance.
- C. The coating shall be allowed to cure in accordance with manufacturer recommendations before handling or installation.

3.3 CLEANING AND FINAL ACCEPTANCE

- A. The job site shall be kept clean, and all excess material shall be disposed of per environmental regulations.
- B. The Engineer shall inspect the application for compliance with specifications.
- C. Any areas found to be non-compliant shall be corrected at no additional cost to the Owner.

END OF SECTION

SECTION 13 50 30 SP

SOIL NAIL RETAINING WALLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Permanent soil nail retaining walls, including design.
- B. Monitoring and control of deformations of the soil nail wall, surrounding ground, utilities, and other facilities existing at the time of construction.
- C. Verification and proof tests including load schedules, acceptance criteria, frequency of tests, and testing equipment.

1.2 REFERENCES

- A. AASHTO M 31: Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
- B. AASHTO M 85: Portland Cement
- C. AASHTO M 252: Corrugated Polyethylene Drainage Pipe
- D. AASHTO M 270: Carbon and High Strength Low Alloy Structural Steel, Shapes, Plates and Bars and Quenched and Tempered Alloy Structural Steel Plates for Bridges
- E. AASHTO M 291: Carbon and Alloy Steel Nuts
- F. AASHTO T 106: Compressive Strength of Hydraulic Cement Mortar
- G. AASHTO T 244: Mechanical Testing of Steel Products
- H. ASTM A 519: Seamless Carbon and Alloy Steel Mechanical Tubing
- I. ASTM A 767: Zinc-Coated (Galvanized) Bars for Concrete Reinforcement
- J. ASTM A 775: Standard Specification for Epoxy-Coated Steel Reinforcing Bars
- K. ASTM C 33: Concrete Aggregates
- L. ASTM C 109: Compressive Strength of Hydraulic Cement Mortars
- M. ASTM D 1621: Compressive Properties of Rigid Cellular Plastics
- N. ASTM D 1785: Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
- O. ASTM D 3034: Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
- P. ASTM D 4380: Density of Bentonitic Slurries
- Q. ASTM D 4716: Determining the (In-plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head
- R. FHWA Geotechnical Engineering Circular No. 7: Soil Nail Walls Reference

1.3 DEFINITIONS

- A. Bird's Beak: The space above the bottom elevation of the inclined drill hole opening at the face of the wall after grout placement.
- B. Hollow Bar Soil Nail (HBSN): Hollow core and self-drilling bar advanced into the soil by drilling with a sacrificial bit as grout is injected through the bar.

1.4 SUBMITTALS

- A. Soil Nail Contractor Qualifications for review. Include at least the following:
 - 1. Company name.
 - 2. List of at least three projects in the last five years demonstrating successful construction of permanent soil nail retaining walls totaling at least 10,000 ft² of wall face area and at least 500 permanent soil nails. Include the following for each project:
 - a. Project name and location.
 - b. Owner or agent references and their contact information (phone and email).
 - 1) Satisfactory references are those responsible for oversight or inspection of the project.
 - c. A brief description of the scope of work and approximate date of the project completion.
 - 3. List of planned subcontractors for design and construction.
 - 4. List of the following personnel and their experience with at least three permanently anchored or nailed structures in the last three years:
 - a. Drill operators
 - b. On-site supervisors assigned to the project.
 - 5. Do not substitute for these personnel without authorization.
- B. Wall Designer Qualifications for review when CONTRACTOR provides wall design. Include at least the following:
 - 1. Wall Designer name and professional engineer licensing information.
 - 2. Company name.
 - 3. List of at least three projects in the last five years demonstrating successful construction of permanent soil nail retaining walls. Include the following for each project:
 - a. Project name and location.
 - b. Owner or agent references and their contact information

(phone and email).

- 1) Satisfactory references are those responsible for oversight of the project.

- c. A brief description of the scope of work and approximate date of the project completion.

4. Do not substitute for the wall designer without authorization.

C. Soil Nail Retaining Wall Drawings for review. Include at least the following:

1. Plans, profiles, cross-sections, quantities, and details for each retaining wall.
 - a. Subsurface exploration locations noted with station and offsets with respect to the wall alignment.
 - 1) Provide soil data sheets for each subsurface exploration.
 - b. Top of wall detail.
 - 1) Aesthetically pleasing
 - 2) Adequately supports fence, drainage, or other requirements as shown.
 - c. Production soil nail details showing at least the following:
 - 1) Bar sizes and grades
 - 2) Corrosion protection
 - 3) Centralizers
 - 4) Nail head assemblies
 - d. Verification test nail locations
 - e. Test nail details (verification and proof) including nail size, bonded/unbonded lengths, reaction frames and supports, jacks, load cells, and gauges.
 - f. Provisions for facilities directly behind the wall face, such as foundation elements, utilities, piping, and guardrail posts.
 - g. Surface and subsurface drainage details.
 - h. Architectural treatment details for wall facing elements and concrete color as shown.
 - i. Expansion/contraction joint locations and details.
 - j. Structure number details
2. Include supporting calculations sufficient to demonstrate that the soil nail walls are designed according to the required criteria.
3. Provide the seal of a Professional Engineer (PE) or Professional Structural Engineer (SE) licensed in the State of Utah on the drawings and calculations.

D. Construction Plan for review. Include at least the following:

1. Wall construction start date and proposed detailed wall construction sequence and phasing plan.
 2. Proposed methods to contain grout, shotcrete, and void-filling materials within the project area and the OWNER Right-of-Way.
 3. Proposed drilling methods, equipment, and drill hole diameters.
 4. Proposed methods of soil nail installation.
 5. Procedures for placing nail grout, grout quality control plan, and equipment.
 6. Proposed methods for controlling seepage and unstable drill holes.
 7. Monitoring and instrumentation plan. Include at least the following:
 - a. Measures to verify wall and slope stability during construction
 - b. Details for measuring the movement of the excavated face and the wall during stability testing and construction
 - c. Methods, frequencies, and locations of measurement points for monitoring displacements of the wall facing, surrounding ground, utilities, and other existing facilities
- E. Equipment calibration data for information:
1. Calibration data for testing equipment including load cells, test jacks, pressure gages, and grout pumps
 - a. Include calibration date, device identification number, and calibration results, certified with an accuracy of at least 2 percent of the applied certification.
- F. Manufacturer's product data sheets and installation instructions for furnished materials, for information, such as the following:
1. Soil nail bars
 - a. Include ultimate strength and yield strength
 - b. Include corrosion protection, such as epoxy coating or encapsulation.
 2. Bar couplers
 3. Geocomposite strip drains
 4. Centralizers
 5. Drain connection grates
- G. Nail grout mix design for approval, including:
1. Compressive strength test results, according to AASHTO T 106 or ASTM C 109, supplied by a qualified independent testing lab and verifying specified 3-day and 28-day minimum grout compressive strengths.
 2. Include specific gravity test results of the fresh grout used for compression testing for neat cement grout.

- H. Soil Nail Test Results for information within 48 hours of the test.
 - 1. Include results from failed and passing soil nails.
 - 2. Include at least the following:
 - a. Project name, location, and type (verification or proof) of test.
 - 1) Include times and dates of drilling, installation, grouting, and testing.
 - b. Name of person(s) performing testing.
 - c. Hydraulic jack calibration information.
 - d. Soil nail bar bonded and unbonded lengths, as well as any additional bar length used for testing.
 - e. Soil nail bar type, diameter, cross-sectional area, and grade of steel.
 - f. Drill method, hole length, and diameter.
 - g. Maximum test load.
 - h. Ultimate load capacity of soil nail bar.
 - i. Soil to grout bond strength.
 - j. Tabulated individual and average displacements for each dial gage at each specified loading increment and observation period.
- I. Soil Nail Retaining Wall As-Built Drawings for information within 30 days after completion of the work.
 - 1. Provide the locations and lengths of the nails for each wall. Include Northings, Eastings, elevation, azimuth, and inclination (to the nearest 0.1 inch and 0.5 degrees), Include survey datum.
 - 2. Provide revised design calculations signed and sealed by a PE or SE licensed in the State of Utah for design changes made during the construction of the wall.

1.5 AESTHETICS TEST PANELS

- A. Construct a 3 ft high by 10 ft long test panel on-site for final shotcrete facings with sculpted or formed aesthetic treatments.
 - 1. Receive authorization before beginning production work.
 - 2. Use the same sculpting or forming methods, procedures, form liner, texture configuration, expansion joint, concrete mixture, and color/stain application proposed for the production work.
 - 3. Furnish one test panel for each type of wall finish.

1.6 QUALITY CONTROL

- 1. Soil Nail Grout
 - 1. Test each batch of grout for specific gravity using a mud balance according to the procedure in ASTM D 4380.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store and handle materials in a manner that will prevent contamination, segregation, corrosion, and damage.
 - 1. Store and protect all bars such that corrosion protective coatings, bar surfaces, and threads are undamaged.
 - 2. Geocomposite strip drain
 - a. Store/stockpile in a manner which protects the material from mud, dirt, dust, debris, and shotcrete rebound.
 - b. Do not remove the protective wrapping until immediately before material is installed.
 - c. Avoid exposure to ultraviolet light.

PART 2 MATERIALS

2.1 SOIL NAILS

- A. Soil Nail Tendon.
 - 1. Provide fully threaded solid or hollow bars as shown, continuous or with couplers, threaded to allow proper attachment of bearing plate, washer, and nut.
 - 2. Solid Bar Soil Nails (SBSNs)
 - a. Use solid threaded bar according to one of the following:
 - 1) AASHTO M 31 Grade 75 or 80
 - 2) AASHTO M 275 Grade 150.
 - b. Verify that bar meets the minimum capacity required at the threaded section if threads are cut into the bar.
 - 3. Hollow Bar Soil Nails (HBSNs), unless excluded as shown.
 - a. ASTM A 519 Grade 75 or better, size as shown.
 - b. Fully-threaded hollow-steel tubing that serves as drilling steel, grout transfer medium, and reinforcing element of the soil nail.
 - c. Uniform elongation without necking (A_{gt}) greater than or equal to 5 percent.
 - d. Minimum Charpy impact resistance of 30 ft-lb at -4 degrees F (40 J at -20 degrees C) according to AASHTO T 244.
 - e. Provide bar couplers with seals or similar mechanisms to verify minimum grout loss and a means of transferring percussive drilling forces, if required.
 - f. Select drill bits based on subsurface data and minimum grout column requirements, with at least two ports for grout exit.
 - 4. Bar Couplers
 - a. Develop the full nominal tensile capacity of the soil nail bar

as certified by the manufacturer.

