

CONSTRUCTION DOCUMENTS

FOR:



City of Lovington

Water Meter Improvements

Lovington, NM

Funding Source:

**SAP 13-1458-STB
SAP 14-1642-STB
SAP 16-A2269-STB**

BY:

Pettigrew & Associates, P&A
100 E. Navajo Drive, Suite 100
Hobbs, NM 88240

Water Meter Improvements-City of Lovington
Bid No. 2016-RRM1

ENGINEERING CERTIFICATION

All Municipal Public Works Projects estimated \$100,000 or more shall be stamped by a Registered Professional Engineer

This is to certify that I am a Registered Professional Engineer in the State of New Mexico, that these documents were prepared by me, or directly under my supervision, and that the same are true and correct to the best of my knowledge and belief.



A handwritten signature in blue ink that reads "David Roybal".

David A. Roybal
Number **23576**
State of New Mexico

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*ALL NMAPWA STANDARDS ARE APPLICABLE

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Advertisement for Bids

Sealed bids for the Installation of Water Meters, Lovington New Mexico will be received at the office of the City Manager or his designee, at the City of Lovington Commission Chambers, 214 South Love Street, P.O. Box 1268, Lovington, New Mexico 88260, (575) 396-2884 until **10:00 A.M. (local time) on Monday, December 5, 2016**, at which time the bids will be publicly opened, read aloud and tabulated.

Bids should be addressed to:

City of Lovington
214 S. Love Street
Lovington New Mexico 88260
ATTENTION: Mr. James R. Williams, City Manager
Telephone: (575) 396-2884

Publication Date: **November 1, 2016**
Newspaper: Hobbs News Sun
Newspaper: Lovington Leader
Webpage: <http://www.lovington.org/request-for-proposals.html>

Scope:

The City of Lovington plans to contract for the installation of Owner-supplied water meters, radio read equipment, and meter lids. Approximately 2,287 water meters are to be installed at various locations throughout the City of Lovington. All equipment that is to be removed from the site shall remain the property of the City of Lovington.

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The bids received will be considered by the Board of Commissioners at a regular meeting or special meeting as required. No bid will be received or considered if received by the City Manager or his designee after the hour of **10:00 a.m. (local time) on Monday, December 5, 2016.**

Copies of the Bidding Documents, including the Instructions to Bidders, the Bid Form, Plans and Specifications, and other Contract Documents to be used in connection with the submission of bids are available at the offices of the Project Engineer, Pettigrew & Associates, P.A., 100 East Navajo Drive, Suite 100, Hobbs, New Mexico 88240, (575) 393-9827. An electronic copy of the Bidding Documents may be obtained at no cost. Questions concerning the Bid or requests for electronic contract documents shall be directed to David Roybal, Project Engineer at Pettigrew & Associates, P.A., 100 East Navajo Drive, Suite 100, Hobbs, New Mexico 88240, (575) 393-9827 droybal@pettigrew.us.

Each bidder shall be prepared to furnish the owner with satisfactory evidence of their competency to perform the work contemplated.

Each bidder shall be required to submit with their bid, a certified check, cashier's check, or bid bond in the amount of 5% of their bid, made payable to the City of Lovington.

The Board of Commissioners agrees to carefully canvass and consider each bid submitted. In consideration thereof, no bids may be withdrawn after the scheduled closing time for receipt of bids for at least 60 calendar days.

The Board of Commissioners reserves the right to reject any or all bids, to waive technicalities and to accept the bid it deems to be in the best interest of the City to accept.

Minimum wage rates on this project shall be determined by the NM Department of Workforce Solutions.

Description of Project: Project work will consist of the acquisition and implementation of a Drive-By Automated Meter Reading (AMR) System, including replacing water meters with new radio read meters and all software, hardware, and materials needed including all labor to complete a fully function system that is compatible with the existing billing system. All work shall be completed in accordance with the New Mexico APWA Standard specifications for Public Works Construction latest edition, and the latest applicable local, state, and federal codes.

James R. Williams, Manager
City of Lovington, New Mexico

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ARTICLE 1 – DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. Issuing Office – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the advertisement or invitation to bid may be obtained from the Issuing Office. The deposit will be refunded to each document holder of record who returns a complete set of Bidding Documents in good condition within 30 days after opening of Bids.
- 2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.01 To demonstrate Bidder's qualifications to perform the Work, within 5 days of Owner's request, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below.
- A. State Contractors License(s)
- 3.02 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

- 4.01 Subsurface and Physical Conditions
- A. The Supplementary Conditions identify:
1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site.
 2. Those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

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- B. Copies of reports and drawings referenced in Paragraph 4.01.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.02 of the General Conditions has been identified and established in Paragraph 4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.02 Underground Facilities

- A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon record information supplied by the Owner. The Contractor is cautioned that they are responsible for the exact location and protections of all lines during construction. The Contractor shall be responsible for determining, in advance of construction operations, if overhead utility lines, support structures, poles, guys, etc. are an obstruction to construction operations. If any obstructions is evident the contractor shall be responsible for coordinating with the appropriate utility owner to remove or support the utility obstruction. Any cost associated with this effort is incidental to the project.

4.03 Hazardous Environmental Condition

- A. The Supplementary Conditions identify any reports and drawings known to Owner relating to a Hazardous Environmental Condition identified at the Site.
- B. Copies of reports and drawings referenced in Paragraph 4.03.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.06 of the General Conditions has been identified and established in Paragraph 4.06 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.
- C. The contractor shall comply with all applicable safety regulations issued by the Occupational Safety and Health Administration (OSHA) during construction.

- 4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or

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identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 4.06 of the General Conditions.

- 4.05 On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.
- 4.06 A. Reference is made to Article 7 of the Supplementary Conditions for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of contract documents (other than portions thereof related to price) for such other work.
- B. Paragraph 6.13.C of the General Conditions indicates that if an Owner safety program exists, it will be noted in the Supplementary Conditions.
- 4.07 It is the responsibility of each Bidder before submitting a Bid to:
- A. Examine and carefully study the Bidding Documents, and the other related data identified in the Bidding Documents;
- B. Visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. Become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;
- D. Carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in Paragraph 4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in the Paragraph 4.06 of the Supplementary Conditions as containing reliable "technical data";
- E. Consider the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs;

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- F. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;
 - G. Become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
 - H. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and
 - I. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.
- 4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 – NOT USED.

ARTICLE 6 – SITE AND OTHER AREAS

- 6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.

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ARTICLE 8 – BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of 5% percent of Bidder's maximum Bid price and in the form of a certified check, bank money order, or a Bid bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.
- 8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Agreement or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.
- 8.03 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 – LIQUIDATED DAMAGES

- 10.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

ARTICLE 11 – SUBSTITUTE AND "OR-EQUAL" ITEMS

- 11.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or "or-equal" items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or "or-equal" item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.
- 11.02 All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.

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ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS AND OTHERS

- 12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute,[in which case apparent Successful Bidder shall submit an acceptable substitute, Bidder’s Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.]
- 12.02 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 – OCCUPATIONAL SAFETY AND HEALTH REQUIREMENTS

- 13.01 Work under this contract shall be in compliance with applicable safety regulations issued by the Occupational Safety and Health Administration (OSHA).

ARTICLE 14 – PREPARATION OF BID

- 14.01 The Bid Form is included with the Bidding Documents. Additional copies may be obtained from the Engineer.
- 14.02 All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each [section, Bid item, alternative, adjustment unit price item, and unit price item] listed therein. In the case of optional alternatives the words “No Bid,” “No Change,” or “Not Applicable” may be entered.
- 14.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.
- 14.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.

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- 14.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 14.06 A Bid by an individual shall show the Bidder's name and official address.
- 14.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 14.08 All names shall be printed in ink below the signatures.
- 14.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 14.10 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 14.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 15 – BASIS OF BID; COMPARISON OF BIDS

15.01 Unit Price

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.
- B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 of the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

15.02 Allowances

- A. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 11.02.B of the General Conditions.

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ARTICLE 16 – SUBMITTAL OF BID

16.01 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to:

City of Lovington
214 S. Love Street
Lovington New Mexico 88260
ATTENTION: Mr. James R. Williams, City Manager
Telephone: (575) 396-2884

ARTICLE 17 – MODIFICATION AND WITHDRAWAL OF BID

17.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

17.02 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 18 – OPENING OF BIDS

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

ARTICLE 19 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

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

ARTICLE 20 – EVALUATION OF BIDS AND AWARD OF CONTRACT

20.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive

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all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

- 20.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- 20.03 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 20.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.
- 20.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.
- 20.06 If the Contract is to be awarded, Owner will award the Contract will award to the lowest responsible Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interest of the project.

ARTICLE 21 – CONTRACT SECURITY AND INSURANCE

- 21.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner’s requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds.

ARTICLE 22 – SIGNING OF AGREEMENT

- 22.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement along with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within ten days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

ARTICLE 23 – TERMINATION OF CONTRACT CLAUSE

- 23.01 The terms of this Agreement are contingent upon sufficient appropriations and authorization by the Legislature of New Mexico for the performance of this Agreement. If sufficient appropriations and authorization are not made by the Legislature, OWNER may immediately

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terminate this Agreement by giving CONTRACTOR written notice of such termination. The OWNER's decision as to whether sufficient appropriations are available shall be accepted by CONTRACTOR and shall be final. CONTRACTOR hereby waives any rights to assert an impairment of contract claim against the OWNER or the New Mexico Environment Department (NMED), or the State of New Mexico in the event of immediate or early termination of this Agreement by the OWNER or NMED.

This contract is funded in whole or in part by funds made available under a NMED Grant Agreement. Should the NMED early terminate the grant agreement, OWNER may early terminate this contract by providing CONTRACTOR written notice of such termination. In the event of termination pursuant to this paragraph, OWNER's only liability shall be to pay CONTRACTOR or vendor for acceptable goods delivered and services rendered before the termination date.

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ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

City of Lovington
214 S. Love Street
Lovington New Mexico 88260
ATTENTION: Mr. James R. Williams, City Manager
Telephone: (575) 396-2884

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

<u>Addendum No.</u>	<u>Addendum, Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary

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Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

- E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.
- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- 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 individual or entity to refrain from bidding; and

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- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;
 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract

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ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

**UNIT PRICE BID TABULATION
Water Meter System**

BASE BID					
Item No:	Description	Estimated Qty	Unit	Bid Unit Price	Bid Price
1	Mobilization / Demobilization	1	LS		
2	Pre-Construction and Condition Survey of Existing Meters: GPS Location, Sizes and Quantities as described in section 01025 of the technical specifications	1	LS		
3	Remove & Salvage Existing Meters to City of Lovington	2287	EACH		
4	1" 3/4" or 5/8" Water Meter for AMR (Install)	2287	EACH		
5	Replace Damaged Existing Meter Cans w/ HDPE Can (furnish, salvage to City & install as necessary) *	572	EACH		
6	Meter Can Removal in Concrete incl. saw cut/ removal/ replacement concrete as necessary**	115	EACH		
				Base Bid Project Cost	
				NMGRT 7.2500%	
				Base Bid Project Cost including NMGRT	
Assumptions:					
*	Estimated 25% of existing meter cans are not reusable and must be replaced				
**	Data provided by City of Lovington				
***	Estimated 5%				
	1. If the bid price is different from the funding limit, a unit price driven change order will decrease/increase the scope of the project to match available funds.				
	2. Damaged Meter Lid Replacements will be provided by the City of Lovington.				

Unit Prices have been computed in accordance with Paragraph 11.03.B of the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

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ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete within 185 calendar days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 207 calendar days after the date when the Contract Times commence to run.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security;
 - B. List of Proposed Subcontractors;
 - C. List of Proposed Suppliers;
 - D. List of Project References;
 - E. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
 - F. Contractor’s License No.: _____
Subcontractor License No: _____
Subcontractor License No: _____
Subcontractor License No: _____
 - G. Required Bidder Qualification Statement with supporting data;
 - H. Resident Preference No.: _____ and include a copy of the Resident Preference No. certificate;
 - I. Resident Veterans Preference No.: _____ and include a copy of the Resident Preference No. certificate;
 - J. Workforce Solutions Registration No.: _____ and include a copy of the certificate of registration with NM Department of Workforce Solutions;
- List NM Department of Workforce Solutions Registration No. for subcontractors if bid is over \$60,000 (§13-4-13.1, NMSA 1978) and include a copy of the certificate of registration with NM Department of Workforce Solutions:
- 1. Subcontractor Workforce Solutions Registration No.: _____

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2. Subcontractor Workforce Solutions Registration No.: _____
3. Subcontractor Workforce Solutions Registration No.: _____.

ARTICLE 8 – DEFINED TERMS

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

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ARTICLE 9 – BID SUBMITTAL

9.01 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____

(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____

By: _____

(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____

(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in New Mexico is ____/____/____.

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A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address:

Phone No. _____

Fax No. _____

E-mail _____

SUBMITTED on _____, 20____.

State Contractor License No. _____.

Resident Preference No. _____.

Resident Veterans Preference No. _____.

Workforce Solutions No. _____.

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BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

BID

Bid Due Date:

Description (*Project Name— Include Location*):

BOND

Bond Number:

Date:

Penal sum

\$

(Words)

(Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

(Seal)

(Seal)

Bidder's Name and Corporate Seal

Surety's Name and Corporate Seal

By:

Signature

By:

Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest:

Signature

Attest:

Signature

Title

Title

Note: Addresses are to be used for giving any required notice.

Provide execution by any additional parties, such as joint venturers, if necessary.

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

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**BIDDER'S LISTING of SUBCONTRACTORS for
COMPLIANCE with SUBCONTRACTORS FAIR PRACTICES ACT**

PROJECT: Installation of Water Meter System

BIDDER must list all Subcontractors to be used for work identified in the Supplementary Conditions, when the subcontract amount exceeds the listing threshold: \$5,000 [Use additional sheets if necessary.]