5. Corrosion protection

a. SBSNs

- 1) Bar encapsulation. Use one of the following sheathings:
 - a) Corrugated high-density polyethylene (HDPE) tube having a minimum wall thickness of 60 mils and conforming to AASHTO M 252.
 - b) Corrugated PVC tube having a minimum wall thickness of 40 mils.
- 2) Bar coating. Use one of the following:
 - a) Use epoxy-coated bars according to ASTM A 775 with between 0.008- and 0.012-inch coating thickness. Omit bend test requirements.
 - b) Use galvanized bars according to ASTM A 767 with minimum coating thickness of 3.4 mil.

B. Centralizers

1. SBSNs.

- a. Use centralizers manufactured from Schedule 20 or 40 PVC pipe securely attached to the soil nail bar with coated wire.
- b. Size to position the soil nail bar within 1.0 inch of the center of the drill hole.

2. HBSNs.

- a. Use steel centralizers that do not obstruct the flow of grout, drilling fluids, and spoils.

C. Nail Head Assemblies

1. Bearing Plate Assembly

- a. Bearing Plate
 - 1) AASHTO M 270, Grade 36. Refer to Section 05 12 00.
- b. Shear Connectors
 - 1) Headed studs or anchor bolts
- c. Fabrication
 - 1) Refer to AASHTO/AWS D1.5.
- d. Galvanize after fabrication according to ASTM A 767.

2. Nuts and Washers

- a. AASHTO M 291, Grade B, hexagonal.
- b. Fit with beveled washers or spherical seats to provide uniform bearing.
- c. Galvanize according to ASTM A 767.

D. Soil Nail Grout

1. Use a neat cement or sand/cement mixture
 - a. Use Type II Portland Cement meeting AASHTO M 85.
 - b. Use sand for grout and meeting requirements of ASTM C 33 for SBSNs.
 - c. Do not use sand in the nail grout mix for HBSNs.
 - d. Use admixtures as appropriate to control bleed, improve flowability, reduce water content, and/or retard set, as specified in the authorized submittals.
 - 1) Use only admixtures that are compatible with the grout and mixed according to the manufacturer's recommendations.
 - 2) Do not use accelerators.
2. Meet 3-day minimum compressive strength of at least 2,000 psi according to AASHTO T 106.
3. Meet 28-day minimum compressive strength of at least 4,000 psi according to AASHTO T 106.
4. Meet specific gravity between 1.80 and 1.90.

2.2 FACING

- A. Shotcrete
 1. Refer to Section 13 50 40.
- B. Concrete
 1. Class 4000. Refer to Section 03 30 04.
- C. Reinforcing Steel and Welded Wire Reinforcement
 1. Coated. Refer to Section 03 20 00.

2.3 GEOCOMPOSITE STRIP DRAIN

- A. Use a strip drain consisting of a drainage core and an attached or encapsulating filtration geotextile meeting the following:
 1. At least 85 percent by mass of polypropylenes, polyester, polyamine, polyvinyl chloride, polyolefin, or polystyrene.
 2. Compressive strength of at least 40 psi when tested according to ASTM D 1621, Procedure A.
 3. Flow rate of at least 0.1 gallons per second per foot of strip width under a gradient of 1.0 tested according to ASTM D 4716.
 4. Provide in rolls wrapped with a protective covering and labeled to identify the production run.

2.4 TOE DRAIN

- A. Perforated Pipe
 - 1. ASTM D 1785 Schedule 40 PVC solid and perforated wall; cell classification 12454-B or 12454-C, wall thickness SDR 35, with solvent or elastomeric joints.
- B. Fittings
 - 1. ASTM D 3034, cell classification 12454-B or 12454-C, wall thickness SDR-35, with solvent or elastomeric joints.
- C. Free-Draining Granular Backfill
 - 1. Gravel. Refer to Section 31 05 13.
- D. Drainage Geotextile
 - 1. Class B. Refer to Section 31 05 19.

2.5 EXPANSION JOINT MATERIALS

- A. Preformed Joint Filler
 - 1. Joint Filler – Sheet Type. Refer to Section 32 13 73.
- B. Backer Rod
 - 1. Joint Filler – Backer Rod, Type 1. Refer to Section 32 13 73.
- C. Joint Sealant
 - 1. Joint Sealant – Cold Applied, CAS-5. Refer to Section 32 13 73.

2.6 EQUIPMENT

- A. Soil Nail Grouting
 - 1. Use a high-shear colloidal mixer with separate holding tank and water and cement dosing system to verify continuous grouting independent from mixing.
 - 2. Capable of grout pump flow rate of at least 15 gpm for bars less than 2-inch diameter and 45 gpm for bars 2 inch or greater in diameter.
 - 3. Capable of grout pump pressure of at least 250 psi in sands/gravels and 1,500 psi in clays/silts.
- B. Soil Nail Testing
 - 1. Provide testing equipment including dial gages, dial gage support, jack and pressure gage, load cell, and a reaction frame as shown.
 - a. Use a pressure gage with a maximum graduation of 50 psi and use calibrated load cell for load steps.
 - b. Support dial gages on a frame that is independent from the jacking and the wall.
 - c. Measure nail head movement with at least 2 dial gages capable of measuring to 0.001 inch
 - 2. Use testing equipment that has been calibrated by an independent

testing lab within 90 days of the submittal date.

- a. Calibrate jack and pressure gage as a single unit.

2.7 SOIL NAIL WALL DESIGN REQUIREMENTS

- A. Design the soil nail walls according to the GMOI and AASHTO LRFD Bridge Design Specification except where modified in this Section and as shown. Refer to FHWA GEC 7 for design guidance not covered by AASHTO LRFD (e.g., HBSNs).
 1. Provide a minimum design life of 75 years for soil nail walls and all components and include supporting data and calculations in the design submittal.
 2. Provide corrosion protection as shown for SBSNs.
 3. Provide sacrificial steel corrosion protection according to FHWA GEC 7 for HBSNs.
 4. Do not use HBSNs in aggressive soils.
 5. Use a soil nail length of at least 10 ft.
 6. Design soil nail walls to withstand seismic ground shaking as shown.
- B. Provide a structural facing thickness of at least 10 inches excluding architectural relief.
 1. Provide reinforcement in the structural facing consisting of at least No. 4 bars at 12 inch spacing in both directions.
 - a. Supplement this minimum reinforcing with additional bars or with wire mesh as required by the design and construction methods.
- C. Extend facing at the toe of the wall to at least 2 ft below the finished grade at front face of wall at all points.
- D. Provide expansion joints and contraction joints at appropriate intervals for the wall design, according to FHWA GEC 7.
- E. Locate the top row of nails within 2 ft of the top of the wall.
- F. Arrange soil nails so that the distance between the lowest row of soil nails and the facing at the toe of the wall is less than two thirds of the vertical nail spacing.
- G. Consider the locations of existing utilities or obstructions in the area of construction.
- H. Use a design batter of at least 2 degrees for the final soil nail wall facing.
- I. Provide backwall drainage through weep holes or to toe drain, as shown.
 1. Transmit backwall drainage between every column of soil nails down the wall through geocomposite strip drains.
 2. Provide a weep hole for each geocomposite strip drain.
 3. Provide a positive connection from each strip drain to a toe drain

- (where used), using a compatible drain connection grate and pipe.
- J. Include provisions to prevent water flow over the top surface of the walls.
 - K. Show the quantity and locations of verification tests to be performed, accounting for subsurface conditions and variability, wall geometry, and project phasing.
 - 1. Require at least two verification tests per wall.
 - 2. Size verification test nails so that the maximum test load does not exceed 90 percent of the minimum yield strength for Grade 75 through 80 bars and 80 percent of the minimum ultimate tensile strength for Grade 150 bars.

PART 3 EXECUTION

3.1 GENERAL

- A. Follow the authorized soil nail retaining wall drawings.
- B. Perform additional exploration and testing when appropriate to complete final design.

3.2 EXCAVATION

- A. Refer to Section 31 23 16.
- B. Establish the ground contour above the wall to its final configuration and slope as shown before beginning excavation of the soil for the first row of soil nails.
- C. Excavate from top down in staged horizontal lifts.
 - 1. Limit the excavation to no more than 3 ft below the elevation at which the soil nails will be installed for the current lift.
 - 2. Place reinforced initial shotcrete facing before the vertical cut becomes unstable, but no more than 24 hours after excavation.
 - a. Place reinforcement with at least 2 inch of shotcrete cover between the soil or the strip drain, and the reinforcement.
 - 3. Do not excavate a lift until the soil nail installation and reinforced initial shotcrete placement for the preceding lift is completed.
- D. Excavated face
 - 1. Remove loose materials, mud, rebound, and other foreign matter that could prevent or reduce shotcrete bond before placing shotcrete.
 - 2. Accuracy
 - a. Sufficient to allow placement of the required shotcrete thickness shown.
 - 1) Additional shotcrete thickness due to overexcavation or irregularities in the excavated face is at no

additional cost to the OWNER.

- b. Sufficient to prevent damage to overlying shotcrete sections by undermining or other causes.
- E. Monitor the wall and slope stability during construction.
 - 1. Suspend soil nail wall construction if an excavation becomes unstable.
 - a. Temporarily stabilize the excavation by immediately placing an earth berm against the unstable excavation face.
 - b. Notify the ENGINEER immediately.

3.3 SOIL NAIL INSTALLATION

- A. Drilling
 - 1. Use core drilling, rotary drilling, percussion drilling, auger drilling, or driven casing.
 - a. Use a method that prevents loss of ground above the drilled hole that may be detrimental to the soil nails or existing structures.
 - b. Use a method that is suited to the ground conditions.
 - c. Use cased drilling methods or other suitable means to support the sides of the drill holes if needed.
 - 1) Remove casing unless ENGINEER permits it to remain.
 - 2. Drilled hole tolerances
 - a. Inclination
 - 1) Within ± 3 degrees of planned angle at the bearing plate
 - b. Location
 - 1) Within ± 0.5 ft of the planned location at the face of the excavated surface (point of entry).
 - c. Horizontal Splaying
 - 1) Splay drill holes up to 10 degrees horizontally from plan orientation to avoid obstructions such as piles, drainage features, utilities, etc.
 - 2) Note location of splayed nails and reason for splay on as-built drawings.
 - 3. Adjust drill hole and soil nail length as necessary to develop the load capacity and satisfy acceptance criteria for the required design load if required by testing.
- B. Tendon Insertion
 - 1. Inspect bar coating or encapsulation on soil nail bars before insertion into the drill hole.

- a. Replace soil nail bars exhibiting abrasions, cuts, welds, weld spatter, corrosion, or pitting.
 - b. Replace or repair soil nail bars exhibiting damage to bar coating or to encapsulation.
2. Space centralizers no greater than 10 ft apart and no more than 1.5 ft from the end of each nail.
 - a. Use centralizers that allow tremie pipe insertion to the bottom of the hole, and free flow of grout up the hole.
 - b. Attach to the bar in front of the couplings for HBSNs.
3. Insert soil nail tendon into the drilled hole without difficulty.
 - a. Remove the tendon and clean or redrill the drill hole to permit insertion if the tendon cannot be completely inserted.
 - b. Do not drive or force partially inserted bars into the hole.
4. Notify the ENGINEER and the Wall Designer immediately if soil nails cannot be installed as shown.

C. Grouting

1. Grout the drill hole after installation of the soil nail bar and within 2 hours of completing drilling.
2. Inject grout at the lowest point of each drill hole through a hollow bar soil nail, grout tube, casing, hollow-stem auger, or drill rods.
3. Place the outlet end of the grout delivery tube below the surface of the grout as the conduit is withdrawn to prevent the creation of voids.
4. Fill the drill hole in one continuous operation. Do not allow cold joints in the grout column except at the top of the test-bond length of proof-tested production nails.
5. Consider hollow bar soil nails to be completed when the final grout returns to the excavated face, signaling that drilling spoils have been removed.
6. Provide at least 1 inch of grout cover between the soil nail bar and the surrounding soil for all bars.
7. Fill bird's beaks with additional grout after placing a temporary cover in front of the drill hole. Alternatively, fill bird's beaks with shotcrete.
 - a. Position shotcrete nozzle into the mouth of the drill-hole to completely fill the void where shotcrete is used to backfill bird's beaks.
8. Do not add water to grout conforming to the mix design to improve workability.

D. Nail Head Assembly

1. Attach a bearing plate, washers, and nut to each nail head as shown.
2. Provide uniform contact between the plate and the shotcrete.
 - a. Seat the bearing plate uniformly on the shotcrete while the facing is still plastic and before its initial set. Hand-wrench tighten the nut.
 - b. Set the bearing plate in a bed of grout if needed. Re-tighten the nut by hand with a wrench after the grout has set for 24 hours.

3.4 SOIL NAIL TESTING

A. General

1. Conduct soil nail testing after the Wall Designer approves the calibration reports.
2. Perform soil nail testing after the nail grout and shotcrete facing have cured for at least 72 hours and have attained their specified 3-day compressive strength.
3. Do not apply loads greater than the following:
 - a. Grade 75 or 80 bars: 90 percent of the minimum yield strength of the soil nail bar
 - b. Grade 150 bars: 80 percent of the minimum ultimate tensile strength of the soil nail bar
4. Use verification and proof test nails having an unbonded length of at least 3 ft.
 - a. Clean out the hollow bar unbonded length after bar installation.
 - b. Do not place a PVC pipe bond breaker without cleanout as a substitute for providing the required unbonded length.
 - c. Measure and verify void for unbonded length before testing.
5. Provide verification test and proof test nails having a bonded length of at least 10 ft. Shorter bonded lengths are appropriate for proof tests on production nails less than 13 feet in length.
6. Immediately report failed verification and proof nail test results to the ENGINEER and the Wall Designer, with the soil nail location, bonded and unbonded lengths, maximum load held, and the failure load.

B. Verification Testing

1. Perform verification tests on sacrificial nails at the locations shown.
 - a. Perform additional verification testing as determined by the ENGINEER.
 - b. Test nails of the same design and constructed with the same methods to be used on production nails.

2. Test sacrificial nails before installation of production soil nails to verify that the design nail pullout resistance is representative of the CONTRACTOR's drilling and installation methods in the site soils.
3. Notify the ENGINEER of changes to drilling methods, installation methods, or equipment during installation of production nails.
 - a. Test additional sacrificial nails to address these changes as determined by the ENGINEER at no additional cost to the OWNER.
4. Test soil nails with a known bonded length and a measured unbonded length.
5. Select a bonded length, L_{VBT} , as follows:
 - a. Calculate L_{VBTmax}

$$L_{VBTmax} = (C_{RT} \times A_t \times f_s) / (r_{po})$$

EQ1 where:

C_{RT} = reduction coefficient; 0.9 for Grade 75 or 80 bar or 0.8 for Grade 150 bar

A_t = cross-sectional area of the test soil nail bar

r_{po} = nominal load transfer rate (kips/ft)
 $= \pi \times q_u \times D_{dh} / 12$

q_u = bond strength (ksf)

D_{dh} = drill hole diameter (inch)

f_s = nominal resistance of the test tendon, f_y or f_u
 (ksi)

in which:

f_y = nominal yield resistance of the test tendon (ksi)
 for Grade 75 or 80 bar

f_u = minimum ultimate tensile strength of the test tendon (ksi) for Grade 150 bar

b. If $L_{VBTmax} > 10$ ft, $10 \text{ ft} \leq L_{VBT} \leq L_{VBTmax}$

c. If $L_{VBTmax} < 10$ ft, $L_{VBT} = 10$ ft, increase the test tendon size

until $L_{VBTmax} \geq 10$ ft.

- d. Use q_u as shown.
- e. Calculate the maximum load during the verification test, defined as the Verification Test Load (VTL), as follows:

$$VTL = L_{BVT} \times r_{po} \text{ (kips/ft)}$$

EQ2 where:

$$L_{BVT} = \text{verification test nail bonded length (ft)}$$

6. Perform verification test by incrementally loading the verification test nail to pullout or maximum test load (VTL) according to Table 1.

Table 1

Verification Test Schedule	
Load	Observation Period (minutes) ³
AL ¹	Apply AL and set dial gauges to “zero”
0.13 VTL ²	10 (record soil nail head movement at 1, 2, 5, 10)
0.25 VTL	10 (record soil nail head movement at 1, 2, 5, 10)
0.38 VTL	10 (record soil nail head movement at 1, 2, 5, 10)
0.50 VTL	10 (record soil nail head movement at 1, 2, 5, 10)
0.63 VTL	10 (record soil nail head movement at 1, 2, 5, 10)
0.75 VTL (Creep Test)	60 (record soil nail head movement at 1, 2, 5, 6, 10, 20, 30, 50, 60)
0.88 VTL	10 (record movement at 10)
1.00 VTL	10 (record movement at 10)
AL	Reduce to AL And record permanent set
Table Notes: ¹ Alignment Load (AL) ≤ 0.025 VTL (kips) ² Verification Test Load (VTL) = $L_{BVT} \times r_{po}$ (kips/ft) ³ Measure soil nail head movement after each load increment has been achieved and at each indicated time step	

7. Maintain the load during the creep test to within 2 percent of the intended load by using a load cell.
8. Re-pump jack as needed to maintain load during hold times.

9. Reduce loading to the AL and record the permanent set after applying VTL or other maximum test load.
10. Perform stepped unloading where determined or authorized by the Wall Designer.
 - a. Perform between one and seven intermediate steps in stepped unloading.
 - b. Hold each load step until gage readings are stable.

C. Proof Testing

1. Perform proof testing on production soil nails.
 - a. Test at least 5 percent of production soil nails.
 - b. Test no fewer than one production nail per row on each soil nail wall.
 - 1) Distribute the locations of proof tests evenly across the vertical and horizontal extent of the wall face.
 - c. Test the number of nails in each row sufficient to account for variability of soil and installation technique.
 - d. Proof test at least 10 percent of production soil nails, with no fewer than two proof tests per row on each soil nail wall where HBSNs are used without centralizers.
2. The ENGINEER will determine locations and number of proof tests before completing grout placement.
3. Demonstrate successful proof testing on at least 5 percent of production soil nails in each nail row, but no less than one per row.
4. Perform proof tests on soil nails with a known bonded length and a measured temporary unbonded length.
5. Select a bonded length (L_{BPT}) for the proof tests such that L_{BPT} is 10 ft or L_{BPTmax} , whichever is smaller.
6. Select L_{BPTmax}

$$L_{BPTmax} = (C_{RT} \times A_t \times f_s) / (r_{po} \times 0.75) \quad \text{EQ3}$$

7. Allow for bond lengths less than 10 ft for production proof nails shorter than 13 ft.
8. Do not proof test fully grouted nails.
9. Calculate the maximum load for proof tests, defined as the Proof Test Load (PTL), as follows:

$$PTL = L_{BPT} \times r_{po} \text{ (kips/ft)} \times 0.75 \quad \text{EQ4}$$

10. Conduct proof tests by incrementally loading the proof test nail according to the test loading schedule in Table 2.

Table 2

Proof Test Schedule	
Load	Observation Period (minutes)¹
AL ²	1
0.17 PTL ³	Record movement when it stabilizes
0.33 PTL	Record movement when it stabilizes
0.50 PTL	Record movement when it stabilizes
0.67 PTL	Record movement when it stabilizes
0.83 PTL	Record movement when it stabilizes
1.0 PTL (Creep Test) ⁴	10 (record soil nail head movement at 1, 2, 5, 6, and 10 minutes)
AL	1
<p>Table Notes:</p> <p>Re-zero dial gages after the alignment load is applied.</p> <p>Re-pump jack as needed to maintain load within 5 percent of the intended load during hold times.</p> <p>¹ If the soils reinforced with nails are relatively susceptible to deformation or creep, hold each load increment for 10 minutes and record soil nail movement at 1, 2, 5, 6, and 10 minutes.</p> <p>² Alignment load ≤ 0.025 PTL</p> <p>³ Proof Test Load (PTL) = $L_{BPT} \times r_{po}$ (kips/ft) $\times 0.75$</p> <p>⁴ If soil nail movement measured between 1 and 10 minutes exceeds 0.04 inch, maintain PTL for 50 more minutes and record movements at 20, 30, 50, and 60 minutes. Record permanent soil movement.</p>	

3.5 SOIL NAIL LOAD TEST ACCEPTANCE CRITERIA

- A. A verification-tested or proof-tested soil nail is acceptable if all of the following are met:
 1. The soil nail resists the creep test load with less than 0.04 inch of movement between the 1 minute and 10 minute readings.
 2. The soil nail resists the creep test load with less than 0.08 inch of movement between the 6 minute and 60 minute readings if the creep test load is maintained for 60 minutes.
 3. The creep rate is linear or decreasing throughout the creep test observation period.
 4. The total soil nail movement (\square TL) measured at the maximum test load (VTL or PTL) exceeds 80 percent of the theoretical elastic elongation of the temporary unbonded length of the test nail, as

calculated using Equation 5 (EQ5).

$$\Delta TL > 0.8 \times \text{Maximum Test Load} \times L_{UB} / (E \times A_t)$$

EQ5 where:

ΔTL = Total soil nail movement measured at the maximum test load (PTL or VTL)

L_{UB} = Test nail unbonded length

E = Young's Modulus of steel (29,000 ksi)

5. Pullout does not occur before achieving the maximum test load (VTL or PTL).
 - a. Pullout is defined as the load at which attempts to further increase the test load increment results in continued test nail movement.