NAME OF SUBCONTRACTOR and LOCATION OF PLACE OF BUSINESS	CATEGORY of WORK of SUBCONTRACTOR	
Name: _____	Category: _____	
Location: _____		
NM Workforce Solutions Registration No. * _____		
Value of Work: _____		
Name: _____	Category: _____	
Location: _____		
NM Workforce Solutions Registration No. * _____		
Value of Work: _____		
Name: _____	Category: _____	
Location: _____		
NM Workforce Solutions Registration No. * _____		
Value of Work: _____		
NOTICE TO BIDDER	CONTRACTOR:	
<p>The above listing must include the NAME, LOCATION OF PLACE OF BUSINESS and CATEGORY OF WORK, which will be done by each subcontractor on the list. List only one subcontractor for each category of work. FAILURE TO COMPLY WITH THESE REQUIREMENTS WILL MAKE THE BID NON-RESPONSIVE and the Bid will be rejected.</p> <p>*Workforce Solutions Registration No. is required if work value is over \$60,000</p>	FIRM:	
	By:	
	Title:	
	Date:	

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CAMPAIGN CONTRIBUTION DISCLOSURE FORM

Pursuant to NMSA 1978, § 13-1-191.1 (2006), any person seeking to enter into a contract with any state agency or local public body **for professional services, a design and build project delivery system, or the design and installation of measures the primary purpose of which is to conserve natural resources** must file this form with that state agency or local public body. This form must be filed even if the contract qualifies as a small purchase or a sole source contract. The prospective contractor must disclose whether they, a family member or a representative of the prospective contractor has made a campaign contribution to an applicable public official of the state or a local public body during the two years prior to the date on which the contractor submits a proposal or, in the case of a sole source or small purchase contract, the two years prior to the date the contractor signs the contract, if the aggregate total of contributions given by the prospective contractor, a family member or a representative of the prospective contractor to the public official exceeds two hundred and fifty dollars (\$250) over the two year period.

Furthermore, the state agency or local public body shall void an executed contract or cancel a solicitation or proposed award for a proposed contract if: 1) a prospective contractor, a family member of the prospective contractor, or a representative of the prospective contractor gives a campaign contribution or other thing of value to an applicable public official or the applicable public official's employees during the pendency of the procurement process or 2) a prospective contractor fails to submit a fully completed disclosure statement pursuant to the law.

THIS FORM MUST BE FILED BY ANY PROSPECTIVE CONTRACTOR WHETHER OR NOT THEY, THEIR FAMILY MEMBER, OR THEIR REPRESENTATIVE HAS MADE ANY CONTRIBUTIONS SUBJECT TO DISCLOSURE.

The following definitions apply:

"Applicable public official" means a person elected to an office or a person appointed to complete a term of an elected office, who has the authority to award or influence the award of the contract for which the prospective contractor is submitting a competitive sealed proposal or who has the authority to negotiate a sole source or small purchase contract that may be awarded without submission of a sealed competitive proposal.

"Campaign Contribution" means a gift, subscription, loan, advance or deposit of money or other thing of value, including the estimated value of an in-kind contribution, that is made to or received by an applicable public official or any person authorized to raise, collect or expend contributions on that official's behalf for the purpose of electing the official to either statewide or local office. "Campaign Contribution" includes the payment of a debt incurred in an election campaign, but does not include the value of services provided without compensation or unreimbursed travel or other personal expenses of individuals who volunteer a portion or all of their time on behalf of a candidate or political committee, nor does it include the administrative or solicitation expenses of a political committee that are paid by an organization that sponsors the committee.

"Family member" means spouse, father, mother, child, father-in-law, mother-in-law, daughter-in-law or son-in-law.

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“Pendency of the procurement process” means the time period commencing with the public notice of the request for proposals and ending with the award of the contract or the cancellation of the request for proposals.

“Person” means any corporation, partnership, individual, joint venture, association or any other private legal entity.

“Prospective contractor” means a person who is subject to the competitive sealed proposal process set forth in the Procurement Code or is not required to submit a competitive sealed proposal because that person qualifies for a sole source or a small purchase contract.

“Representative of a prospective contractor” means an officer or director of a corporation, a member or manager of a limited liability corporation, a partner of a partnership or a trustee of a trust of the prospective contractor.

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DISCLOSURE OF CONTRIBUTIONS:

Contribution Made By: _____

Relation to Prospective Contractor: _____

Name of Applicable Public Official: _____

Date Contribution(s) Made: _____

Amount(s) of Contribution(s): _____

Nature of Contribution(s): _____

Purpose of Contribution(s): _____

(Attach extra pages if necessary)

Signature

Date

Title (position)

--OR--

NO CONTRIBUTIONS IN THE AGGREGATE TOTAL OVER TWO HUNDRED FIFTY DOLLARS (\$250) WERE MADE to an applicable public official by me, a family member or representative.

Signature

Date

Title (position)

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Veterans Preference Certification

_____ (Name of Business) hereby certifies the following in regard to application of the resident veteran preference to this formal request for proposals process:

Please check one box only:

I declare under penalty of perjury that my business prior year revenue starting January 1 ending December 31 is less than \$1M allowing me the 10% preference discount on this bid or proposal. I understand that knowingly giving false or misleading information about this fact constitutes a crime.

I declare under penalty of perjury that my business prior year revenue starting January 1 ending December 31 is more than \$1M but less than \$5M allowing me the 8% preference discount on this bid or proposal. I understand that knowingly giving false or misleading information about this fact constitutes a crime.

I declare under penalty of perjury that my business prior year revenue starting January 1 ending December 31 is more than \$5M allowing me the 7% preference discount on this bid or proposal. I understand that knowingly giving false or misleading information about this fact constitutes a crime.

"I agree to submit a report, or reports, to the State Purchasing Division of the General Services Department declaring under penalty of perjury that during the last calendar year starting January 1 ending December 31, the following to be true and accurate:

"In conjunction with this procurement and the requirements of this business' application for a Resident Veteran Business Preference/Resident Veteran Contractor Preference under Sections 13-1-21 or 13-1-22 NMSA 1978, when awarded a contract which was on the basis of having such veterans preference, I agree to report to the State Purchasing Division of the General Services Department the awarded amount involved. I will indicate in the report the award amount as a purchase from a public body or as a public works contract from a public body as the case may be."

"I declare under penalty of perjury that this statement is true to the best of my knowledge. I understand that giving false or misleading statements about material fact regarding this matter constitutes a crime."

(Signature of Business Representative)*

(Date)

*Must be an authorized signatory for the Business.

The representation made in checking the boxes constitutes a material representation by the business that is subject to protest and may result in denial of an award or unaward of the procurement involved if the statements are proven incorrect.

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**FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)**

THIS AGREEMENT is by and between _____ (“Owner”) and

_____ (“Contractor”).

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

- 1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:
- A. Project work will consist of the installation of water meters throughout the town. All work shall be completed in accordance with the New Mexico APWA Standard specifications for Public Works Construction latest edition, and the latest applicable local, state, and federal codes. See Section 01010 – Work Summary.

ARTICLE 2 – THE PROJECT

- 2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:
- A. “Installation of Drive-By Automated Meter Reading System”

ARTICLE 3 – ENGINEER

- 3.01 The Project has been designed by Pettigrew & Associates, P.A. (Engineer), which is to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

- 4.01 Time of the Essence
- A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.
- 4.02 Days to Achieve Substantial Completion and Final Payment
- A. The Work will be substantially completed within 200 days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 241 days after the date when the Contract Times commence to run.

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6.02 Progress Payments; Retainage

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the First day of each month during performance of the Work.

6.03 Final Payment

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 14.07.
- B. Upon completion of construction, the following documents must be completed and submitted to NMED before closeout of the project and the final disbursement request is paid: Certificate of Project Acceptance and Performance, Labor Standards Certification, Record Drawings and O & M Manuals Acceptance, Affidavit of Payment and Release of Lien, Consent of Surety to Final Payment, and a Certificate of Substantial Completion which includes a punch list of items that must be completed by the contractor.

ARTICLE 7 – NOT USED

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

- A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
- B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities), if any, that have been identified in Paragraph SC-4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph SC-4.06 of the Supplementary Conditions as containing reliable "technical data."
- E. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance

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of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor's safety precautions and programs.

- F. Based on the information and observations referred to in Paragraph 8.01.E above, Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 Contents

- A. The Contract Documents consist of the following:
 - 1. This Agreement
 - 2. Performance bond
 - 3. Payment bond
 - 4. General Conditions
 - 5. Specifications as listed in the table of contents of the Project Manual.
 - 6. Drawings (not attached but incorporated by reference) consisting of the following:
 - C-001 Cover Sheet
 - C-002 General Notes
 - CS-101 Site Location Map
 - CS-102 Site Map - Zone 1
 - CS-103 Site Map - Zone 2
 - CS-103 Site Map - Zone 3
 - CS-105 Site Map - Zone 4
 - CS-106 Site Map - Zone 5
 - CS-107 Site Map - Zone 6
 - CS-108 Site Map - Zone 7
 - CU-501 Utility Details

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CP-501 Traffic Control, Sheet 1
CP-502 Traffic Control, Sheet 2

7. Addenda
 8. Exhibits to this Agreement
 - a. Contractor's Bid
 9. Documentation submitted by Contractor prior to Notice of Award
 10. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Notice to Proceed
 - b. Work Change Directives.
 - c. Change Orders.
 11. The following close out documents will be required at the completion of the project:
 - a. Certificate of Substantial Completion
 - b. Engineer and Owner Project Acceptance Letter
 - c. Certificate of Labor Standards Compliance
 - d. Release of Liens
 - e. Written Consent of Surety
 - f. Owner Acceptance Letter of O&M Manuals and Records Drawings
 - g. Final Pay Request
 - h. Final Adjustment Change Order
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 Terms

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

10.02 Assignment of Contract

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and,

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specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 Successors and Assigns

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

10.04 Severability

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 Contractor's Certifications

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

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IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.

This Agreement will be effective on _____ (which is the Effective Date of the Agreement).

OWNER:

CONTRACTOR:

By: _____

By: _____

Title: _____

Title: _____

Attest: _____

Attest: _____

Title _____

Title _____

Address for giving notices:

Address for giving notices:

License No. _____

(Where Applicable)

Agent for service of process:

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PERFORMANCE BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name, and Address of Principal Place of Business):

OWNER (Name and Address):

City of Lovington
214 S. Love Street
Lovington New Mexico 88260
ATTENTION: Mr. James R. Williams, City Manager

CONTRACT

Effective Date of Agreement:
Amount:
Description (Installation of Water Meter System):

BOND

Bond Number:
Date (Not earlier than Effective Date of Agreement):
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

_____ Contractor's Name and Corporate Seal	(Seal)	_____ Surety's Name and Corporate Seal	(Seal)
By:	_____ Signature	By:	_____ Signature
	_____ Print Name		_____ Print Name
	_____ Title		_____ Title
Attest	_____ Signature	Attest	_____ Signature
	_____ Title		_____ Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

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Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner for the performance of the Contract, which is incorporated herein by reference.

1. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 2.1.
2. If there is no Owner Default, Surety's obligation under this Bond shall arise after:
 - 2.1 Owner has notified Contractor and Surety, at the addresses described in Paragraph 9 below, that Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If Owner, Contractor, and Surety agree, Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive Owner's right, if any, subsequently to declare a Contractor Default; and
 - 2.2 Owner has declared a Contractor Default and formally terminated Contractor's right to complete the Contract. Such Contractor Default shall not be declared earlier than 20 days after Contractor and Surety have received notice as provided in Paragraph 2.1; and
 - 2.3 Owner has agreed to pay the Balance of the Contract Price to:
 - 2.3.1 Surety in accordance with the terms of the Contract; or
 - 2.3.2 Another contractor selected pursuant to Paragraph 3.3 to perform the Contract.
3. When Owner has satisfied the conditions of Paragraph 2, Surety shall promptly, and at Surety's expense, take one of the following actions:
 - 3.1 Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or
 - 3.2 Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 3.3 Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 5 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or
 - 3.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
 - 3.4.1 After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment therefor to Owner; or

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- 3.4.2 Deny liability in whole or in part and notify Owner citing reasons therefor.
4. If Surety does not proceed as provided in Paragraph 3 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 3.4, and Owner refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.
 5. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 3.1, 3.2, or 3.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To the limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:
 - 5.1 The responsibilities of Contractor for correction of defective Work and completion of the Contract;
 - 5.2 Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions of or failure to act of Surety under Paragraph 3; and
 - 5.3 Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.
 6. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than Owner or its heirs, executors, administrators, or successors.
 7. Surety hereby waives notice of any change, including changes of time, to Contract or to related subcontracts, purchase orders, and other obligations.
 8. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located, and shall be instituted within two years after Contractor Default or within two years after Contractor ceased working or within two years after Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
 9. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.
 10. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted here from and provisions conforming to such statutory

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requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

11. Definitions.

- 11.1 Balance of the Contract Price: The total amount payable by Owner to Contractor under the Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other Claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Contract.
- 11.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
- 11.3 Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
- 11.4 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or otherwise comply with the other terms thereof.

FOR INFORMATION ONLY – (Name, Address and Telephone)

Surety Agency or Broker:

Owner's Representative (Engineer or other party):

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PAYMENT BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name, and Address of Principal Place of Business):

OWNER (Name and Address):

City of Lovington
214 S. Love Street
Lovington New Mexico 88260
ATTENTION: Mr. James R. Williams, City Manager

CONTRACT

Effective Date of Agreement:
Amount:
Description (Installation of Water Meter System):

BOND

Bond Number:
Date (Not earlier than Effective Date of Agreement):
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

_____ Contractor's Name and Corporate Seal	(Seal)	_____ Surety's Name and Corporate Seal	(Seal)
By:	_____	By:	_____
	Signature		Signature
	_____		_____
	Print Name		Print Name
	_____		_____
	Title		Title
Attest	_____	Attest	_____
	Signature		Signature
	_____		_____
	Title		Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

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Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.

1. With respect to Owner, this obligation shall be null and void if Contractor:
 - 1.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and
 - 1.2 Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.
2. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.
3. Surety shall have no obligation to Claimants under this Bond until:
 - 3.1 Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
 - 3.2 Claimants who do not have a direct contract with Contractor:
 - 3.2.1 Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and
 - 3.2.2 Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and
 - 3.2.3 Not having been paid within the above 30 days, have sent a written notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.
4. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.
5. Reserved.

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6. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.
7. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.
8. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.
9. Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders, and other obligations.
10. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
11. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.
12. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.
13. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.
14. Definitions
 - 14.1 Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

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- 14.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
- 14.3 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract, or to perform and complete or otherwise comply with the other terms thereof.

FOR INFORMATION ONLY – (Name, Address, and Telephone)

Surety Agency or Broker:

Owner's Representative (Engineer or other):

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Notice of Award

Date: _____

Project: _____

Owner: _____ Owner's Contract No.: _____

Contract: _____ Engineer's Project No. _____

Bidder: _____

Bidder's Address: [send Notice of Award Certified Mail, Return Receipt requested]

You are notified that your Bid dated _____ for the above Contract has been considered.
You are the Successful Bidder and are awarded a Contract for _____

The Contract Price of your Contract is _____ Dollars (\$ _____).
[Insert appropriate data if unit prices are used. Change language for cost-plus contracts.]

_____ copies of the proposed Contract Documents (except Drawings) accompany this Notice of Award.
_____ sets of the Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within [15] days of the date you receive this Notice of Award.

1. Deliver to the Owner [] fully executed counterparts of the Contract Documents. Deliver with the executed Contract Documents the Contract security [Bonds] as specified in the Instructions to Bidders (Article 20), General Conditions (Paragraph 5.01), and Supplementary Conditions (Paragraph SC-5.01).
- 2.
3. Other conditions precedent: _____

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

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

By: _____
Owner

Authorized Signature

Title

Copy to Engineer

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Notice to Proceed

Date: _____

Project: _____

Owner: _____ Owner's Contract No.: _____

Contract: _____ Engineer's Project No. _____

Contractor: _____

Contractor's Address: [send Certified Mail, Return Receipt Requested]

You are notified that the Contract Times under the above Contract will commence to run _____ on . On or before that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the date of Substantial Completion is _____, and the date of readiness for final payment is _____ [(or) the number of days to achieve Substantial Completion is _____, and the number of days to achieve readiness for final payment is _____].

Before you may start any Work at the Site, Paragraph 2.01.B of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds and loss payees) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Also, before you may start any Work at the Site, you must:

_____ [add other requirements]

Owner
Given by:

Authorized Signature

Title

Date

Copy to Engineer

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Title: _____

Certificate of Substantial Completion

Project: _____	Owner: _____	Owner's Contract No.: _____	
Contract: _____		Date of Contract: _____	
Contractor: _____		Engineer's Project No.: _____	

This [tentative] [definitive] Certificate of Substantial Completion applies to:

All Work under the Contract Documents: The following specified portions:

Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [revised tentative] [definitive] list of items to be completed or corrected, is attached hereto. This list may not be all inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

The responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

Amended Responsibilities Not Amended

Owner's Amended Responsibilities:

Contractor's Amended Responsibilities

The following documents are attached to and made part of this Certificate:

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

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_____	_____
Executed by Engineer	Date
_____	_____
Accepted by Contractor	Date
_____	_____
Accepted by Owner	Date

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. Addenda—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. Agreement—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. Application for Payment—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. 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.
 5. Bid—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. Bidder—The individual or entity who submits a Bid directly to Owner.
 7. Bidding Documents—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. Bidding Requirements—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. Change Order—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. Claim—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. Contract—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

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12. Contract Documents—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. Contract Price—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. Contract Times—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. Contractor—The individual or entity with whom Owner has entered into the Agreement.
16. Cost of the Work—See Paragraph 11.01 for definition.
17. Drawings—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. Effective Date of the Agreement—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. Engineer—The individual or entity named as such in the Agreement.
20. Field Order—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. General Requirements—Sections of Division 1 of the Specifications.
22. Hazardous Environmental Condition—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. 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.
24. Laws and Regulations; Laws or Regulations—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

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25. Liens—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. Milestone—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.
27. Notice of Award—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. Notice to Proceed—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. Owner—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. PCBs—Polychlorinated biphenyls.
31. Petroleum—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees 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 Waste and crude oils.
32. Progress Schedule—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. Project—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. Project Manual—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. 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.
36. Resident Project Representative—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. Samples—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. Schedule of Submittals—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

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39. Schedule of Values—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
40. Shop Drawings—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. Site—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. Specifications—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. Subcontractor—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. Substantial Completion—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.
45. Successful Bidder—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. Supplementary Conditions—That part of the Contract Documents which amends or supplements these General Conditions.
47. Supplier—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. Underground Facilities—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. Unit Price Work—Work to be paid for on the basis of unit prices.

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50. Work—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. Work Change Directive—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 Terminology

- A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. Intent of Certain Terms or Adjectives:
 1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed,” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.
- C. Day:
 1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. Defective:
 1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or

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- b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).
- E. Furnish, Install, Perform, and Provide:
- 1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 - 2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 - 3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 - 4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 Delivery of Bonds and Evidence of Insurance

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. Evidence of Insurance: Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 Copies of Documents

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

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2.03 Commencement of Contract Times; Notice to Proceed

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

2.04 Starting the Work

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

2.05 Before Starting Construction

- A. Preliminary Schedules: Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 Preconstruction Conference; Designation of Authorized Representatives

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 Initial Acceptance of Schedules

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for

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acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 Intent

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 Reference Standards

- A. Standards, Specifications, Codes, Laws, and Regulations
 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set

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forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies:

1. Contractor's Review of Contract Documents Before Starting Work: Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. Contractor's Review of Contract Documents During Performance of Work: If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. Resolving Discrepancies:

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

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3.04 Amending and Supplementing Contract Documents

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 - 1. A Field Order;
 - 2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
 - 3. Engineer's written interpretation or clarification.

3.05 Reuse of Documents

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

3.06 Electronic Data

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

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- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

**ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS;
HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS**

4.01 Availability of Lands

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 Subsurface and Physical Conditions

- A. Reports and Drawings: The Supplementary Conditions identify:
 - 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
- B. Limited Reliance by Contractor on Technical Data Authorized: Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and

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procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 Differing Subsurface or Physical Conditions

A. Notice: If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents; then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. Engineer's Review: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. Possible Price and Times Adjustments:

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

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- a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 Underground Facilities

- A. Shown or Indicated: The information and data 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, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. The safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.
- B. Not Shown or Indicated:
1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to

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Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 Reference Points

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 Hazardous Environmental Condition at Site

- A. Reports and Drawings: The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. Limited Reliance by Contractor on Technical Data Authorized: Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

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2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration

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or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 Performance, Payment, and Other Bonds

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

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5.02 Licensed Sureties and Insurers

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 Certificates of Insurance

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 Contractor's Insurance

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

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3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
 2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
 3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
 4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
 5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
 6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued,

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evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 Owner's Liability Insurance

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 Property Insurance

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
 2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 5. allow for partial utilization of the Work by Owner;
 6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.

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- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.
- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.
- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 Waiver of Rights

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall

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extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 Receipt and Application of Insurance Proceeds

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

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5.09 Acceptance of Bonds and Insurance; Option to Replace

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 Partial Utilization, Acknowledgment of Property Insurer

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 Supervision and Superintendence

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

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6.02 Labor; Working Hours

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 Services, Materials, and Equipment

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

6.04 Progress Schedule

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

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6.05 Substitutes and "Or-Equals"

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. "Or-Equal" Items: If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

- 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
- 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
- 3) it has a proven record of performance and availability of responsive service.

b. Contractor certifies that, if approved and incorporated into the Work:

- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
- 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items:

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.

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- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
- 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
 - 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
 - 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.
- B. Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. Engineer's Evaluation: Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. Special Guarantee: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

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- E. Engineer's Cost Reimbursement: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. Contractor's Expense: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 Concerning Subcontractors, Suppliers, and Others

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

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- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. 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.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 Patent Fees and Royalties

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

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being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 Permits

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 Laws and Regulations

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

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6.10 Taxes

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

6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas:

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas 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 adjacent land or areas resulting from the performance of the Work.
 2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
 3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.
- B. Removal of Debris During Performance of the Work: During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. Cleaning: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. Loading Structures: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

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6.12 Record Documents

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

6.13 Safety and Protection

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly,

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in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 Safety Representative

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 Hazard Communication Programs

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

6.16 Emergencies

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

6.17 Shop Drawings and Samples

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.
 - 1. Shop Drawings:
 - a. Submit number of copies specified in the General Requirements.
 - b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.
 - 2. Samples:
 - a. Submit number of Samples specified in the Specifications.
 - b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to

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enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. Submittal Procedures:

1. Before submitting each Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review:

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review

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and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 Continuing the Work

- A. 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 permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 Contractor's General Warranty and Guarantee

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. 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, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. 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 by Engineer or payment by Owner of any progress or final payment;

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3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. use or occupancy of the Work or any part thereof by Owner;
5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. any inspection, test, or approval by others; or
7. any correction of defective Work by Owner.

6.20 Indemnification

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.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, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 Delegation of Professional Design Services

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means,

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methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 Related Work at Site

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be

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required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 Coordination

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
 - 1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 - 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 - 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 Legal Relationships

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

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ARTICLE 8 – OWNER’S RESPONSIBILITIES

8.01 Communications to Contractor

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

8.02 Replacement of Engineer

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 Furnish Data

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

8.04 Pay When Due

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 Lands and Easements; Reports and Tests

- A. Owner’s duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner’s identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 Insurance

- A. Owner’s responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 Change Orders

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 Inspections, Tests, and Approvals

- A. Owner’s responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 Limitations on Owner’s Responsibilities

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor’s means, methods, techniques, sequences, or procedures of construction, or the

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safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 Undisclosed Hazardous Environmental Condition

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 Evidence of Financial Arrangements

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 Compliance with Safety Program

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 Owner's Representative

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

9.02 Visits to Site

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means,

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methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 Project Representative

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 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 Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 Rejecting Defective Work

- A. Engineer will have 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 will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 Shop Drawings, Change Orders and Payments

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

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9.07 Determinations for Unit Price Work

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 Decisions on Requirements of Contract Documents and Acceptability of Work

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 Limitations on Engineer's Authority and Responsibilities

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

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- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 Compliance with Safety Program

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 Authorized Changes in the Work

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 Unauthorized Changes in the Work

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 Execution of Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

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1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents 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 Paragraph 6.18.A.

10.04 Notification to Surety

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

10.05 Claims

- A. Engineer's Decision Required: All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. Notice: Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

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- C. Engineer's Action: Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
 - 1. deny the Claim in whole or in part;
 - 2. approve the Claim; or
 - 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 Cost of the Work

- A. Costs Included: The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:
 - 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. 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, but not be limited to, 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. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

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2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts 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 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 for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the 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.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses

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shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. Costs Excluded: The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. 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. 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.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

C. Contractor's Fee: When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

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11.02 Allowances

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

11.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - 2. there is no corresponding adjustment with respect to any other item of Work; and

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3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. Contractor's Fee: The Contractor's fee for overhead and profit shall be determined as follows:
 1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five 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 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. 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 net decrease in cost

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plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

- f. 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 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 Change of Contract Times

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 Delays

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

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- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

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

13.01 Notice of Defects

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

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

13.03 Tests and Inspections

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of

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materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 Uncovering Work

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced 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, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and 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 therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 Owner May Stop the Work

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

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13.06 Correction or Removal of Defective Work

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 Correction Period

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. repair such defective land or areas; or
 - 2. correct such defective Work; or
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

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- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 Acceptance of Defective Work

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 Owner May Correct Defective Work

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other

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dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 Progress Payments

A. Applications for Payments:

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

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B. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

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- c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, or completed Work has been damaged, requiring correction
 - b. or replacement;
 - c. the Contract Price has been reduced by Change Orders;
 - d. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
 - e. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment:

- 1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or

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- d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 Contractor's Warranty of Title

- 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.

14.04 Substantial Completion

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

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- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 Partial Utilization

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
 - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 Final Inspection

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the

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Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 Final Payment

A. Application for Payment:

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Engineer's Review of Application and Acceptance:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

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C. Payment Becomes Due:

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 Final Completion Delayed

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of 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 to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 Waiver of Claims

- A. The making and acceptance of final payment will constitute:
 1. A waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
 2. A waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 Owner May Suspend Work

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

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15.02 Owner May Terminate for Cause

- A. The occurrence of any one or more of the following events will justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
 - 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 - 3. Contractor's repeated disregard of the authority of Engineer; or
 - 4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
 - 1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
 - 2. 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
 - 3. complete the Work as Owner may deem expedient.

- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

- E. 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. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

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- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 Owner May Terminate For Convenience

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
 - 3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 - 4. reasonable expenses directly attributable to termination.
- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 Contractor May Stop Work or Terminate

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

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ARTICLE 16 – DISPUTE RESOLUTION

16.01 Methods and Procedures

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer’s action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
 - 1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agrees with the other party to submit the Claim to another dispute resolution process; or
 - 3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 Giving Notice

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. 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
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 Computation of Times

- 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 the law of the applicable jurisdiction, such day will be omitted from the computation.

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17.03 Cumulative Remedies

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

17.04 Survival of Obligations

- A. All representations, indemnifications, warranties, and guarantees 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 or termination or completion of the Contract or termination of the services of Contractor.