B. Verification-tested Nail Failure

1. Modify the design or the installation procedures or both.
2. Install replacement sacrificial nails for verification testing.

C. Proof-tested Nail Failure

1. The production nail will be rejected.
2. The ENGINEER may determine that additional proof testing is required to delineate the area of unsatisfactory production nails.
3. Evaluate and modify the design and construction procedures as applicable.

3.6 WALL DRAINAGE

A. Install and secure wall drainage elements.

1. Wall drainage elements include geocomposite strip drains, PVC connection pipes, soil nail wall toe drains, and weep holes.
2. Construct wall drainage to provide continuous and unrestricted flow to discharge water collected behind the wall face.
3. Install wall drainage elements before shotcreting with the exception of toe drains in front of the wall face.

B. Geocomposite strip drains

1. Center between each column of soil nails, as shown.
2. Provide a minimum strip width of 12 inch.

3. Secure in continuous contact with the excavated face, and with the geotextile side against the excavated face.
 4. Prevent shotcrete contamination of the geotextile against the excavated face.
- C. Toe drains
1. Install at the bottom of the wall, according to the authorized soil nail retaining wall drawings.
 2. Encase the free-draining granular backfill and pipe with drainage geotextile that conforms to the dimensions of the excavated trench.

3.7 FACING JOINTS

- A. Construct expansion and contraction joints through the final shotcrete layer as shown.

3.8 CONSTRUCTION TOLERANCES

- A. Refer to Table 3.

Table 3

Construction Tolerances	
Item	Tolerance
Cross-sectional location for reinforcing steel, welded wire reinforcement, and shear connectors.	3/8 inch
Location of headed studs on bearing plate	¼ inch
Reinforcing steel lap	1 inch
Planeness of finish surface, gap under 10-ft straight edge, if troweled or screeded	9/16 inch
Planeness of finish surface, gap under 10-ft straight edge, if left as shot	1 1/8 inch
Nail head bearing plate deviation from parallel to wall face	10 degrees

END OF SECTION

SECTION 13 50 40 SP SHOTCRETE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Shotcrete mix design, application, and curing

1.2 REFERENCES

- A. AASHTO T 152: Air Content of Freshly Mixed Concrete by the Pressure Method
- B. ASTM C 309: Liquid Membrane-Forming Compounds for Curing Concrete
- C. ASTM C 1604: Obtaining and Testing Drilled Cores of Shotcrete
- D. APWA 09 96 23: Graffiti Resistant Coating

1.3 DEFINITIONS

- A. Dry Mix Process – Shotcrete production process in which most of the water is added at the nozzle.
- B. Nozzle Operator – Worker on shotcrete crew who manipulates the nozzle, controls consistency of dry mix shotcrete, and controls final disposition of the material.
- C. Rebound – Shotcrete that fails to adhere to the surface on which the shotcrete is being applied.
- D. Wet Mix Process – Shotcrete production process in which cement, aggregate, water, and admixtures are first mixed together before introduction into the delivery hose.

1.4 SUBMITTALS

- A. Shotcrete mix design with mix proportions and test results for approval.
 - 1. The ENGINEER approves shotcrete mix designs based on preconstruction test panel results.
 - 2. Include at least the following:
 - a. Aggregate source and grading
 - b. Cement type and brand
 - c. Water source
 - d. Type and dosage of hydration stabilizing/extended-set admixtures, if used
 - e. Discharge time limit for wet mix shotcrete
 - f. Preconstruction test panel test results including at least the

following:

- 1) Sample identification, including mix design and test panel number and orientation.
 - 2) Date and time of core sample preparation including sample dimensions.
 - 3) Date and time of compression test.
 - 4) 28-day compressive strength.
 - 5) Names and signatures of people performing the compression test.
 - 6) Name of nozzle operator who produced test panel.
 - 7) Air content measured at the time of test panel creation (wet mix only).
- B. Written documentation of the shotcrete supervisor's and nozzleman's qualifications including proof of ACI Shotcrete Nozzleman certification for review.
1. ACI Shotcrete Nozzleman Certification
 2. Experience on at least three comparable projects.
 - a. Include project names, locations and owners' contact information
- C. Production summary reports for each shift
1. Submit for information within 24 hours of completing shift.
 2. Include at least the following:
 - a. Observations of success or problems of equipment operation, application, final product conditions, and any other relevant issues during production and application.
 - 1) Include sketches for locations as necessary.
 - b. Shotcrete batch number(s) if applicable

1.5 ACCEPTANCE

- A. The ENGINEER will perform testing according to Table 1.

Table 1

Sampling and Testing Schedule			
Property or Characteristic	Test Methods or Specifications	Frequency	Sampling Point
Air Content (Wet Mix Only)	AASHTO T 152	1 per load ¹	Prior to placement
28-Day Compressive Strength	ASTM C 1604	1 set per 50 cy; at least one set per day	Production test panels ²

¹ When continuous mixing is used, sample every 10 cy.

² A single compressive strength test result is the average result from three 3-inch diameter core specimens from the same test panel tested according to ASTM C 1604 at 28 days.

- B. Shotcrete that fails to meet the strength requirements based on the following will be cause for rejection.
 - 1. Specified 28-day minimum compressive strength test result less than 0.85 times the minimum 28-day compressive strength.
 - 2. A single core compressive strength test result less than 0.75 times the minimum 28-day compressive strength.
 - 3. The ENGINEER may accept a 'reject' lot based on engineering analysis. The ENGINEER will apply a price reduction on rejected shotcrete allowed to stay in place.
- C. Shotcrete that has been damaged by frost, or which lacks uniformity, exhibits segregation, honeycombing, lamination with a shotcrete stage, or shows excessive cracking will be cause for rejection.

PART 2 MATERIALS

2.1 SHOTCRETE

- A. Refer to Section 03 30 04 for material requirements.
- B. Conform to the requirements in Table 2.

Table 2

Shotcrete Process	Air Content Range	28-day Minimum Compressive Strength² (psi)
Dry Mix	N/A	4,000
Wet Mix	8% - 10% at the pump	4,000

² According to ASTM C 1604

- C. Use the amount of water required to produce shotcrete of suitable strength, consistency, quality, and uniformity with the minimum amount of rebound.

2.2 MIX DESIGN

- A. Design mixes to meet the requirements of this Section and project specific criteria.
- B. Preconstruction Test Panels
 - 1. Refer to this Section, Article 3.1.

2.3 CURING COMPOUND

- A. Use a curing compound that complies with ASTM C 309 Type 1-D or Type 2, Class A.

PART 3 EXECUTION

3.1 TEST PANELS

- A. Forms and Construction
 - 1. Construct wood forms for preconstruction and production test panels at least 3.5 inch thick by 2 ft by 2 ft in size.
 - 2. Construct wood forms with plywood back 0.75 inch thick minimum.
 - 3. Do not include reinforcing steel bars in the test panels
- B. Preconstruction Test Panels
 - 1. Produce test panels for each proposed mix design.
 - a. Include a separate test panel for each anticipated shooting orientation (slab, slopes, vertical, and overhead), and each proposed nozzle operator.
 - b. Assign a test panel number and record specific information about the panel required for submittal.
 - 2. Notify the ENGINEER of the time and location of preconstruction test panel production so that the ENGINEER may witness the production.
- C. Production Test Panels
 - 1. Produce separate panels for each nozzle operator applying shotcrete.
 - a. Produce production test panels for every 50 cubic yards of material placed, but not less than one panel per day.
 - b. Shoot test panels in the same manner as that being used on the project, including distance from nozzle, angle and orientation.
 - c. Include a separate test panel for each mix design used by the nozzle operator and each shooting orientation that mix design was used in (slab, slopes, vertical, and overhead).
 - 2. Cure test panels in similar conditions to what is anticipated in the field and until test specimens are sampled.
- D. Compressive Strength Test
 - 1. Use a core drill to remove three, 3-inch diameter samples from the center of the test panel, at least 5-inch clear of the edges.
 - 2. Remove the test specimens at least 21 calendar days and no more than 26 calendar days age.
 - a. Coordinate timing of specimen removal, delivery and testing with the ENGINEER.

3. Store cores in watertight plastic bags and label with the project number, test panel number, date of placement, and name of nozzle operator.
4. Deliver cores to the ENGINEER for testing immediately after removal.

3.2 SURFACE PREPARATION

- A. Prepare shotcrete application surface according to the following:
 1. Remove loose material, mud, rebound, and other foreign matter.
 2. Clear any vegetation or organic material from the surface.
 3. Remove curing compound on previously placed shotcrete surfaces by sandblasting.
 4. Install depth gages on 4 ft centers longitudinally and vertically to indicate the thickness of shotcrete layers.
 5. Dampen natural excavated surfaces immediately before shooting.
 - a. Remove standing water before shooting.
 6. Achieve saturated surface dry condition on shotcrete surfaces.

3.3 APPLICATION

- A. Limitations
 1. Do not apply shotcrete during adverse weather including rain, snow, and high winds without adequate protection authorized by the ENGINEER.
 2. Cease placement operations when the ambient temperature drops below 50 degrees F.
- B. Use authorized nozzle operators and approved mix designs.
- C. Apply shotcrete in one or more layers.
 1. Apply shotcrete within discharge time limit indicated in the approved mix design.
 2. Make the surface of each shotcrete layer uniform and free of sags, drips, or runs.
 3. Limit the layer thickness to 3 inch per application with no sloughing or sagging.
 4. Broom or scarify the applied surface and allow the layer to harden if additional thickness is required.
 5. Remove laitance, loose material, and rebound.
 - a. Promptly remove rebound from the work area.
 6. Construction Joints
 - a. Taper construction joints at an approximately 45 degree angle from the receiving surface.
 - b. Form joints by cutting plastic shotcrete. Roughen shotcrete in

the joint face while it is still plastic.