17.05 Controlling Law

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

17.06 Headings

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

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EXHIBIT GC-A

Certificate of Owner's Attorney

I, the undersigned, _____, the duly authorized and acting
legal
representative of _____, do hereby
certify as follows:

I have examined the attached Contract(s) and performance and payment bond(s) and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements is adequate and has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with the terms, conditions, and provisions thereof.

Date: _____

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SUPPLEMENTARY CONDITIONS

SC-5.04 Contractor's Liability Insurance

SC-5.04 Add the following new paragraph immediately after Paragraph 5.04.B:

C. The limits of liability for the insurance required by Paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 5.04.A.1 and A.2 of the General Conditions:

- | | |
|--|-------------|
| a. State: | Statutory |
| b. Applicable Federal
(e.g., Longshoreman's): | Statutory |
| c. Employer's Liability: | \$1,000,000 |

2. Contractor's General Liability under Paragraphs 5.04.A.3 through A.6 of the General Conditions which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Contractor:

- | | |
|---|--------------------|
| a. General Aggregate | <u>\$1,000,000</u> |
| b. Products - Completed
Operations Aggregate | <u>\$1,000,000</u> |
| c. Each Occurrence
(Bodily Injury and
Property Damage) | <u>\$1,000,000</u> |
| d. Property Damage liability insurance will provide
Explosion, Collapse, and Under-ground coverages
where applicable. | |
| e. Excess or Umbrella Liability | |
| General Aggregate | <u>\$1,000,000</u> |
| Each Occurrence | <u>\$1,000,000</u> |

3. The Contractual Liability coverage required by Paragraph 5.04.B.4 of the General Conditions shall provide coverage for not less than the following amounts:

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a. Bodily Injury:	
Each person	<u>\$1,000,000</u>
Each Accident	<u>\$1,000,000</u>
b. Property Damage:	
Each Accident	<u>\$1,000,000</u>
Annual Aggregate	<u>\$1,000,000</u>

SC-6.06 Concerning Subcontractors, Suppliers, and Others

If the Owner wishes to release payment information, use the following:

SC-6.06.B A Bidder's list of subcontractors is included in the bid form and must be submitted with the bid. Contractor shall submit a list of subcontractors and equipment suppliers with bid proposal.

SC-10.01 Changes in the Work: Claims

SC-10.01.A Add to the end of 10.01.A.

Authorized changes in work need to be reviewed and approved by the Funding Agencies and the NMED Construction Programs Bureau.

SC-12.01 Change of Contract Price

SC-12.01.A At the end of GC 12.01.A., and add the following language:

Any Changes in contract price need to be reviewed and approved by the Funding Agencies and the NMED Construction Programs Bureau.

SC-12.01.A Progress payments

SC-12.01.A.1 At the end of GC 12.01.A.1 add the following language:

Mileage will be reimbursed at the current federally approved IRS rate for contractors, sub-contractors, and others where mileage is claimed.

SC-14.02.C Payment Becomes Due:

SC-14.02.C.1 At the beginning of GC 14.02.C.1 change the following language:

Replace "Ten days after.." with "Forty five days after..."

SC-14.07.A Final Payment

SC-14.07.A.1 At the end of GC 14.07.A.1 add the following language:

At project close out, Contractor and Owner shall provide to the funding agency the required close-out documents: Certificate of Substantial

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Completion, Engineer and Owner Project Acceptance Letter, Certification of Labor Standards Compliance, Release of Liens, Written Consent of Surety, Owner Acceptance Letter of O&M Manuals and Record Drawings, Final Pay Request and Final Adjusting Change Order.

SC-14.07.C Payment Becomes Due:

SC-14.07.C.1 At the beginning of GC 14.07.C.1 change the following language:

Replace "Thirty days after.." with "Forty five days after..."

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STATE WAGES

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STATE OF NEW MEXICO
NEW MEXICO DEPARTMENT OF
WORKFORCE SOLUTIONS
Labor Relations Division,
121 Tijeras Ave NE, Suite 3000
Albuquerque, NM 87102
www.dws.state.nm.us

Wage Decision Approval Summary

1) Project Title: Radio Read Water Meter Installation
Requested Date: 11/01/2016
Approved Date: 11/02/2016
Approved Wage Decision Number: LE-16-1896-A

Wage Decision Expiration Date for Bids: 03/02/2017

2) Physical Location of Jobsite for Project:
Job Site Address: 214 S. Love St.
Job Site City: Lovington
Job Site County: Lea

3) Contracting Agency Name (Department or Bureau): City of Lovington
Contracting Agency Contact's Name: James Williams
Contracting Agency Contact's Phone: (575) 396-2884 Ext. 303

4) Estimated Contract Award Date: 01/23/2016

5) Estimated total project cost: \$300,000.00
a. Are any federal funds involved?: No
b. Does this project involve a building?: No
c. Is this part of a larger plan for construction on or appurtenant to the property that is subject to this project?: No
d. Are there any other Public Works Wage Decisions related to this project?: No
e. What is the ultimate purpose or functional use of the construction once it is completed?: Installation of approximately 1,600 0.75" and 1.0" radio read water meters that will be supplied by the owner.

6) Classifications of Construction:

Classification Type and Cost Total	Description
Highway/Utilities (A) Cost: \$300,000.00	Installation of approximately 1,600 0.75" and 1.0" radio read water meters that are supplied by the owner.

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STATE OF NEW MEXICO
NEW MEXICO DEPARTMENT OF
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121 Tijeras Ave NE, Suite 3000
Albuquerque, NM 87102
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PUBLIC WORKS PROJECT REQUIREMENTS

As a participant in a Public Works project valued at more than \$60,000 in the State of New Mexico, the following list addresses many of the responsibilities that are defined by statute or regulation to each project stakeholder.

Contracting Agency

- Ensure that all Contractors wishing to bid on a Public Works project when the project is \$60,000 or more are actively registered with the Public Works and Apprenticeship Application (PWAA) website: <http://www.dws.state.nm.us/pwaa> (Contractor Registration) prior to bidding.
- Please submit Notice of Award (NOA) and Subcontractor List(s) to the PWAA website promptly after the project is awarded.
- Please update the Subcontractor List(s) on the PWAA website whenever changes occur.

General Contractor

- Provide a complete Subcontractor List and Statements of Intent (SOI) to pay Prevailing Wages for each Contractor to the Contracting Agency within 3 (three) days of award.
- Ensure that all Subcontractors wishing to bid on a Public Works project have an active Contractor Registration with the Public Works and Apprenticeship Application (PWAA) website: <http://www.dws.state.nm.us/pwaa> prior to bidding when their bid will exceed \$60,000.
- Submit bi-weekly certified payrolls to the Contracting Agency.
- Make certain the Public Works Apprentice and Training Act contributions are paid either to an approved Apprenticeship Program or to the Public Works Apprentice and Training Fund.
- Confirm the Wage Rate poster, provided in PWAA, is displayed at the job site in an easily accessible place.
- Make sure, when a project has been completed, the Affidavits of Wages Paid (AWP) is sent to the Contracting Agency.

Subcontractor

- Ensure that all Subcontractors wishing to bid on a Public Works project have an active Contractor Registration with the Public Works and Apprenticeship Application (PWAA) website: <http://www.dws.state.nm.us/pwaa> prior to bidding when their bid will exceed \$60,000.
- Submit bi-weekly certified payrolls to the General Contractor(s).

**Water Meter Improvements-City of Lovington
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STATE OF NEW MEXICO
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Albuquerque, NM 87102
www.dws.state.nm.us

- Make certain the Public Works Apprenticeship and Training Act contributions are paid either to an approved Apprenticeship Program or to the Public Works Apprenticeship and Training Fund.

Additional Information

Reference material and forms may be found at New Mexico Department of Workforce Solutions Public Works web pages at: http://www.dws.state.nm.us/new/Labor_Relations/publicworks.html.

CONTACT INFORMATION

Contact the Labor Relations Division for any questions relating to Public Works projects by email at public.works@state.nm.us or call (505) 841-4400.

**Water Meter Improvements-City of Lovington
Bid No. 2016-RRMI**

**TYPE "A" - STREET, HIGHWAY, UTILITY & LIGHT ENGINEERING
Effective January 1, 2016**

Trade Classification	Base Rate	Fringe Rate
Bricklayer/Blocklayer/Stonemason	23.32	8.04
Carpenter/Lather	23.40	9.02
Cement Mason	17.11	6.32
Ironworker	26.50	14.32
Painter (Brush/Roller/Spray)	16.00	5.58
Electricians (outside)		
Groundman	21.28	10.53
Equipment Operator	30.54	12.94
Lineman/Wireman or Tech	35.94	14.34
Cable Splicer	39.52	15.28
Plumber/Pipefitter	28.30	4.07
Laborers		
Group I	12.20	5.30
Group II	12.50	5.30
Group III	12.90	5.30
Operators		
Group I	16.69	6.16
Group II	17.44	6.16
Group III	17.55	6.16
Group IV	17.63	6.16
Group V	17.75	6.16
Group VI	17.89	6.16
Group VII	18.27	6.16
Group VIII	18.50	6.16
Group IX	25.45	6.16
Group X	28.35	6.16
Truck Drivers		
Group I	13.32	0.26
Group II	13.52	0.26
Group III	13.72	0.26
Group IV	13.92	0.26

NOTE: SUBSISTENCE, ZONE AND INCENTIVE PAY APPLY ACCORDING TO THE PARTICULAR TRADES COLLECTIVE BARGAINING AGREEMENT. DETAILS ARE LOCATED AT WWW.DWS.STATE.NM.US.

Water Meter Improvements-City of Lovington
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Technical Specifications

DIVISION 1 – GENERAL REQUIREMENTS

- 01010 Summary of Work
- 01025 Measurement and Payment
- 01039 Coordination and Meetings
- 01300 Submittals

DIVISION 33 – UTILITIES

- 331010 Water Meters and Automatic Meter Reading System

*ALL NMAPWA STANDARDS ARE APPLICABLE

Section 801 Installation of Water Transmission, Collector, and Distribution Lines

Section 802 Installation of Water Service Lines

Water Meter Improvements-City of Lovington
Bid No. 2016-RRMI

SECTION 01010
WORK SUMMARY

PART 1 GENERAL

1.01 SUMMARY OF PRODUCTS AND SERVICES

The work of this contract is located in the City of Lovington, NM, and includes the following;

1. The City of Lovington has approximately 2,287 water service connections that will be replaced as a part of this project. This contract includes the removal of existing water meters as well as installation of a city wide Drive-by AMR (Automated Meter Reading) System.
2. Install new water meters and radio transmitters to replace existing meters in residential, commercial, and municipal structures in selected locations throughout the City of Lovington.
3. Information for newly installed meters will be updated and provided to the OWNER and engineer in a digital format on a weekly basis after meters are installed. Refer to table at the end of this section.
4. Contractor shall submit a proposed work schedule for the OWNER'S review and approval. This documentation of progress on this schedule shall be updated and sent to the City of Lovington and engineer weekly.
5. Meter cans that are acceptable for reuse will be reinstalled after meter installation. In the event a meter can cannot be reused, the Contractor shall furnish and install a new meter can, if authorized by the Owner. When the existing meter can is damaged and needs replacement, the contractor shall remove the existing meter by non-destructive excavation methods such as Hydro Tech or approved equal prior to installing the new meter.
6. The Drive-By tested AMR system must be complete operational, and accepted prior to the end of the contract time for completion.

1.02 EXISTING WATER SYSTEM

- A. The City of Lovington operates a municipal water system serving residence and business in and out of city limits.
- B. All service connections in the City of Lovington are metered.
- C. The City of Lovington will provide contractor with a file of its consumer meter database of the meters to be installed.

1.03 METHOD OF PAYMENT

Unit Price

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TABLE 1: WEEKLY PROGRESS CHECKLIST

A	NEW METER NUMBER/SERIAL NUMBER	
B	SERVICE ADDRESS	
C	METER READING PRIOR TO REMOVAL	
D	GPS LOCATION	
E	EXISTING METER "ON" OR "OFF"?	
F	PICTURES TO DOCUMENT ANY EXISTING LEAKS	
G	IS METER IN CONCRETE? REQUIRES SAW-CUT REMOVAL?	
H	IS METER ON A COPPER SETTER?	
I	DAMAGE TO METER CAN & LID THAT REQUIRE REPLACEMENT? IF SO, SUBMIT PICTURES AND WRITTEN DESCRIPTION.	
J	TEST NEW METER & REPAIR ANY LEAKS	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
K	LEAVE METER ON/OFF (SAME SETTING AS FOUND)	

END OF SECTION

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SECTION 01025
MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 Measurement and Payment

- A. Bid Item 1, "Mobilization/Demobilization", Lump Sum (L.S.): Price includes mobilization and demobilization costs. A maximum payment of five percent of total extended prices shall be made for this item.
- B. Bid Item 2, "Pre-Construction Survey of Existing Meters: Location, Sizes, and Quantities, Condition, Leaks Observed" This survey will provided GPS coordinates of each meter. The existing size of each meter will be documented to ensure that orders and City records are accurate. This must be submitted prior to start of work. Contractor shall identify all observed conflicts and report these to the City of Lovington to discuss their remediation. Upon completion of the pre-construction survey, the contractor shall schedule a meeting with the City of Lovington to review the survey findings. The City has ordered equipment that is to be provided to the contractor (refer to section 331010 for details). However, upon completion of the Pre-Construction Survey, the City shall order any additional equipment that may be required. Expect a 6 to 8 week lead time for delivery of additional materials. Payment shall be made at the prices listed in the Bid Form.
- C. Bid Item 3, "Remove & Salvage Existing Meters to City of Lovington", Remove and Replace meters quickly to minimize the water shut off time. Salvage existing meters to the City where directed by Water Staff. Payment shall be made at the prices listed in the Bid Form. Upon completion of the pre-construction survey, the contractor shall schedule a meeting with the City of Lovington to review the survey findings.
- D. Bid Items 4, 1" 3/4" or 5/8" Water Meter for AMR (Install)", Each (E.A.): Measurement shall be made for each Water Meter fully installed including appurtenances such as gaskets. Meter size shall match existing and shall be field verified. Meter installation shall include updating data within the City's water meter database. Contractor shall update water meter number, location and other relevant information. Payment shall be unit price and shall be on the basis of the number and size of meters actually installed, operational and accepted. Payment shall be made at the prices listed in the Bid Form. Contractor shall provide warranty of workmanship after project acceptance for no less than one year for installation of water meters.
- E. Bid Item 5-6, "Replace Damaged Existing Meter Cans w/ HDPE Can & install as necessary", Each (E.A.): Price includes the cost of furnishing and installation of new corrugated HDPE meter cans where deemed the old is not reusable. Submit list of damaged meter cans to the City of Lovington for approval.

END OF SECTION

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SECTION 01039
COORDINATION AND MEETINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and project conditions.
- B. Field engineering.
- C. Preconstruction meeting.
- D. Site mobilization meeting.
- E. Progress meetings.
- F. Pre-installation conferences.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of the various Sections of the Project Manual to assure efficient and orderly sequence of installation of interdependent construction.
- B. Verify that utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Coordinate space requirements and installation of mechanical and electrical Work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- E. Coordinate completion and cleanup of Work of separate sections in preparation for Substantial Completion.
- F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 PRECONSTRUCTION MEETING

- A. Engineer will schedule a conference after Notice of Award.
- B. Attendance Required: Owner, Engineer, Contractor, and NMED-CPB.
- C. Agenda:
 - 1. Submission of executed bonds and insurance certificates.
 - 2. Distribution of Contract Documents.
 - 3. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.

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4. Designation of personnel representing the parties in Contract, and the Engineer.
 5. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders.
 6. Scheduling.
- D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer, participants, and those affected by decisions made.

1.4 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals, or as directed by Owner.
- B. Make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Engineer, and NMED-CPB as appropriate to agenda topics for each meeting.
- D. Agenda:
 1. Review minutes of previous meetings.
 2. Review of Work progress.
 3. Field observations, problems, and decisions.
 4. Identification of problems which impede planned progress.
 5. Review of submittals schedule and status of submittals.
 6. Review of off-site fabrication and delivery schedules.
 7. Maintenance of progress schedule.
 8. Corrective measures to regain projected schedules.
 9. Planned progress during succeeding work period.
 10. Coordination of projected progress.
 11. Maintenance of quality and work standards.
 12. Effect of proposed changes on progress schedule and coordination.
 13. Other business relating to Work.
- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer, participants, and those affected by decisions made.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. This Section specifies the general methods and requirements of submissions applicable to Shop Drawings, Product Data, and Construction Schedules. Detailed submittal requirements are specified in the technical sections.

1.02 SHOP DRAWINGS, PRODUCT DATA, SAMPLES

A. Shop Drawings

- 1. All shop drawings submitted by subcontractors shall be sent directly to the Contractor for review. The Contractor shall be responsible for their submission to the Engineer at the proper time so as to prevent delays in delivery of materials.

B. Product Data

- 1. Product data as specified in individual Sections include, standard prepared data for manufactured products (or catalog data), such as the manufacture's product specification and installation instructions, availability of colors and patterns, manufactures printed statements of compliances and applicability, roughing-in diagrams and templates, catalog cuts, product photographs, standard wiring diagrams, printed performance curves and operational-rang diagrams, production or quality control inspection and test reports and certifications, mill reports, product operating and maintenance instructions and recommended spare-parts listing and printed product warranties, as applicable to the work .

1.03 CONTRACTOR'S RESPONSIBILITIES

- A. Review shop drawings, product data and samples, including those by subcontractors, prior to submission to determine and verify the following;

- 1. Field measurements
- 2. Field Construction criteria
- 3. Catalog numbers and similar data
- 4. Conformance with related Sections

- B. Notify OWNER in writing, at the time of submittal, of any deviations in the submittals from the requirements of the Contract Documents.

- C. The review and approval of shop drawings, samples or product data by the OWNER shall not relieve the Contactor from the responsibility for the fulfillment of the terms of the

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Contract. All risks of error and omission are assumed by the Contractor and the OWNER will have no responsibility therefor.

- D. No portion of the work requiring a shop drawing, sample, or product data shall be started nor shall any materials be fabricated or installed prior to the approval or qualified approval of such item. Fabrication performed, materials purchased or on-site construction accomplished which does not conform to approved shop drawings and data shall be at the Contractor's risk. OWNER will not be liable for any expense or delay due to corrections or remedies required to accomplish conformity.
- E. Project work, materials, fabrication, and installation shall conform with approved shop drawings, applicable samples, and product data.

1.04 SUBMISSION REQUIREMENTS

- A. Email submittals promptly in accordance with approved schedule and in such sequence as to cause no delay in the Work or in the work of any other contractor.
- B. Each submittal, appropriately coded, will be returned within 10 calendar days following receipt of submittal by the ENGINEER.
- C. Number of submittals required:
 - 1. Shop Drawings: emailed 1 electronic copy (pdf)
 - 2. Product Data: emailed 1 electronic copy (pdf)
 - 3. Samples: Submit the number stated in the respective sections.
- D. Submittals shall contain:
 - 1. The date of submission and the dates of any previous submissions.
 - 2. The Project title and number
 - 3. Contractor identification
 - 4. The names of;
 - a. Contractor
 - b. Supplier
 - c. Manufacturer
 - 5. Identification of the product, with the section number, page and paragraph(s).
 - 6. Field dimensions, clearly identified as such.
 - 7. Field verification of quantity if required.
 - 8. Relation to adjacent or critical features of the work or materials.
 - 9. Applicable standards, such as ASTM or Federal Standards numbers.
 - 10. Identification of deviations from Contract Documents.
 - 11. Identification of revisions on resubmittals.
 - 12. An 8-in by 3-in blank space for Contractor and Engineer review stamps.
- E. For each submittal for review, allow 10 days.
- F. When revised for resubmission, identify all changes made since previous submission

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- 1.05 REVIEW OF SHOP DRAWINGS, PRODUCT DATA, WORKING DRAWINGS AND SAMPLES
- A. The review of shop drawings, data and samples will be for general conformance with the design concept and Contract Documents. They shall not be construed:
 - 1. As permitting any departure from the Contract requirements;
 - 2. As relieving the Contractor of responsibility for any errors, including details, dimensions, and materials.
 - B. The Contractor remains responsible for details and accuracy, for coordinating the work with all other associated work and trades, for selecting fabrication processes, for techniques of assembly, and for performing work in a safe manner.
 - C. Submittals will be returned to the Contractor under one of the following codes.
 - 1. "APPROVED" is assigned when there are no notations or comments on the submittal. When returned under this code the Contractor may release the equipment and/or material for manufacture.
 - 2. "APPROVED AS NOTED" This code is assigned when a confirmation of the notations and comments IS NOT required by the Contractor. The Contractor may release the equipment or materials for manufacture; however all notations and comments must be incorporated into the final product.
 - 3. "APPROVED AS NOTED/RESUBMIT" This combination of codes is assigned when notations and comments are extensive enough to require a resubmittal of the package. This resubmittal is to address all comments, omissions and non-conforming items that were noted. Resubmittal is to be received by the ENGINEER within 15 calendar days or the date of the ENGINEER'S transmittal requiring the resubmittal.
 - 4. "NOT APPROVED" is assigned when the submittal does not meet the intent of the Contract Documents. The Contractor must resubmit the entire package revised to bring the submittal into conformance. It may be necessary to resubmit using a different manufacturer/vendor to meet the Contract Documents.
 - D. Resubmittals will be handled in the same manner as first submittals. On resubmittals the Contractor shall identify all revisions made to the submittals, either in writing on the letter of transmittal or on the shop drawings by use of revision triangle or other similar methods. The resubmittal shall clearly respond to each comment made by the ENGINEER on the previous submission. Additionally, the Contractor shall direct specific attention to any revisions made other than the corrections required by the Owner on previous submissions.
 - E. Partial submittals may not be reviewed. The ENGINEER will be the only judge as to the completeness of a submittal. Submittals not complete will be returned to the Contractor and will be considered "Not Approved" until resubmitted. The ENGINEER may at its option

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provide a list or mark the submittal directing the Contractor to the areas that are incomplete.

- F. If the Contractor considers any corrections indicated on the shop drawings to constitute a change to the Contract Documents, the Contractor shall give written notices thereof to the ENGINEER at least 7 working days prior to the release for manufacture.
- G. When the shop drawings have been completed to the satisfaction of the ENGINEER, the Contractor shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the ENGINEER.

1.06 DISTRIBUTION

- A. Distribute reproductions of approved shop drawings and copies of approved product data and samples, where required, to the job site file and elsewhere as directed by the ENGINEER. Number of copies shall be as directed by the ENGINEER but shall not exceed six.

1.07 SCHEDULES

- A. Provide the ENGINEER within two weeks of the Effective Date of the Agreement, and update it monthly.

1.08 GENERAL PROCEDURES FOR SUBMITTALS

- A. Coordination of Submittals Times: Prepare and transmit each submittal sufficiently in advance of performing the related work or other applicable activities, or within the time specified in the individual work of other related Sections, so that the installation will not be delayed by processing times including disapproval and resubmittal (if required), coordination with other submittals, testing purchasing fabrication, delivery and similar sequenced activities. No extension of time will be authorized because of the Contractor's failure to transmit submittals sufficiently in advance of the Work.

END OF SECTION

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SECTION 331010

WATER METERS AND AUTOMATIC METER READING SYSTEM

PART 1 GENERAL

- 1.01 Water meters are to be supplied by the City of Lovington and Technical Specifications shall be available upon request. At the time of bidding, the City has the following available for use in construction:

Equipment on order includes:

500	3/4" iPERL TR/PL meters
500	1" iPERL TR/PL meters
1,000	520M SmartPoint MXUs
1,000	Blue 12-5/8" Locking Lid with AMR Shelf
250	18" x 24" flared meter box

Remaining meter equipment to be ordered by City upon completion of Preconstruction Survey (Bid Item 2) with delivery lead time of 6 to 8 weeks.

END OF SECTION

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SECTION 801

INSTALLATION OF WATER TRANSMISSION, COLLECTOR AND DISTRIBUTION LINES

801.1 GENERAL

The water facilities and materials, specified herein, are associated with water transmission, collector and distribution lines.

801.2 REFERENCES

801.2.1 American Water Works Association (Latest Edition) (AWWA):

- C110 American National Standard for Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in., for Water and Other Liquids
- C203 Coal-Tar Protective Coatings and Linings for Steel Water Pipelines -Enamel and Tape-Hot-Applied
- C206 Field Welding of Steel Water Pipe
- C207 Steel Pipe Flanges for Waterworks Service-Sizes 4 in. through 144 in.
- C502 Dry Barrel Fire Hydrants
- C504 Rubber-Seated Butterfly Valves
- C509 Resilient-Seated Gate Valves for Water and Sewerage Systems
- C600 Installation of Ductile-Iron Water Mains and Their Appurtenances
- C651 Disinfecting Water Mains
- C900 Polyvinyl Chloride (PVC) Pressure Pipe, 4 in. Through 12 in., for Water Distribution
- C905 Polyvinyl Chloride (PVC) Water Transmission Pipe Nominal Diameter 14 in. through 36 in.
- C909 Molecular Oriented Polyvinyl Chloride (PVCO), Pressure Pipe 4" - 12" for water distribution.
- M9 Concrete Pressure Pipe
- M23 PVC Pipe-Design and Installation

801.2.2 This Publication:

- SECTION 121 PLASTIC PIPE
- SECTION 127 STEEL WATER PIPE
- SECTION 128 CONCRETE CYLINDER PIPE
- SECTION 129 DUCTILE IRON PIPE
- SECTION 130 GRAY IRON AND DUCTILE IRON FITTINGS
- SECTION 340 PORTLAND CEMENT CONCRETE CURBS, GUTTERS, WALKS, DRIVEWAYS, ALLEY INTERSECTIONS, SLOPE PAVING, AND MEDIAN PAVING
- SECTION 343 REMOVAL AND DISPOSAL OF EXISTING PAVEMENT, CURBS, GUTTERS, SIDEWALKS & DRIVEPADS
- SECTION 701 TRENCHING, EXCAVATION AND BACKFILL
- SECTION 1502 SUBMITTALS

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801.3 MATERIALS:

801.3.1 GENERAL:

801.3.1.1 The CONTRACTOR shall submit certification from the manufacturer of the pipe as specified in Section 1502 as to the pipe material and that the pipe meets or exceeds the required testing. Only pipe manufactured in the United States of America will be acceptable.

801.3.1.2 Main line pipe and fittings shall be as specified in the Reference Section in this publication as listed above or as specified in the Supplemental Technical Specifications and/or as authorized by the ENGINEER.

801.3.2 PIPE:

801.3.2.2 Limitations of pipe materials versus pipe sizes will be as follows, unless otherwise specified on the plans or Supplemental Technical Specifications:

<u>Pipe Type</u>	<u>Sizes</u>
Ductile Iron	3" thru 64"
Concrete Cylinder	(AWWA C303) 16" and larger
Plastic	(PVC) 4" thru 20" Welded Steel Pipe (AWWA 200) 16" and larger

801.3.2.3 The type of pipe used shall be approved by the ENGINEER. Steel pipe will be used only where specified on the drawings. All pipe shall be of domestic manufacture and origin. Unless otherwise approved by the ENGINEER, all pipe installed shall be identical from valve to valve.