3.4 CURING

- A. Apply curing compound to shotcrete surfaces which are exposed in their final condition.
 - 1. Apply at twice the rate indicated for formed surfaces recommended by the manufacturer.
- B. Cure for at least 7 consecutive days or the time necessary to attain 70 percent of the specified 28-day minimum compressive strength, whichever period is less.
 - 1. Immediately repair damage to the curing compound film during the specified curing period by re-spraying.

3.5 INTEGRAL COLOR ADMIXTURE

- A. The final color of the shotcrete shall be achieved through the use of an integral pigment admixture, designed to match the natural tone of the existing excavated earth at the proposed wall location.
- B. Pigments shall be non-fading, UV-stable, and alkali-resistant, specifically formulated for use in shotcrete applications.
- C. The Contractor shall provide sample panels of colored shotcrete for review and approval by the City prior to full-scale application. Samples shall use the approved mix design and curing methods to ensure consistency.
- D. Pigment dosage rates shall be per the manufacturer's recommendations, with strict quality control measures taken to maintain uniform color throughout production.
- E. The Contractor shall ensure consistent color matching across all batches by using controlled mix proportions, proper curing techniques, and minimizing water fluctuations.

3.6 ANTI-GRAFFITI COATING

- A. An anti-graffiti coating shall be applied to all exposed shotcrete surfaces to provide protection against vandalism and allow for easy graffiti removal.
- B. The coating shall be a sacrificial or permanent anti-graffiti system, depending on project requirements. The selected system must be approved by the City before application.
- C. The coating shall meet the following requirements:
 - 1. UV-resistant, non-yellowing, and designed for exterior use.
 - 2. Compatible with shotcrete and integrally colored surfaces.
 - 3. Allow for graffiti removal without damaging the underlying shotcrete.
 - 4. Clear or tinted finish that does not alter the natural appearance of the shotcrete.
- D. The Contractor shall provide a sample application for City approval prior to full-scale installation.

- E. The coating shall be applied following the manufacturer's recommendations, including surface preparation, application methods, and curing times.
- F. The Contractor shall be responsible for touch-ups or reapplication in areas where coating adhesion is insufficient.
- G. The completed surface shall be inspected by the Engineer for compliance with project requirements before acceptance.

3.7 EXECUTION

- A. The finished surface of the shotcrete shall have a rough, natural texture to blend with the surrounding terrain. The final appearance shall replicate the adjacent undisturbed ground as closely as possible.
- B. The rough texture shall be achieved using hand tools or a spray-applied finish as approved by the Engineer. Excessively smooth surfaces will not be accepted.
- C. The City shall approve a test panel prior to full-scale shotcrete placement to ensure compliance with color and texture requirements.
- D. All shotcrete surfaces shall be inspected after curing to confirm uniformity in color and texture. Any inconsistencies shall be corrected at no additional cost to the Owner.

3.8 FINAL ACCEPTANCE

- A. The Engineer shall inspect the completed shotcrete application for conformance with contract requirements, including surface finish, color consistency, and structural integrity.
- B. Any deficiencies, including cracks, delamination, color inconsistencies, or improper finishes, shall be corrected at no additional cost to the Owner.
- C. The Contractor shall submit final as-built documentation and verification of material compliance before project closeout.
- D. The completed work shall be subject to final approval by the City before acceptance.

END OF SECTION

SECTION 32 12 05 SP BITUMINOUS CONCRETE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Composition of a bituminous concrete mix.

1.2 REFERENCES

A. **AASHTO Standards:**

- M323 Superpave Volumetric Mix Design, Single User Digital Publication
- R18 Standard Recommended Practice for Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories
- R30 Mixture Conditioning of Hot-Mix Asphalt (HMA)
- T324 Hamburg Wheel-Track Testing of Compacted Hot-Mix Asphalt (HMA)

B. **AI Standards:**

- MS-2 Asphalt Mix Design Methods.

C. **ASTM Standards:**

- C29 Unit Weight and Voids in Aggregate.
- C88 Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate.
- C117 Materials Finer Than 0.075mm (No. 200) Sieve in Mineral Aggregates by Washing.
- C131 Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
- C136 Standard Method for Sieve Analysis of Fine and Coarse Aggregate.
- C142 Clay Lumps and Friable Particles in Aggregates.
- D75 Sampling Aggregates.
- D140 Sampling Bituminous Materials.
- D242 Mineral Filler for Bituminous Paving Mixtures.
- D979 Sampling Bituminous Paving Mixtures.
- D995 Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures.
- D2041 Theoretical Maximum Specific Gravity of Bituminous Paving Mixtures.
- D2419 Sand Equivalent Value of Soils and Fine Aggregate.
- D3203 Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures.
- D3515 Hot-Mixed, Hot-Laid Bituminous Paving Mixtures.
- D3665 Random Sampling of Construction Materials.
- D3666 Minimum Requirements for Agencies Testing and Inspecting Bituminous Paving Materials.

D4318 Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
D4552 Classifying Hot-Mix Recycling Agents.
D4791 Flat or Elongated Particles in Coarse Aggregate.
T283 Effect of Moisture on Asphalt Concrete Paving Mixtures.
D5444 Mechanical Size Analysis of Extracted Aggregate.
D5821 Determining the Percentage of Fractured Particles in Coarse Aggregate.
D6307 Determining Asphalt Content of Hot-Mix Asphalt by Ignition Method.
D6373 Performance Graded Asphalt Binder.

1.3 DEFINITIONS

A. **Mix Designator:** An alphanumeric code that identifies binder grade, aggregate grade, and compaction level for a bituminous concrete mix. For example.

- *PG64-34, SP-1/2, 75Nd*: PG64-34 is a Performance Graded Asphalt Binder. SP-1/2 is the aggregate gradation. 75Nd is the compaction level using Superpave mix design process.

B. **Bituminous Binder:** A graded bituminous cement composed of any of several viscous or solid mixtures of hydrocarbons and their nitrogen and sulfur derivatives, whose combined properties meet a defined standard.

1. Virgin Asphalt Binder: A refined or manufactured bituminous cement known as performance graded asphalt binder (PG or PGAB).
2. Recycled Asphalt Binder: A bituminous cement contained in recycled asphalt pavement known as performance graded asphalt binder (PG or PGAB).

C. **Mean of Deviations:** Defined in Section 32 11 23.

D. **Nominal Maximum Size:** One sieve size larger than first sieve size retaining more than 10 percent of the Sample. One hundred percent of the aggregate might be able to pass through the nominal maximum size sieve but not more than 10 percent will be retained on the sieve below. The **maximum size** sieve will be one (1) sieve size larger than the nominal maximum size.

E. **RAP:** Acronym for reclaimed asphalt pavement. A granular product recovered from a bituminous pavement containing aggregate and an Asphalt Binder.

F. **Quality Control:** Sampling, testing and inspection efforts performed by the Contractor to control the mix production and placement operations. Locations, times, practices and personnel (other than Lab AMRL Accreditation and minimum requirements in Article 3.3) are the contractor's decision.

1. Requirements for Quality Control that may/will be used in acceptance decisions will be defined by the Owner in Section 32 12 05S - Project Specific Surfacing Requirements.

G. **Quality Assurance:** Sampling, testing and inspection efforts, and personnel/laboratory qualifications that are utilized by the Owner to verify compliance of the mix production and placement with specifications. Locations, times, practices and personnel are at the Owner's decision.

1.4 SUBMITTALS

A. General:

1. Pre-approved Mix Design: Submit name and address of Supplier.
2. Allow ENGINEER 10 days to evaluate mixing equipment and mix design submittals.
3. Once a mix design is accepted, a new mix design submittal is required if the following occurs.
 - a. Asphalt Binder grade is changed.
 - b. Aggregate source is changed. When this occurs, submit a physical properties report on the proposed aggregates.

B. Quality Assurance:

1. Certified Laboratory: Submit names, certification levels, and years of experience of Quality Control field technicians that are assigned to the Work. Verify laboratory complies with ASTM D3666 or AASHTO R-18, and follows Section 01 45 00 requirements.
2. Mix Production Equipment: Submit verification by an individual acceptable to ENGINEER, that plant equipment complies with requirements of ASTM D995.
3. Testing Report: If identified by contract requirements, submit a report of source quality control testing performed by CONTRACTOR and Suppliers.
4. Testing Report: If identified by Section 32 12 05S – Project Specific Surfacing Requirements, submit Quality Control data to the Engineer within 3 working days after completion of each day of paving or prior to the start of the next paving day, whichever is sooner.
5. Plant Production Report: If identified by Section 32 12 05S – Project Specific Surfacing Requirements, submit daily plant production records to the Engineer within 1 working day after completion of each day of paving and prior to the start of the next paving day.
 - a. Plant report must include weights of all individual aggregates, bitumens, water and other additives incorporated in mix, including RAP, lime, mineral filler, fiber or other additives.

C. Mix Design: Submit the following.

1. Date of mix design. If the date is not from the current paving season (calendar year), the mix design is deemed invalid and 1) must be accompanied with a letter from the Asphalt Supplier certifying that the mix design is still valid for the current paving season, or 2) a new mix design must be substituted.
 - a. Mix designs dated prior to the previous paving season are invalid.
 - b. Mix designs are invalid if aggregate source or binder grade are changed.
 - c. Invalidated mix designs must be revalidated for volumetric properties (minimum 4 pucks), or a replaced with a new mix design.
2. Binder source type, and grade. Disclose if RAP is used in the mix.
3. Optimum compaction temperature at the project site.
4. Theoretical maximum specific gravity.

5. Compaction density at design target air voids.
6. Target Grading Curve for aggregate.
7. Binder target percentage, dust to binder ratio, and the following:
 - a. Voids in the mineral aggregate (VMA)
 - b. Voids filled with Asphalt (Bituminous Binder) also known as VFA
 - c. Hamburg Wheel Tracker results.
8. Percentages of 1) mineral filler, 2) anti-strip (if required), 3) reclaimed bituminous pavement (RAP), 4) recycle agent in the mix, and 5) virgin aggregate.
9. Aggregate physical properties (this section article 2.2). The information is for suitability of source and not for project control. A new report may be required if aggregate source is changed. Test results shall not be older than two (2) calendar years from the date of submission.

1.5 MATERIALS QUALITY

- A. Do not change aggregate source or binder grade until ENGINEER accepts new grades and new or revalidated mix design.
- B. HMA Mixing Plant: Capable of meeting ASTM D995 requirements or use UDOT Qualified Plant.
- C. Perform Quality Control efforts in accordance with Article 3.3 of this specification.
 1. If required by Section 32 12 05S – Project Specific Surfacing Requirements, submit Quality Control data to the Engineer. Submit data within 3 working days after completion of each day of paving or prior to the start of the next paving day, whichever is sooner.

1.6 ACCEPTANCE

- A. **General:**
 1. Acceptance is by Lot. One (1) Lot is one (1) days' production. At Engineer's discretion and in concurrence with the contractor, multiple small lots may be combined into one lot. Obtain concurrence prior to placement of lots.
 2. If non-complying material has been installed and no price for the material is specified, apply pay adjustment against cost of work requiring material as part of its installation, Section 01 29 00.
 3. If test results are not within this section's limits, options include correction of production procedures or production of an alternate mix design acceptable to ENGINEER.
 4. Observation of CONTRACTOR's field quality control testing does not constitute acceptance. Such testing; however, may be used by ENGINEER for acceptance if requirements in Section 01 35 10 are met.
- B. **Mix Sampling and Testing:**
 1. Sub-lot size is 500 tons or part thereof.
 2. Sampling Protocol: ASTM D3665 and ASTM D979. Collect at least one (1)

random Sample per sub-lot from behind paver and before compaction. For placements with a design thickness of 2 inches or less, samples may be taken at the plant. Any sample collected because of non-uniform appearance shall not be used in determining a pay factor for the Lot.

a. Sampling binder, ASTM D140. At owner's request, take 1 qt sample and provide to owner's representative.

3. Testing Protocol (Performed by Owner's Quality Assurance Organization):

a. Project Less than 1000 tons – At Owner's discretion, mix samples will be compacted in the laboratory and tested for:

- 1) Binder content, ASTM D6307.
- 2) Aggregate gradation, ASTM D5444.
- 3) Maximum Specific Gravity (Rice), ASTM D2041

b. Project greater than 1000 tons - Mix samples will be compacted in the laboratory and tested for:

- 1) Air voids, ASTM D3203.
- 2) Voids in the mineral aggregate, AI MS 2.
- 3) Binder content, ASTM D6307.
- 4) Aggregate gradation, ASTM D5444.
- 5) Maximum Specific Gravity (Rice), ASTM D2041

4. Reporting: Quality Assurance organization will provide the contractor with acceptance results within 3 working days after completion of each day of paving, or prior to the start of the next paving day, whichever is sooner.

C. **Lot Acceptance:** A Lot is acceptable if binder content and aggregate gradation test average deviations are within pay factor 1.00 limits in Table 1 and no sub-lot deviation exceeds 0.85 pay factor limit.

D. **Un-Accepted Lots (Contractor/Developer/Private Entity Issued Contracts):** Provide recommended corrective measures based on Engineering Analysis, described below, based on durability and serviceability relative to the specified product requirements, including expected performance compared to design life. Engineer will review and either approve corrective measures or provide basis for rejection.

E. **Un-Accepted Lots (Municipality Issued Contracts):** At the Engineer's discretion, a lot with an average deviation that does not meet 1.00 pay factor and does not have a sub-lot test deviation greater than pay factor 0.85 limits may be accepted with a pay factor in accordance with Table 1.

1. Lots with a pay factor lower than 0.85 or with a sub-lot with a test deviation greater than the pay factor 0.85 limits, and with Engineer and Contractor concurrence, are subject to an Engineering Analysis.

Table 1 – Pay Factors					
Criteria	Pay Factor	Range of Mean of Deviations of Tests Results in Percentage Points from Binder and Gradation Targets			
		500 Tons	1,000 Tons	1,500 Tons	≥ 2,000 Tons
Binder Content	1.00	0.0 – 0.46	0.0 – 0.41	0.0 – 0.38	0.0 – 0.35
	0.95	0.47 – 0.58	0.42 – 0.52	0.53 – 0.58	0.47 – 0.52
	0.90	0.59 – 0.64	0.53 – 0.56	0.59 – 0.64	0.53 – 0.56
	0.85	0.65 – 0.69	0.57 – 0.61	0.65 – 0.69	0.57 – 0.61
Nominal Sieve	1.00	0.0 – 6.3	0.0 – 5.6	0.0 – 5.3	0.0 – 5.0
	0.95	6.4 – 7.9	5.7 – 7.0	5.4 – 7.9	5.1 – 7.0
	0.90	8.0 – 8.7	7.1 – 7.7	8.0 – 8.7	7.1 – 7.7
	0.85	8.8 – 9.5	7.8 – 8.4	8.8 – 9.5	7.8 – 8.4
No. 8 Sieve	1.00	0.0 – 4.8	0.0 – 4.3	0.0 – 4.0	0.0 – 3.8
	0.95	4.9 – 6.0	4.4 – 5.3	4.1 – 5.0	3.9 – 4.3
	0.90	6.1 – 6.6	5.4 – 5.8	5.1 – 5.6	4.4 – 4.8
	0.85	6.7 – 7.2	5.9 – 6.4	5.7 – 6.2	4.9 – 5.4
No. 50 Sieve	1.00	0.0 – 3.8	0.0 – 3.3	0.0 – 3.0	0.0 – 2.8
	0.95	3.9 – 5.0	3.4 – 4.3	3.1 – 4.0	2.9 – 3.3
	0.90	5.1 – 5.6	4.4 – 4.8	4.1 – 4.6	3.4 – 3.8
	0.85	5.7 – 6.2	4.9 – 5.4	4.7 – 5.2	3.9 – 4.4
No. 200 Sieve	1.00	0.0 – 2.0	0.0 – 1.8	0.0 – 1.8	0.0 – 1.8
	0.95	2.1 – 2.4	1.9 – 2.2	1.9 – 2.2	1.9 – 2.2
	0.90	2.5 – 2.7	2.3 – 2.4	2.3 – 2.4	2.3 – 2.4
	0.85	2.8 – 3.0	2.5 – 2.6	2.5 – 2.6	2.5 – 2.6
NOTES					
(a) Test binder content using a burn-off oven, ASTM D6307.					
(b) Determine aggregate gradation by extraction, ASTM D5444.					

F. Engineering Analysis:

1. Submit an Engineering Analysis, performed and stamped by a Utah Registered Professional Engineer or Mix Supplier QC Manager with commensurate experience in materials and pavements performance, for approval within one week of receipt of test results or at least 24 hours before performing any work that may prevent the evaluation, correction, or removal of the lot in question.
2. Include information, engineering analysis, statistical analysis, and test results related to the dispute.
 - a. Reasons for disputing the acceptance or verification test results.
 - b. The Contractor's project quality control test results, including any split sample test results.
 - 1) Test results must be from a UDOT qualified laboratory using UDOT qualified technicians, or results must be verified and certified (stamped) by a Utah Registered Professional Engineer.

- 2) Include all supporting test data and calculations for reported values.
- c. Successful laboratory correlation information when required by material specification.
- d. Statistical analysis or identification of potential outliers.
- e. Procedures or issues leading to disputed acceptance test results.
- G. **Installation:** See Section 32 12 16.13 acceptance requirements.

PART 2 PRODUCTS

2.1 BINDER

- A. **Performance Graded Asphalt Binder (PGAB):** See ASTM D6373.
 1. Use the following minimum binder grades unless otherwise specified. Adjust virgin binder grade to accommodate RAP contents in excess of 15% as identified in Table 2. Do not use grades lower than xx-34.
 - a. Use M323 Appendix X1 Blending chart to determine acceptable RAP content up to maximum allowed based on virgin binder grade selected or additives incorporated. Submit RAP binder grading and blending charts with mix design.

Table 2 – Minimum Virgin Binder Grade		
Elevation		
Road Class	Above 4000 Feet	Below 4000 Feet
Class I & II	PG 58-28	PG 64-22
	PG 64-34 (>15% RAP)	PG 58-28 (>15% RAP)
Class III	PG 64-34	PG 70-28
	(Up to 15% RAP)	PG 64-34 (>15% RAP)

Notes:

A. Virgin Binder grade is the grade of asphalt binder received from binder supplier and added to the mix. Design Binder grade is the grade of virgin asphalt binder specified when using 15% or less RAP. Resultant Binder grade is the resultant grade of binder in the mix based on blending of virgin binder and RAP binder grades.

B. Use of Virgin or grades exceeding minimum Virgin grade is acceptable.

2.2 AGGREGATE

- A. Crushed stone, crushed gravel, slag, sand, or combination.
- B. Use Table 3 to determine suitability of aggregate source.

Table 3 – Aggregate Physical Properties				
		Standard	Road Class	
			I & II	III
Coarse Aggregate				
Angularity, percent, minimum	One Fractured face	D5821	90	95
	Two Fractured faces		90	90
Wear (hardness or toughness), percent, maximum		C131	35	35
Flats or elongates (3:1 length to width), percent, maximum		D4791	--	20
Fine Aggregate				
Angularity (uncompacted void content), percent, minimum		T304	40	45

Sand equivalent, percent, minimum	D2419	45	60
Plastic limit, maximum	D4318	0	0
Blended Physical Properties			
Dry-rodded Unit Weight, lb/ft ³ , minimum	C29	75	75
Weight Loss (Soundness), percent, maximum	C88	16	16
Friable particles, percent, maximum	C142	2	2
NOTES (a) Road Class is defined in Section 32 12 05S – Project Specific Surfacing Requirements . (b) Course aggregate does not pass No. 4 sieve. Fine aggregate does pass. (c) Angularity is determined by weight. (d) Wear of aggregate may have higher values if aggregate source is known to have higher values. (e) Sand equivalent is waived for RAP or ROSP aggregate but applies to the remainder of the aggregate blend. (f) Plastic limit, passing No. 40 sieve. Aggregate is non-plastic even when filler material is added to the aggregate. (g) Weight loss, using sodium sulfate. (g) Friable particles are clay lumps, shale, wood, mica, coal passing the No. 4 sieve, and other deleterious materials.			

2.3 ADDITIVES

- A. Mineral Filler: ASTM D242.
- B. Recycle Agent: ASTM D4552.
- C. Anti-strip Agent: Heat stable cement slurry, lime slurry, or chemical liquid as required to meet TSR or Hamburg test requirements.
- D. **RAP**: Free of detrimental quantities of deleterious materials.
 - 1. Allowed up to 15 percent by weight of RAP or binder, whichever is lesser, with no change in virgin binder grade.
 - 2. Determine RAP binder content by chemical extraction.