801.3.3 GATE VALVES:

801.3.3.1 Gate valves shall only be used for pipe sizes of 12 inches and smaller, unless otherwise noted on the plans or in the Supplemental Technical Specifications.

801.3.3.2 Resilient seat gate valve shall be used and shall conform to AWWA C 509. The gate valve shall be a non-rising stem type with inside screw and "O" ring seals. The valve shall have a standard hub which opens counter-clockwise. Type valve ends shall be mechanical joints, unless otherwise specified on the plans. "O" ring retainer shall be secured with nuts and bolts.

801.3.3.3 The resilient seat shall be mechanically retained or bonded on the valve gate (wedge disc).

801.3.3.4 All brass or bronze parts used on gate valves shall comply with AWWA C 509.

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- 801.3.3.5 The outside of the valve body shall be painted with coal tar enamel or corrosion-resistant coating. The inside shall be protected with corrosion resistant coating, approved for potable water.
- 801 .3.3.6 The valve stem shall comply with AWWA C 509. The material for the valve stem shall be brass or bronze, and shall have a minimum yield strength of 20,000 psi and minimum tensile strength of 60,000 psi.
- 801.3.3.7 Gate valves shall have a 2 inch square operating hub nut. Gate valves in vaults with valve covers at ground level shall have a handwheel with the nut welded to the center.
- 801.3.3.8 Maximum input torque to open and/or close the valve shall be 200 foot pounds for a 4-inch valve and 300 foot pounds for 6-inch under a working pressure of 200 psi.
- 801.3.3.9 No Project will be accepted by the OWNER until all valves are operational and accessible.
- 801.3.3.10 Before the Work will be accepted, the CONTRACTOR shall provide the ENGINEER with a completed "Water Valve Data Card", as shown on Pages 801-5 and 801-6. The ENGINEER shall forward the card to OWNER.

801.3.4 RUBBER SEATED BUTTERFLY VALVES:

- 801.3.4.1 Butterfly valves will be used for sizes of 14 inches and larger, and shall comply to AWWA C 504.
- 801.3.4.2 Only short body, Class 150B valves are acceptable. Wafer type valves are not acceptable. Valve ends may be either mechanical joint or flanged.
- 801.3.4.3 The rubber seat shall be field replaceable on valve sizes 24 inches and larger. The rubber seat may be mechanically retained or bonded on the disc or valve body.
- 801.3.4.4 Butterfly valves shall have a 3 inch square operating hub nut. Butterfly valves in vaults with valve covers at ground level shall have a handwheel with the nut welded to the center.
- 801.3.4.5 The valve shaft and disc shall be installed horizontally. The valve disc shall pivot and rotate on the horizontal axis.
- 801.3.4.6 The maximum input torque to open and/or close the valve shall not exceed 150 foot pounds under a minimum working pressure of 150 psi, and the butterfly operator shall be compatible with this pressure. Maximum operating torques shall be in accordance with AWWA C 504, Table 1, Class 150B. The manufacturer of the valve shall be responsible for the operator.

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801.3.4.7 No project will be accepted by the OWNER until all valves are operational and accessible.

801.3.4.8 Before the Work will be accepted, the CONTRACTOR shall provide the ENGINEER with a completed "Water Valve Data Card," as shown on pages 801-5 and 801-6. The ENGINEER shall forward the card to the OWNER.

801.3.5 VALVE BOXES: Valve boxes shall consist of Polyvinyl Chloride (PVC) C-900, or High Density Polyethylene Pipe, (HDPE), with corrugated exterior and smooth interior pipe cut to accommodate the required depth. No joints shall be allowed. Pipe diameter shall be 10 inches for valves in paved areas to accommodate the cover and lid specified herein. The pipe shall be centered and placed true to vertical around the axis of the operating nut. Valve covers and lids for re-use water shall be different than those used for potable water, and shall be as shown on re-use project construction plans.

801.3.6 COMBINATION AIR AND VACUUM VALVES: Air and vacuum valves shall be the type and size shown on the plans.

801.3.7 FIRE HYDRANTS:

801.3.7.1 Fire hydrants and their extensions shall be in accordance with AWWA C 502, traffic type. Fire hydrants shall have one 5 1/4 inch diameter valve opening; 6 inch mechanical joint inlet connection; two 2 % inch hose nozzle connections; and one 4 1/2 inch steamer nozzle with National Standard Fire Hose Coupling Screw Threads. Fire hydrants shall have a bronze or cast iron, pentagon, operating nut, be designed for 150 psi working pressure service, and have a normal bury of 4 to 4 1/2 feet unless field conditions require a deeper bury, in which case extensions will be used so as to bring the bottom of the break-off flange 2 to 8 inches above the top of finish grade.

801.3.7.2 The pipe fittings and fire hydrants starting at the street main and ending at the fire hydrant itself shall be lying in a line perpendicular to the street's centerline or radially on a curvilinear installation. Fire hydrants shall have no more than 1/2 inch variation from a vertical line between the breakaway flange and the top of the fire hydrant.

801.3.7.4 Hydrants shall be dry barrel, post-type with compression main valve closing with pressure. They shall have a field lubrication capability. Hydrants shall have a bronze seat ring threaded into a bronze drain ring or bronze or cast iron bushing.

801.3.7.5 Exterior of hydrant, below the ground line, shall be coated with asphalt varnish, and the exterior painted from the top to a point one foot below the ground level flange, consisting of one coat rust inhibitive primer and one coat "chrome yellow" enamel. The bonnet shall then be painted with a reflectorized paint using a color as close to "chrome-yellow" as possible.

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- 801.3.7.6 The bottom plate of the main valve shall be epoxy coated. The shoe of the fire hydrant shall have a 6-inch mechanical joint connection and the inside shall be epoxy coated to prevent corrosion. The nozzle shall be threaded in place and retained by stainless steel locks. Hydrant body shall be threaded to receive the threaded nozzle. Nozzle shall be secured by a stainless steel locking device.
- 801.3.7.7 Fire hydrant shall contain two drain outlets. The drain outlets shall be constructed of bronze. Hydrant shall be provided with a pentagon operating nut to open counter clockwise and shall have an anti-friction washer between the hold-down nut and the operating nut.
- 801.3.7.8 To prevent loss of brass operating nuts due to theft or vandalism, the following shall be included in or on the fire hydrant:
 - 801.3.7.8.1 Attach OWNER approved anti-theft device to the hydrant; or
 - 801.3.7.8.2 The bonnet must be removed in order to remove the operating nut; or
 - 801.3.7.8.3 Use a cast iron operating nut.
- 801.3.7.9 Fire hydrants shall be installed at locations as shown on construction plans and in accordance with Standard Detail Drawings
- 801.3.7.10 Fire hydrants shall be properly restrained in accordance with Section 130. If mechanical restraint is used, each joint on the hydrant leg shall also be restrained.
- 801.3.8 PRESSURE REDUCING VALVE (PRV): Pressure reducing valve shall be a globe pattern, flanged end, pressure Class 125. Submittals for approval shall be made to the ENGINEER and approval must be received before installation. The following items are required in the PRV:
 - 801.3.8.1 Materials:
 - 801.3.8.1.1 Main valve-cast iron with brass trim.
 - 801.3.8.2 Pilot Control System
 - 801.3.8.2.1 Adjustment from 15 psi to 75 psi.
 - 801.3.8.2.2 Shut-off cock on all pilot control system lines.
 - 801.3.8.2.3 Inlet flow strainer.
 - 801.3.8.2.4 Closing speed control.
 - 801.3.8.2.5 Opening speed control.
 - 801.3.8.2.6 Flow stabilizer.
 - 801.3.8.2.7 Tubing shall be copper.

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801.3.8.3 Installation shall be as per the construction plans. ENGINEER shall determine final settings on PRV.

801.3.8.4 Before the Work will be accepted, the CONTRACTOR shall provide the ENGINEER with a "Water Valve Data Card". The ENGINEER will forward the card to the OWNER.

801.3.9 TAPPING SLEEVES: (For other than Concrete Cylinder Pipe) For either taps greater than 2/3 line size, or size on size taps 12 inches or less, only approved, long body, fully gasketed tapping sleeves shall be allowed. During installation of the tapping sleeve, the pipe shall be fully supported to support the weight of the tapping sleeve and tapping machine.

801.3.9.1 Tapping sleeves of heavy welded steel bodies shall meet the following requirements:

- 801.3.9.1.1 Epoxy coated
- 801.3.9.1.2 Bolts and nuts to be stainless steel.
- 801.3.9.1.3 Gaskets to be Buna-N rubber
- 801.3.9.1.4 Flange to be flat face steel and comply with AWWA C-207.
- 801.3.9.1.5 Class D-ANSI 150 lbs. drilling.
- 801.3.9.1.6 Designed to sustain an operating pressure of 150 psi.
- 801.3.9.1.7 May be used on all water mains, 4" and larger.

801.3.9.2 Tapping sleeves of cast iron bodies shall meet the following requirements:

- 801.3.9.2.1 Mechanical joint type with a working pressure of 200 psi.
- 801.3.9.2.2 Outlet flange to be Class 125, ANSI B16.1.
- 801.3.9.2.3 Sleeves to include side and end gaskets of Buna-N rubber.
- 801.3.9.2.4 Eight high strength steel bolts and nuts to secure the halves of the sleeve to the pipe.
- 801.3.9.2.5 May be used on all water mains, 4" and larger.

801.3.9.3 Tapping sleeves of short sleeve cast iron shall meet the following requirements:

- 801.3.9.3.1 Working pressure of 150 psi.
- 801.3.9.3.2 Outlet flange to be Class 125, ANSI B16.1.
- 801.3.9.3.3 Outlet half to have an enclosed gasket in a groove for a pressure seal.
- 801.3.9.3.4 Four high strength steel bolts to secure halves of tapping sleeve to the pipe.
- 801.3.9.3.5 May be used on all water mains, 4" and larger.

801.4 NOT USED

801.5 NOT USED

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801.6 WATER LINE CONNECTIONS

801.6.1 GENERAL: All new water line tie-ins to the existing water system shall be directly inspected and approved by the ENGINEER. This includes non-pressurized or pressurized connections that will result in extension of the existing system.

801.7 LOCATIONS OF WATER MAINS AND SEWER LINES

801.7.1 Unless otherwise authorized by the ENGINEER, parallel water and sewer lines shall be installed at least 10 feet apart horizontally, and the water line shall be at a higher elevation than the sewer. Separate trenches will be required in all cases (this shall be effective even though one line has been installed prior to the other), and the water line shall be at least 18 inches above the sewer; when water and sewer lines cross each other, the water line shall be at least 18 inches above the sewer; otherwise the sewer shall be of pressure class pipe extending between manholes, or concrete encased for 10 feet on each side of the water line as shown in the Standard Detail Drawings. The crossings shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints.

801.7.2 Water mains shall not be constructed under walkways, sidewalks, curbs and gutters, drive pads, or similar concrete structures by tunneling underneath them. Trenchless technologies may be allowed with prior approval by the OWNER. The CONTRACTOR will cut these structures by using a concrete saw or, at his option, he may remove and replace the section of the concrete structure to the nearest full expansion joint or edge.

801.8 TRENCHING AND BACKFILLING

801.8.1 All trenching and backfilling shall be in full accordance with Section 701. The minimum cover over distribution lines shall be 3 feet, and 4 feet of cover over transmission and collector lines.

801.9 GENERAL INSTALLATION ITEMS

801.9.1 Trenching, bedding, and backfilling shall comply with the requirements set forth in Section 701.

801.9.2 Pipe and accessories shall be new and unused and shall be handled in such a manner as to insure delivery to the trench in sound, undamaged condition. Particular care shall be taken not to injure the pipe coating. No other pipe or material of any kind shall be placed inside of a pipe or fitting after the coating has been applied.

801.9.3 The interior of the pipe shall be thoroughly cleaned of foreign matter before being lowered into the trench and shall be kept clean during operations by plugging or other approved methods. When work is not in progress, open ends of pipes and fittings shall be securely closed so that no other substances will enter the pipes or

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fittings. Any section of the pipe found to be defective before or after laying shall be replaced with sound pipe without additional expense to the OWNER.

- 801.9.4 All nuts and bolts utilized in underground pipe connections shall be stainless steel, high strength cast iron or high grade, high strength steel. The full length of each section of pipe shall rest solidly upon the bed, with recesses excavated to accommodate bells and joints. Any pipe that has the grade or joint disturbed after laying shall be taken up and re-laid. Pipes shall not be laid in water or when trench or weather conditions are unsuitable for the work except by as authorized by the ENGINEER. All unconnected ends of pipes shall have a valve, plug, or cap installed on it.
- 801.9.5 Pipe shall be laid to line and/or grade shown on the plans or as staked in the field. Changes in horizontal or vertical alignment of the pipe at a joint shall not exceed the manufacturer's recommended deflection for the type and size pipe being laid. When the change required is more than the recommended deflection, a fitting or several short joints of pipe shall be used. PVC pipe may not be deflected at the joints.
- 801.9.6 When new pipe is to be connected to an existing pipe or when crossing an existing pipe line, the CONTRACTOR shall excavate the existing lines well in advance of the laying of the new pipe line to enable the ENGINEER to verify their elevation and placement and to make any changes in grade and/or alignment of the new pipe line that may be required.
- 801.9.7 On all push-on-joints (bell and spigot, fluid-tite, and ring-tite) the rubber gasket shall be removed, cleaned, the groove cleaned, the gasket replaced, and the bell or plain end cleaned before jointing. The gasket and the bell or plain end of the pipe to be jointed shall both be lubricated with a suitable soft vegetable soap compound to facilitate jointing. Care shall be taken to insure that neither the bell or collar, or the pipe being jointed is damaged as it is being pushed home.
- 801.9.8 Flanged and mechanical joints shall be made with machine bolts and nuts of the proper size only. All components of these types of joints shall be cleaned before jointing. Only one (1) gasket will be permitted in a flange joint. In a mechanical joint the plain end pipe shall be fully seated before the gasket and gland is slipped up to the bell. Nuts on both types of joints shall be tightened by alternating nuts 180 degrees apart. The CONTRACTOR shall be responsible for assuring that proper torque is achieved and shall have a torque wrench available for verification by the ENGINEER.
- 801.9.9 When laying PVC pipe, a metalized detectable warning tape shall be installed a minimum of 1 foot above the top of pipe and 3 to 6 feet below the final surface. The tape shall be detectable with a standard metal pipe locator. The color of tape shall be safety precaution blue and will be inscribed at 10-foot intervals with the words, "CAUTION BURIED WATER LINE BELOW." Tape shall be 2 inches wide. The tape shall be constructed of material that is impervious to alkalis, acids, chemical reagents, and solvents found in the soils.