2.4 MIX DESIGN

- A. **Preparation:**
 - 1. Mix Designator and Road Class as defined by Section 32 12 05S – Project Specific Surfacing Requirements.
 - 2. Use paragraph 1.4C to determine submittal requirements.
- B. **Aggregate Gradation:** See Table 4. The Target Gradation Curve for the specified aggregate grade must lie within the Master Grading Band limits. The target grading band limits for the Target Grading Curve are the appropriate grading limits for pay factor 1.00 in Table 1. The target grading band limits are allowed to extend outside of the Master Grading Band limits.
 - 1. Use SP-1/2 unless otherwise identified.

Table 4 - Master Grading Bands - Superpave Mix Design		
Sieve	Gradation Limits of Target Gradation	
	SP-1/2	SP-3/8
1 inch	—	--
3/4 inch	100.0	—
1/2 inch	90.0 – 100.0	100.0
3/8 inch	< 90	90.0 – 100.0
No. 4	—	< 90
No. 8	28.0 – 58.0	32.0 – 67.0
No. 200	2.0 – 10.0	2.0 – 10.0

NOTES

- (a) Gradation is expressed in percent passing by weight per ASTM C136. Percentage of fines passing No. 200 sieve determined by washing per ASTM C117.
- (b) The alpha portion of the grade designator (SP) represents Superpave mix. The numerical portion (1/2, 3/8) represents the **nominal maximum** sieve size.

D. **Design Parameters:** Determined by AI MS-2 and in accordance with Table 5.

Table 5 - Mix Design Parameters		
	SuperPave	
Compaction Level	<i>Road Class I/II</i>	50Nd
	<i>Road Class III</i>	75Nd
Design Air Void Target, percent (b)	3.5	
Voids in Mineral Aggregate (VMA) relative to nominal sieve size grading and calculated using Gsb(dry), percent, minimum	ASTM D3203	
	Nominal Grading	
	<i>Road Class II/III</i>	14.2
<i>Road Class I</i>	3/8	15.2
RAP specific gravity for calculations	Gsb (dry) by chemical extraction	
Dust to Binder Ratio, maximum	1.6	
Tensile Strength Ratio (moisture sensitivity), minimum (c,e)	AASHTO T283	
	<i>Road Class I</i>	80%
Rutting (Hamburg Rut Test) (a,d,e)	AASHTO T324	
	<i>Road Class II</i>	15 mm/10,000 passes
	<i>Road Class III</i>	10 mm/20,000 passes
NOTES <p>(a) Road Class is defined in Section 32 01 31.</p> <p>(b) Design Density Target: See ASTM D2041 T209. Percent of maximum theoretical specific gravity.</p> <p>(c) Tensile Strength Ratio (moisture sensitivity): Use one cycle of Freeze-thaw conditioning. Compact test specimen to seven (7) percent plus or minus one (1) percent air voids.</p> <p>(d) With testing performed at temperatures representing the specified binder grade in the Hamburg rut test, the average rut depth of two (2) mix design test samples is less than the amount shown for the respective Road Classes.</p>		

PART 3

EXECUTION

3.1 CONSTRUCTION EQUIPMENT

- A. Mixing Plant: Capable of meeting ASTM D995 or UDOT Qualified Plant. Provide:
1. Positive means to determine the moisture content of aggregate.
 2. Positive means to sample all material components.
 3. Sensors to measure the temperature of the mix at discharge.
 4. Ability to maintain discharge temperature of mix.
 5. Capability of maintaining plus or minus five (5) percent tolerance on component percentages in final mix.
 6. Ability to document control efforts.

3.2 INSTALLATION

- A. Pavement placement, Section 32 12 16.13.
- B. Pavement restoration, Section 33 05 25

3.3 **QUALITY CONTROL**

- A. For all projects, test temperature of mix placed in the transport vehicle at the production plant.
 - a. Reject mixes exceeding the limits identified in the mix design.
- B. For projects requiring testing, collect mix samples randomly from the plant (from truck or hot-drop) or the field (windrow or behind paver), ASTM D3665.
 - 1. Sampling bituminous paving mixture, ASTM D979, minimum one sample per sub-lot.
- C. For projects less than 500 tons, if identified as required by Section 32 12 05S – Project Specific Surfacing Requirements, provide one of the following:
 - 1. Plant Report; or
 - 2. Test results for binder content and combined gradation of mix
- D. For projects between 500 and 1500 tons, provide the following:
 - 1. Combined aggregate gradation in the mix, ASTM D5444.
 - 2. Binder content in the mix, ASTM D6307.
 - 3. Maximum Specific Gravity (Rice), ASTM D2041.
- E. For projects greater than 1500 tons, provide the following:
 - 1. Combined aggregate gradation in the mix, ASTM D5444.
 - 2. Binder content in the mix, ASTM D6307.
 - 3. Air voids, ASTM D3203.
 - 4. Voids in the mineral aggregate, AI MS 2.
 - 5. Maximum Specific Gravity (Rice), ASTM D2041.
- F. Warm Mix Testing: When rutting or moisture susceptibility tests are required on warm mix produced at temperatures below 275 deg F, condition the warm mix material before testing for two (2) hours at design mixing temperature plus or minus five (5) deg F per AASHTO R30 (short term aging). The material may be cooled to room temperature before conditioning.

END OF SECTION

SECTION 32 31 00 SP
VEHICLE PROTECTION SYSTEM
PART 1 **GENERAL**

1.5 SECTION INCLUDES

- C. This work shall consist of furnishing and installing a total anti-ram cable barrier system of Post & Rail design. The system shall include all components (i.e., cables, supports, posts, foundations, and hardware) required. The system shall substantially comply with drawings as shown in the plans.
- D. The manufacturer shall supply a total anti-ram cable barrier system of the Ameristar[®] Atlas M30/P1 Engineered Post & Cable design or approved equivalent. The system shall include all components (i.e., cables, supports, posts, and hardware) required. The barrier shall comply with Ameristar's System Drawing Number ASPI-CF-M30P1.

1.6 REFERENCES

- D. Manual of Standard Specifications
 - 3. APWA Section 03 30 04 – Concrete
 - 4. APWA Section 05 50 00 – Metal Fabrications
 - 5. APWA Section 09 90 00 – Protective Coatings
- E. Project Special Provisions
 - 1. Section 09 96 00 S – Thermoplastic Compounding
- F. American Society for Testing and Materials
 - 4. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
 - 5. ASTM B117 - Practice for Operating Salt-Spray (Fog) Apparatus.
 - 6. ASTM D523 - Test Method for Specular Gloss.
 - 7. ASTM D714 - Test Method for Evaluating Degree of Blistering in Paint.
 - 8. ASTM D822 - Practice for Conducting Tests on Paint and Related Coatings and Materials using Filtered Open-Flame Carbon-Arc Light and Water Exposure Apparatus.
 - 9. ASTM D1654 - Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.
 - 10. ASTM D2244 - Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates.
 - 11. ASTM D2794 - Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
 - 12. ASTM D3359 - Test Method for Measuring Adhesion by Tape Test.

13. ASTM F2656 – Standard Test Method for Vehicle Crash Testing of Perimeter Barriers

G. Federal Specification

1. Federal Specification RR-W-410E - Wire Rope and Strand.

1.7 QUALITY ASSURANCE

- A. The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques specified.

1.8 SUBMITTALS

- E. The manufacturer's literature shall be submitted prior to installation.

1.9 PRODUCT HANDLING AND STORAGE

- A. Upon receipt at the job site, all materials shall be checked to ensure that no damage occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism and theft.

PART 2 Materials

2.3 MANUFACTURER

- A. The anti-ram cable barrier system shall conform to the Atlas M30/P1 Engineered Post & Cable design manufactured by Ameristar Fence Products, Inc., in Tulsa, Oklahoma or approved equivalent. This system shall be M30/P1 engineered (Equivalent to K4) based on test results of similar design. Engineering analysis shall be based upon ASTM F2656, Impact Condition Designation M30, Penetration Rating P1, with capability of stopping a 15,000 lb vehicle traveling at speeds up to 30mph.
- B. The entire anti-ram barrier system, and all associated gates, accessories, fittings, and fasteners shall be obtained from a single source.

2.4 MATERIAL

- C. Steel material for cable-supporting framework (i.e., posts) shall be galvanized prior to forming and shall conform to the requirements of ASTM A653/A653M, with a minimum yield strength of 45,000 psi (310 MPa). The steel shall be hot-dip galvanized to meet the requirements of ASTM A653/A653M with a minimum zinc coating weight of 0.90 oz/ft² (276 g/m²), Coating Designation G-90.
- D. The cable material shall be Independent Wire-Rope Core (IWRC) wire rope conforming to Federal Specification RR-W-410E, 6 x 36 Warrington Seale, preformed, right regular lay, medium lubrication, Extra Improved Plow Steel

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(EIPS), with a breaking strength of 159,800 pounds (79.9 tons). Cable diameter shall be 1.25 inch (without PVC coating).

2.5 FABRICATION

- A. Post weldment shall be fabricated to specified design and lengths. System posts shall be pre-drilled to accept system cables and top caps. Cables shall be terminated inside the Terminal Posts. All structural post supports shall be inside the post and foundation and shall not have any external structural supports.
- B. The cable assemblies shall be manufactured after field measurements are provided for the terminal post spacing for custom fit. Cable assemblies include swaged threaded studs and nuts with pipe sleeves for line posts.

2.6 PVC COATING

- A. All visible components of the vehicle barrier system, including but not limited to posts, cables, and all hardware, shall be coated with a black PVC coating to provide durability, corrosion resistance, and a uniform aesthetic appearance.
- B. The PVC coating shall conform to **Section 09 96 00 S– Thermoplastic Compounding** of these special provisions and shall be factory-applied where applicable to ensure proper adhesion and longevity. Cabling and hardware may be field applied.
- C. The coating shall be:
 - 1. UV-resistant to prevent fading or degradation over time.
 - 2. Abrasion and impact resistant to withstand environmental and operational conditions.
 - 3. Chemically stable, non-peeling, and non-cracking under normal exposure conditions.
- D. Any field modifications or repairs to the coated components shall be treated with a manufacturer-approved touch-up system to restore full protection and ensure consistency in appearance.

PART 3 EXECUTION

3.1 PREPARATION

- A. The Contractor shall indicate the location of the barrier line with suitable stakes. Stake intervals shall not exceed 500 ft or line of sight.
- B. The Contractor shall indicate all underground utility locations, USC&G benchmarks, property monuments, and other underground structures.

- C. Before installing the Atlas Anti-Ram Cable System, all necessary site clearing and grading shall be performed by the Contractor. An adequate clearance on at least one side of the cable barrier line is required.