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801.9.10 When laying pipe, Electronic Marker Disks (EMDs) shall be installed in accordance with Section 170.

801.10 SPECIFIC PIPE LAYING REQUIREMENTS

801.10.1 Ductile iron pipe shall be installed in accordance with AWWA C 600 and as herein specified.

801.10.2 Steel pipe shall be installed in accordance with AWWA C 206 for welded joint and as herein specified. All field welded joints shall have one coat of coal-tar enamel of 3/32 inch thickness.

801.10.3 Plastic pressure pipe shall be installed in accordance with AWWA M 23 and C 900 and/or manufacturer's printed recommendations, whichever is applicable. Where a conflict arises with this Specification, this Specification shall control. Trenching, embedment and backfill shall be specified in Section 701. A reference mark (a distinct circumferential line) is placed on the pipes spigot by the manufacturer to indicate the correct depth of the spigot penetration into the pipes gasket joint. If the pipe is seated too deep or too shallow, the pipe may buckle or separate due to thermal expansion/contraction, therefore particular attention must be exercised when jointing pipe. The reference mark must be showing and not farther than 1/2" from the leading edge of the bell. The CONTRACTOR shall verify that the manufacturer's reference mark is correct per manufacturer's literature.

801.10.4 All welded steel and concrete cylinder pipe shall have two small bond wires of low resistance, or other approved method, welded across the joint to make the joint electrically continuous. Where rigid joints are specified they shall be provided as specified herein. The outside joint recess shall be completely filled with a rich low shrinkage cement grout. The concrete surface in contact with the joint mortar shall be moistened with water just prior to pouring the joint recess. The mortar shall be poured into the joint recess against a waterproof paper or cloth diaper laid around and lapping the outside field joint. The diaper shall completely and snugly enclose the joint recess, being held in place by metal box strapping or wire. The mortar shall be poured into an opening slightly to one side on the top of the pipe and rodded by a flexible wire rod into place until it appears on the opposite side completely. After the joint recess has been filled with mortar, adjoining pipe sections shall not be disturbed. After the joint has been made, the concrete lining surfaces of the joint shall be moistened and the interior recess tightly jointed and troweled flush and smooth with the inside pipe surface. Grout for painting the interior joints shall be of a stiff consistency and shall have low shrinkage characteristics. In sizes of pipe smaller than 24", the mortar shall be buttered all around the shoulder inside the bell before the spigot is entered. A backing-up tool, such as an inflated rubber ball wrapped with burlap, shall be pulled through the joint to compact the mortar, completely fill the inside annular space and wipe off the excess mortar. Each joint will be inspected by the ENGINEER for proper and complete closure prior to final acceptance. Flanges shall be protected by "cocoon" type protection coating of coal-tar and felt in accordance with AWWA C 203. When moving individual pipe sections,

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the pipe shall be lifted using two web or belt type slings which support the pipe between the third and outside quarter points.

- 801.10.5 All fittings and valves shall be installed as per the type of joint as stated herein and/or as shown on the plans.
- 801.10.6 All couplings, clamps, sleeves, etc shall be installed as per the manufacturer's printed recommendations and as approved by the ENGINEER. The CONTRACTOR shall properly restrain all appurtenances as necessary.
- 801.10.7 All waterlines installed as part of a re-use system or other non-potable use shall be purple in color or shall be encased in purple PVC wrap.
- 801.11 CUTTING: The cutting of any type of pipe shall be done as per the manufacturer's printed recommendations, as approved by the ENGINEER. Care shall be taken in cutting any pipe that has an internal and/or external lining or coating.
- 801.12 BLOCKING AND RESTRAINED JOINTS
- 801.12.1 All restrained joints shall be by mechanical means unless directed or approved otherwise by the ENGINEER.
- 801.12.2 All tees, bends shall be restrained by mechanical means. Valves in runs need not be restrained, except that butterfly valves shall be flanged. Where rigid joints are called for on concrete cylinder pipe, the joints shall be flanged or field welded bell and spigot joints in accordance with the manufacturer's recommendation.
- 801.12.3 All caps and plugs on dead end lines will be mechanically restrained when feasible. Blocking may also be required when adequate restrain length is not available.
- 801.12.4 Where restrained joints on ductile iron pipe, or PVC pipe are called for on the plan, the mechanical restraining system employed shall conform to the recommendations of the pipe manufacturer. The restrained joint will be subject to the hydrostatic test specified herein.
- 801.13 RESTRAINING JOINTS FOR WELDED STEEL AND CONCRETE CYLINDER PIPE
- 801.13.1 Restrained joints in welded steel and concrete cylinder pipe for thrust restraint shall be produced by continuous welding the pipe joints and as shown on the plans.
- 801.13.2 Unless otherwise stated in the supplemental specifications the working pressure (operating plus transient) shall be 150 psi. The value for weight of overburden and the coefficient of friction shall be stated in the supplemental specifications.

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801.14 TAPS INTO EXISTING CONCRETE CYLINDER PIPE

801.14.1 OBJECTIVE: The intent of this Subsection is to establish procedural and design criteria for making taps into existing concrete cylinder pipe for water distribution line extensions, and will be applicable to 4-inch and larger size water taps.

801.14.2 NEW WATER LINES: No non-factory taps will be allowed on newly-installed concrete cylinder pipes.

801.14.3 EXISTING WATER LINES:

801.14.3.1 Taps to existing concrete cylinder pipe must be approved in writing by the OWNER. The requester shall provide the following information:

801.14.3.1.1 Justification for the tap,

801.14.3.1.2 Project name and number, if applicable,

801.14.3.1.3 Date tap required,

801.14.3.1.4 Name of the CONTRACTOR who will be making the tap.

801.14.3.2 The CONTRACTOR shall coordinate the work with the OWNER before commencing work. The OWNER shall inspect and approve the entire installation of the tap.

801.14.4 INSTALLATION OF FIELD TAP:

801.14.4.1 Installation of field taps on concrete cylinder pipe shall be no smaller than 4 in. and no larger than 2/3 diameter of pipe to be tapped. No "weld neck" or weld on outlets will be used.

801.14.4.2 For field taps larger than 2/3 of pipe diameter, a tee will be inserted into the line.

801.14.4.3 For field taps greater than 4 in. and less than 2/3 diameter of pipe to be tapped an approved tapping saddle will be used. Tapping saddles shall be approved by the ENGINEER.

801.15 SALVAGED MATERIALS

All salvaged materials (pipe, fittings, valves and other water line appurtenances) shall be stockpiled on-site in a neat manner by the CONTRACTOR. The ENGINEER and a representative of OWNER will inspect the stockpiled materials for salvage fitness and direct the following disposition:

801.15.1 If the material is considered salvageable, the CONTRACTOR will be directed to deliver the material to the OWNER. The CONTRACTOR will be responsible for the loading, transportation and offloading of the salvageable materials. When the

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materials are delivered, the CONTRACTOR shall obtain a signed receipt from the OWNER. Before final acceptance of the project, all signed receipts will be submitted to the ENGINEER for accounting purposes.

- 801.15.2 Materials that do not have salvageable value will be disposed of by the CONTRACTOR at no additional cost to the OWNER.

801.16 HYDROSTATIC TESTS:

801.16.1 The CONTRACTOR shall be required to perform hydrostatic tests in all water mains, laterals, dead ends, and service lines in accordance with AWWA C 600. The test shall be conducted in the presence of the ENGINEER or his authorized representative. The testing of the lines shall be done without being connected to existing lines unless approved by the ENGINEER. The CONTRACTOR shall provide all temporary plugs required. If connections to the existing lines are allowed by the ENGINEER, it is with the understanding that the CONTRACTOR assumes any and all responsibility in case of damage or failure of the existing system. Water used for disinfecting may be used for hydrostatic testing. Leakage through connections to the existing system, leaks in the existing lines, or leaking existing valves under the test pressure will invalidate the test. The lines shall be tested at 150 pounds, or 1.5 times the normal working pressure of the line, whichever is greater, for not less than two hours. All taps, gauges and necessary equipment shall be provided by the CONTRACTOR as approved by the ENGINEER, however, the ENGINEER may utilize gauges provided by himself if he so elects. Each section of the new line, between valves shall be tested to demonstrate that each valve will hold the test pressure. No installed pipe will be accepted if the leakage is greater than that determined by hydrostatic test sheet calculations in which L is the allowable leakage, in gallons per hour; S is the length of pipeline tested; D is the nominal diameter of the pipe in inches; and P is the test pressure in pounds per square inch gauge. During the test the test pressure should not lose more than 10 psig without being pumped back up to test pressure. The totals of the gallons of water required to hold the test pressure during the two hours and the amount of water required to return the line to the test pressure at the end of the test period is the total leakage. If the total leakage is less than the allowable, the line can be accepted. All visible leaks will be repaired regardless of the amount of leakage.

801.16.2 CONTRACTOR shall submit a testing plan to the ENGINEER for approval. In cases where a new main is being connected to an existing main without the installation of a new valve, the end of the new main shall be temporarily capped and blocked and a hydro-static test performed. Hydro-static tests should not be made such that an existing valve or existing main is included in the test section. Test Sheet on page 801-12 is the standard form which must be completed at the time of the test, signed by the ENGINEER and delivered to the OWNER prior to acceptance of the Project

801.17 DISINFECTING, FLUSHING, AND BACTERIA TESTING OF WATER LINES: New water lines shall be installed in such a manner as to not require cleaning by flushing. This shall require capping of stockpiled line, capping of lines at night and any other time work is not in progress, visual

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inspection of interior of lines, and cleaning as necessary, prior to placing in the trench. Every effort shall be made to prevent the entry of dirt and debris into pipelines under construction.

- 801.17.1 Mains shall be disinfected in accordance with AWWA C 651 or as required below with chlorine liquid solution, which is added by an approved method at one end of the lines as water is drawn through the lines and service connections. The chlorine solution shall remain in the line for at least 24 hours. The lines shall then be flushed until the chlorine residual is equal to the normal residual in the existing system or at 0.5 parts per million for unchlorinated water. Dry chlorine will not be used for disinfection of water lines. The flushed water will be disposed of by the CONTRACTOR appropriately.
- 801.17.2. Prior to the line being placed into service, bacteria samples shall be taken by the OWNER. Should results of the bacteriological analysis be unsatisfactory, the disinfection procedure shall be repeated.
- 801.17.3 The CONTRACTOR will be granted two free volumes of water for testing, disinfecting and flushing the new installation. All water used for testing, disinfecting and flushing shall be metered. If additional water is needed for these purposes, the water will be paid for by the CONTRACTOR at the current water rates. An approved backflow preventor system shall be used when withdrawing water from any waterlines and hydrants. Direct connection to the water system shall not be used for providing water for disinfecting, testing or flushing.
- 801.17.4 OWNER or the ENGINEER will collect the water sample to test the water in the existing lines at PVC CCP Fabricated Steel potable water. The water in the existing lines will be used for testing and flushing.

801.18 INTERFERENCE WITH SERVICE AND SCHEDULE OR WORK

- 801.18.1 The CONTRACTOR shall obtain the permission of the ENGINEER before making any connections with existing mains. The required operation of existing valves will be performed by the OWNER as per Section 18.
- 801.18.2 Work shall be started after authorization of the ENGINEER and shall be completed in a prompt efficient manner in coordination and cooperation with other utilities concerned.
- 801.18.3 The CONTRACTOR will be required to arrange his construction program with a view of maintaining continuous service to water users, from existing facilities, to the fullest extent possible. He shall, at all times, withhold construction work, where any conflict in the service requirements occur.

801.19 NOTIFICATION OF COMPLETION

The CONTRACTOR shall notify the ENGINEER, in writing, when the CONTRACTOR has completed construction of a water line. This notification should be submitted immediately upon completion; the water line will not be placed in service by the OWNER before the sewer service

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and the street are in place and until the OWNER has received and accepted all adequate documentation submittals. OWNER shall consider, on a case by case basis, exceptions for fire protection purposes.

801.20 VALVE CAN REHABILITATION

801.20.1 The rehabilitation of existing valve cans as shown on the plans or as authorized by the ENGINEER shall include the following:

801.20.1.1 Removing the existing valve can and ring and cover and installing the new type can and cover.

801.20.1.2 Install a new concrete collar in paved and unpaved areas. Size and direction of the line should be noted on the collar.

801.20.1.3 The existing ring and cover shall be considered salvaged materials.

801.20.1.4 Removal and replacement of the pavement.

801.20.1.5 Excavation, backfill, and compaction. 801.20.1.6 All materials, labor, and equipment necessary to do the work.

801.20.2 The work under this item shall be constructed per the Standard Detail Drawings.

801.21 DOCUMENTATION SUBMITTALS

801.21.1 At the time of the final inspection the following documentation will be submitted to the ENGINEER and OWNER:

801.21.1.1 Hydrostatic test data of the new water line system.

801.21.1.2 Microbiological test reports which were taken at representative locations along the system.

801.21.1.3 Fire hydrant and valve cards. All valves at that time shall be in the open position, unless otherwise authorized by the ENGINEER and OWNER.