3.2 INSTALLATION

- A. The barrier shall be installed per manufactures published recommendations, plans and shop drawings. Fence posts, cabling, and fasteners shall be installed according to installation instructions and drawings. The “Earthwork” and “Concrete” sections of this specification shall govern material requirements for the concrete footer unless otherwise specified by the product drawings or installation instructions.

3.3 CLEANING

- A. The contractor shall clean the jobsite thoroughly to ensure it is left neat and free of any debris caused by the installation of the cable system.

END OF SECTION

SECTION 33 12 19 SP HYDRANTS

Remove Part 3.4 B and add the following items in its place:

3.4 PAINT

- A. Paint hydrant barrel and caps with minimum two coats Pro Industrial DTM Acrylic Gloss (Sherwin Williams). Hydrants should be satisfactorily coated so as to not show any existing colors bleeding through.
 - 1. Contractor may use another manufacturer but must use an equivalent product and match the colors:
 - 2. Paint barrel to *Sherwin Williams Safety Yellow*.
 - 3. Paint caps/bonnet to *Sherwin Williams Jay Blue 6797* if hydrant flows are above 1500 gpm.
 - 4. Paint caps/bonnet to *Sherwin Williams Shamrock 6454* if hydrant flows are between 1000-1500 gpm.
 - 5. Paint caps/bonnet to *Sherwin Williams Safety Orange* if hydrant flows are between 500-1000 gpm.
 - 6. Paint caps/bonnet to *Rustoleum Safety Red* if hydrant flows are between 0-500 gpm.

3.5 EXECUTION

- A. Lightly sand surface of the factory finish on the hydrant with a 100 grit wet sanding sponge.
 - OR
- B. Add an acrylic multipurpose interior/exterior primer (Sherwin Williams)
- C. Coordinate with supplier minimum 3 weeks prior to beginning work to paint.

END OF SECTION

SECTION 32 92 70 GRASSES/WILDFLOWER SEEDING

PART 1 GENERAL

1.10 SECTION INCLUDES

- A. Provide items, articles, materials, operations or methods listed, mentioned, or scheduled on Drawings and all incidentals.
- B. Install native grasses and wildflower mix in areas indicated, or directed by Engineer.
- C. Coordinate with work of other trades.

1.11 REFERENCES

- E. Manual of Standard Specifications
 - 1. Section 31 05 13 Common Fill
 - 2. Section 32 84 23 Underground Irrigation System
 - 3. Section 31 23 23 Backfilling Structures and Landscapes
 - 4. Section 31 25 00 Erosion and Sedimentation Control
 - 5. Section 32 01 90 Maintenance of Planting

1.12 QUALITY ASSURANCE

- A. Seed to conform to State and County regulations.
- B. Seed to be mixed by Supplier.

1.13 SUBMITTALS

- A. Submit Supplier's guarantee statement of mixture composition, percentage of purity and germination of each variety.
- B. Seed to be mixed by Supplier.

1.14 PRODUCT HANDLING AND STORAGE

- A. Protect materials from deterioration during delivery and while stored at the site.
- B. Store packaged materials in a weatherproof storage place to keep dry and effective. Materials which become wet, moldy, or otherwise damaged prior to use will not be acceptable.

1.15 JOB CONDITIONS

- A. Examine and verify the elevations, observe the conditions under which work is to be performed, and notify Engineer of unsatisfactory conditions.
- B. Do not proceed with work until unsatisfactory conditions have been corrected.
- C. Correlate planting time with specified maintenance periods and guarantee.
- D. Suspend seed installation when it may be subject to damage by climatic conditions.

PART 2 PRODUCTS

2.7 COMMON FILL

- A. Topsoil: APWA 31 05 13 Common Fill

2.8 SEED

A. Mixture:

% of Mix

Species

1	Achillea Millefolium (White Yarrow)
8	Cleome Serrulata (Rocky Mountain Bee Plant)
7	Linum Lewisii (Blue Flax)
15	Lupinus Argenteus (Silver Leaf Lupine)
5	Penstemon Eatonii (Firecracker Penstemon)
9	Gaillardia Pulchella (Firewheel)
5	Oenothera Pallida (White Evening Primrose)
25	Festuca Ovina "Durar" (Hard Fescue)
25	Festuca Ovina "Covar" (Sheep Fescue)

B. Purity percentage of all seed types: 90%

C. Germination percentage of all seed types: 90%

PART 3 EXECUTION

3.1 INSTALLATION

A. Plant seed in areas indicated.

B. Sow seed at the rate of 1.5 pounds per 2,000 square feet of area with a broadcast spreader. Rake seed into soil and top-dress all seeded areas with ¼" topsoil. Sow seed prior to installation of erosion control blanket.

3.2 MAINTENANCE

A. General: Per APWA 32 01 90 Maintenance of Planting

B. Watering: Water daily for seed germination until healthy growth is established. Do not allow the top 1 inch of soil to completely dry out. Thereafter, thoroughly water to ensure for vigorous and healthy growth until Work is accepted. Prevent water erosion.

C. Protection, Repair and Replanting: Protect planted area against traffic. Erect barricades and warning signs. When any portion of surface becomes gullied or damaged, and planting has failed to grow, repair with screened topsoil and replant as specified herein.

D. Remove diseased areas and unsatisfactory stands of seed growth from the site. Do not bury into the soil.

E. Replant areas with materials specified for original planting at no additional cost to Owner.

F. Throughout the maintenance period, replant any unsatisfactory seed growth within 10 days of written notification by Engineer.

END OF SECTION

DOCUMENT 02 14 00

DEWATERING

PART 1 GENERAL

1.1 DESCRIPTION

- A. This section includes materials, installation, maintenance, operation and removal of temporary dewatering systems, for the control and disposal of surface and ground waters.

1.2 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. Utah Regional Water Quality Control Board General Waste Discharge Requirements.

1.3 JOB CONDITIONS

- A. Methods of dewatering may include sump pumping, single or multiple stage well point systems, eductor and ejector type systems, deep wells, and combinations thereof.
- B. Locate dewatering facilities where they shall not interfere with utilities and construction work to be performed by others.
- C. Modify dewatering procedures which cause damage to new or existing facilities, so as to prevent further damage. Install settlement gauges, as necessary, to monitor settlement of critical structures or facilities adjacent to areas of dewatering. Control the rate of dewatering to avoid all objectionable settlement and subsidence.
- D. Comply with Regional Water Quality Control Board Waste Discharge requirements as required, prior to discharge of groundwater, and comply with the sampling, testing, monitoring and reporting requirements specified therein.

1.4 SUBMITTALS

- A. Shop Drawings which, at a minimum, indicate the proposed type of dewatering system; the arrangement, location, and depths of systems components; a complete description of equipment and instrumentation to be used, with installation, operation and maintenance procedures; and the methods of disposal of pumped water.
- B. Well installation or abandonment permits.

PART 2 MATERIALS

2.1 MATERIALS AND EQUIPMENT

- A. Furnish and maintain all materials, tools, equipment, facilities and services as required for providing the necessary dewatering work and facilities.
- B. Provide piezometers for monitoring groundwater levels and other instruments and measuring devices as required.

PART 3 EXECUTION

3.1 DEWATERING

- A. Perform dewatering in accordance with approved Shop Drawings. Keep the Engineer advised of any changes made to accommodate field conditions and, on completion of the dewatering system installation, revise and resubmit Shop Drawings as necessary to indicate the installed configuration.
- B. Organize dewatering operations to lower the groundwater level in excavations as required for prosecution of the work, and to provide a stable, dry grade for the prosecution of construction operations.
- C. Maintain water level at lower elevations, so that no danger can occur because of the buildup of excessive hydrostatic pressure, and provide for maintaining the water level a minimum of two (2) feet below the subgrade, unless otherwise permitted by the Engineer.
- D. Maintain groundwater level a minimum of five (5) feet below the prevailing level of backfill being placed.
- E. Dispose of water in such a manner as to cause no injury or nuisance to public or private property, or be a menace to public health. Dispose of the water in accordance with the requirements contained in the Utah Regional Water Quality Control Board General Waste Discharge Requirements. Do not drain trench water through the pipeline under construction.
- F. The dewatering operation will be continuous, so that the excavated areas will be kept free from water during construction, while concrete is setting and achieves full strength, and until backfill has been placed to a sufficient height to anchor the work against possible flotation.
- G. Prevent disposal of sediments from the soils to adjacent lands or waterways by employing necessary methods, including settling basins. Locate settling basins away from the watercourses to prevent silt-bearing water from reaching the watercourse during flow regime.
- H. Where excavations may obstruct the natural flow of a watercourse, implement measures to control and dispose of the surface water that will not adversely affect water quality or beneficial uses of the watercourse. Divert watercourse flows around excavation areas by constructing barriers, temporary culverts, new channels or other appropriate means.
- I. Do not allow water containing mud, silt or other pollutants from aggregate washing or other construction activities to enter a watercourse or be placed in locations that may be subjected to high storm flows.
- J. Obtain all necessary permits from agencies with control over the use of surface water and groundwater and matters affecting well installation, water discharge, and use of existing storm drains and natural water courses. As the review and permitting process may be lengthy, this condition is brought to the Contractor's attention for early action to pursue and submit for the required approvals, permits and licenses.
- K. Take measures to prevent damage to properties, bridge abutments, structures, sewers, water mains, and other utility installations, pavements, sidewalks, and Work.
- L. Modify the system at no cost to the Owner if after installation and while in operation it causes or threatens to cause damage to existing buildings, bridges, structures, utilities or facilities.
- M. Monitor the quality of the discharge from the dewatering system to determine if soil particles are being removed by the system.

- N. Repair damage, disruption, or interference resulting directly or indirectly from dewatering operations at no cost to the Owner and with the Engineer's approval.
- O. The system shall be designed to limit the extent of groundwater lowering that would endanger or damage adjacent structures or property, and to safely convey detained or diverted surface water.
- P. The system shall be designed by, and installed under, the supervision of a registered professional Engineer in the State of Utah who is experienced in the design, installation, and operation of construction dewatering systems.
- Q. Design the system to prevent the removal of natural, in-place soils. The system shall be such that after initial development, the quantity and size of soil particles will decrease until no soil particles are present in the water being pumped at any time after 24 hours initial pumping.
- R. Do not discharge water from any dewatering operation into the sanitary sewer system.

3.2 RECORDS

- A. Provide a daily record of the average flow rate. Provide water quality testing as required by the Regional Water Quality Control Board.
- B. Observe and record the elevation of the groundwater during the period that the dewatering system is in operation.

END OF DOCUMENT