801.21.1.4 A marked-up set of construction drawings reflecting as-built conditions. This does not supplant the requirements for record or as-built drawings.

801.22 MEASUREMENT AND PAYMENT

801.22.1 PIPE: Payment for all sizes and types of pipe shall be made on the basis of measurement per linear foot, including the length of fittings, valves, etc. The contract unit price of pipe shall include all jointing and coupling materials necessary for its installation and connections to other sections of pipe, except for fittings, valves or other appurtenances. The cost of hydrostatic testing, flushing and disinfecting of new water lines shall be included in the contract unit price for the

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item in place. Pipe locator tape for pipe shall be included in the contract unit price of the pipe.

801.22.2 DEPTH OF TRENCH:

801.22.2.1 The contract unit price for pipe and appurtenances in all cases shall include the trenching, installation, and compacted backfilling for trench cuts as specified in Section 701.

801.22.2.2 Payment for additional depth, below the specified limits shall be made on the contract unit price per vertical foot per linear foot, and shall include trenching, installation of pipe and appurtenances, and compacted backfilling in the deeper trench.

801.22.3 REMOVAL AND RELAY, RETURN, OR DISPOSAL OF PIPE:

801.22.3.1 The contract unit price for removal and relaying pipe shall include all labor and new gasket material necessary to remove and reinstall pipe in another location.

801.22.3.2 The payment for removing and the delivery 2-1/4 inch to 14 inch pipe to the Water Utility Division in the City Yard as salvage materials shall be made on the unit price per linear foot. Only cast iron or ductile iron pipe that is undamaged will be considered for salvage.

801.22.3.3 Where there is no salvage value of the pipe, the pipe shall be removed and disposed of by the CONTRACTOR. The payment for removal shall be made on a unit price per linear foot; there will be no additional cost to the OWNER for disposal.

801.22.3.4 The payments for removal and relaying, removal and return, or removal and disposal shall include trenching and compacted backfilling.

801.22.4 CAST IRON AND DUCTILE IRON FITTINGS:

801.22.4.1 All cast iron and ductile iron fittings shall be measured and paid for at the contract unit price per pound based on weights of an all mechanical joint ends fitting for the type and size of fitting used as specified in AWWA C 110, regardless of the type of ends on the fitting installed. The contract unit price per pound of fittings shall include all gaskets, glands, bolts and nuts required, no separate payment will be made for these items.

801.22.4.2 When the CONTRACTOR installs a OWNER-furnished fitting and replaces that fitting in the OWNER's inventory, the CONTRACTOR shall be paid the full contract unit price of that fitting as outlined above. If the CONTRACTOR does not replace the fitting in the OWNER's inventory the

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payment to the CONTRACTOR will be at the contract unit price of the fitting less the cost of the fitting itself.

801.22.4.3 Fitting insertion: The insertion of a fitting into an existing pipe line shall be measured and paid for at the contract unit price per pound based on weights of an all mechanical joint end fitting and if required an all mechanical joint connecting piece (coupling) of the type fitting and size used, as specified in AWWA C 110, regardless of the type of ends on the fitting and coupling installed. This payment shall include all compensation for the excavation, cutting and removal of the existing pipe, installation of the fitting and coupling, if required, the recutting of the existing pipe or new pipe installed between the fitting and coupling, and backfill and compaction complete in place. In addition to the payment for the fitting insertion, the CONTRACTOR shall be paid for one each non-pressurized (wet) connection and if pavement, curb and gutter, sidewalk, drivepad, etc., are removed, these items will be paid for as part of the appropriate item.

801.22.5 REMOVAL AND RELAY, RETURN OR DISPOSAL OF PIPE APPURTENANCES:

801.22.5.1 The contract unit price for removal and relaying the appurtenances shall include all labor and new gasket material necessary to remove and reinstall the item in another location.

801.22.5.2 The payment for removing and returning 2 1/4 inch to 36 inch appurtenance to the OWNER as salvaged material shall be made on the contact unit price per each or unit price per pound. Only undamaged material will be considered for salvage.

801.22.5.3 Where there is no salvage value of the appurtenance, the item shall be removed and disposed of by the CONTRACTOR. The payment for removal shall be made on the contract unit price per each or contract unit price per pound; there will be no additional cost to the OWNER for disposal.

801.22.5.4 The payment for removal and relaying, removal and return, or removal and disposal shall include trenching and compacted backfilling.

801.22.5.5 Only cast iron or ductile iron appurtenances will be removed and relaid or removed and returned for salvage.

801.22.5.6 Fire hydrant relocation payment shall be the contract unit price per each for removal and reinstallation and shall include excavation, blocking, aggregate and compacted backfilling, as shown in the Standard Detail Drawings.

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- 801.22.6 CONCRETE CYLINDER OR WELDED STEEL PIPE FITTINGS:
Concrete cylinder or welded steel pipe fittings, such as flanged outlets, bends, reducers, etc., shall be considered as incidental to the contract unit price for installation of the pipe, as shown on the construction plans.
- 801.22.7 COUPLINGS: The measurement for steel or cast iron couplings shall include payment for all gaskets, bolts, and incidental materials as may be needed for its complete installation. Payment shall be made on the contract unit price per each size of coupling required.
- 801.22.8 STEEL FITTINGS: Steel fittings shall only be used when authorized by the ENGINEER and when needed to connect to an existing steel water line. Measurement and payment for steel fittings, when authorized, shall be made at the contract unit per pound based on weights of an all mechanical joint ends fitting of the type fitting and size used, as specified in AWWA C 110. This payment shall include all fabrication and welding required on the fitting.
- 801.22.9 VALVE AND VALVE CANS:
- 801.22.9.1 Valves shall be measured and paid for at the contract unit price per each size of valve. The contract unit price for valves 24-inch and larger shall include the bypass valve, fittings and piping, complete in place.
- 801.22.9.2 Valve boxes shall be measured and paid for at the contract unit price per each per type of valve boxes, which payment shall include the concrete pad with stem extension when required, complete in place.
- 801.22.10 FIRE HYDRANTS: Fire hydrants shall be measured and paid for at the contract unit price per each per depth of bury, which payment shall include excavation, gravel drain pocket, mechanical restraining system or blocking, backfilling, and compaction complete in place.
- 801.22.11 VALVE BOX ADJUSTMENTS:
- 801.22.11.1 Valve box adjustment using the adjustment collar and insert shall be measured and paid for per each complete in place including the concrete pad.
- 801.22.11.2 When the adjustment height required on a valve box exceeds the height of the adjustment collar or the valve box has been previously adjusted, the valve box will have to be rehabilitated. Measurement and payment shall be made as specified under Valve Box Rehabilitation.
- 801.22.12 WATER LINE CONNECTIONS:
- 801.22.12.1 Non-pressurized Connections: Non-pressurized connections shall be measured and paid for at the contract unit price per each for any size or type of pipe, complete in place, which shall include any extra excavation

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required, shut-off coordination, the removal of any caps or plugs or the cutting of the existing pipe any number of times required to make the connection, drainage plan (if required), pumping or handling of the water, backfilling and compaction. Fittings shall be measured and paid for per pound as specified herein, including all types of couplings.

801.22.12.2 Pressurized Connection: Pressurized connections shall be measured and paid for at the contract unit price per each per location shown on the plans, complete in place, which shall include excavation, the cleaning or removal of existing pipe coatings and coverings, air testing, the tapping, any grouting required, backfilling and compaction. The installation of the tapping sleeve and gate valve is to be paid under separate item or as indicated on the plans.

801.22.12.3 Connection to Steel Water Lines: All connections to existing steel water lines shall be made by using a transition coupling. The measurement and payment for this type of connection shall be made per pound of fitting for a Mechanical-Joint Connecting Piece of the size used based on the weights specified in AWWA C 110.

801.22.13 THRUST RESTRAINTS:

801.22.13.1 CONCRETE BLOCKING: When concrete blocking is used as a substitute for a mechanically restrained joint as authorized by the ENGINEER, the blocking shall be measured and paid for at the contract unit price per cubic yard placed to the neat lines shown on the plans or per the Standard Detail Drawings.

801.22.13.2 RESTRAINING JOINTS FOR WELDED STEEL OR CONCRETE CYLINDER PIPE: Measurement and payment for this item shall be at the contract unit price per linear inch of circumferential weld, complete in place, including protective coating of the weld.

801.22.13.3 MECHANICALLY RESTRAINED JOINTS: Mechanically restrained joint assemblies shall be measured and paid for at the contract unit price per each assembly per size of the pipe per each type (pipe to pipe, pipe to mechanical joint, pipe to fitting, etc.) complete in place.

801.22.13.4 VALVE ANCHORAGE: No separate measurement nor payment shall be made for valve anchorage as per Standard Detail Drawing. The cost of this work shall be included with the cost of the valve.

801.22.14 PRESSURE REDUCING VALVE (PRV): Measurement and payment for furnishing and installing a PRV shall be made at the contract unit price per each per size, complete in place as shown on the plans or in the Standard Detail Drawings. The payment shall include all labor, equipment and material required for the excavation, the PRV, all bypass piping, fittings and valves both inside and outside the structure, the structure, backfilling and compaction.

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- 801.22.15 AIR RELEASE VALVE(ARV): Measurement and payment for furnishing and installing an ARV shall be made at the contract unit price per each per size of ARV, complete in place as shown on the plans or in the Standard Detail Drawings. The payment shall include all labor, equipment and materials required for the excavation, ARV, piping, fittings, gate valve, can or structure, backfilling, and compaction.
- 801.22.16 VALVE BOX REHABILITATION: Valve box rehabilitation shall be measured and paid for at the contract unit price per each, complete in place which shall include the removal of the existing valve box, excavation, the new valve box installed, backfilling, compaction and the installation of the concrete collar.
- 801.22.17 CONCRETE STRUCTURES: The removal and replacement of concrete structures such as sidewalks, drive pads, and curb and gutters etc., required for the installation of water lines shall be measured and paid for as specified in Section 340 and 343.
- 801.22.18 BEDDING MATERIAL: No separate measurement nor payment shall be made for bedding material required when shown on the plans or when required due to the type of pipe supplied by the CONTRACTOR. The cost of the bedding material shall be included in the unit price of the pipe. If bedding material is not required by the conditions above but is required due to the conditions encountered during construction then the bedding material shall be measured and paid for as specified in Section 701.
- 801.22.19 SURPLUS MATERIALS: No separate measure nor payment will be made for the removal and disposal of surplus material generated by the pipe, bedding material or the use of lean fill.

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SECTION 802
INSTALLATION OF WATER SERVICE LINES

802.1 GENERAL: This section pertains to the water service line which extends from the distribution line to the water meter.

802.2 REFERENCES

802.2.1 American Society for Testing and Materials (Latest Editions) (ASTM) synthetic rubber compound.

A-48 Specification for Gray Iron Castings

B-62 Specification for Composition Bronze or Ounce Metal Castings

B-88 Specification for Seamless Copper Water Tube

D-2000 Classification System for Rubber Products in Automotive Applications

802.2.2 American Water Works Association (Latest Editions) (AWWA)

C-800 Underground Service Line Valves and Fittings

802.3 MATERIALS

802.3.1 SERVICE LINE FITTINGS: All service line fittings shall be in full compliance with the latest revision of AWWA Standard C 800, except as modified herein. Service line fittings will be of brass which has a composition of 85 percent copper, 5 percent tin, 5 percent lead, and 5 percent zinc. Fittings will be of the type required for the type of service line being installed. All stops shall be of the round, full opening type with no restriction in the opening less than the nominal size. Fittings incorporating a threaded plastic gripper and "O" ring seal may be utilized in lieu of the flared configuration. All service pipe and fittings shall be designed to sustain and operating pressure of 150 psi.

802.3.2 COPPER SERVICE PIPE: The 3/4" to 2" copper service pipe shall conform to ASTM B 88 and shall be Type K, unless otherwise specified. Copper tubing shall be bent with approved tube benders without any kinks or sharp bends. Cutting of tubing will be performed with cutters designed for that purpose.

802.3.3 TAPPING SADDLES:

802.3.3.1 Service saddle bodies shall be of cast iron, ductile iron or bronze; straps, nuts, bolts, and washers shall be of stainless steel or bronze; gaskets shall be vulcanized elastomeric rubber or synthetic rubber compound.

802.3.3.2 The saddles shall be tapped for the type of thread being used on the corporation stop.

802.3.3.3 Tapping saddles for PVC C900 pipe shall have bronze straps and shall be installed as per the manufacturer's printed recommendations.

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802.3.4 METERS: Meters are furnished and installed by OWNER for new service line installations. For replacement and relocation work the meters will be furnished by the OWNER and installed by the CONTRACTOR.

802.3.5 METER

802.3.5.1 METER BOXES FOR 3/4"-1" Meters:

802.3.5.1.1 Meter boxes with two meters shall be centered on adjacent property lines.

802.3.5.1.2 The meter box is to be part of an underground enclosure for water meters and will have a cast iron cover plate or lid.

802.3.5.1.3 Meter box will be cast in one piece to form a hollow rectangle and new material or recycled materials shall be used in its manufacture.

802.3.5.1.4 The box material shall have the following minimum mechanical properties at variable ambient temperatures of -2011F to 120[IF: compressive strength = 10,000 psi, tensile strength = 1,500 psi and flexural strength = 7,500 psi.

802.3.5.1.5 During testing of the materials at the above ambient temperatures no visual cracking, crazing, checking, blistering, surface pitting or deformation will be noted.

802.3.5.1.6 The finished meter box shall have the following physical properties:

802.3.5.1.6.1 Maximum wall deflection shall not exceed 1/8" at any one point when subjected to earth pressures or forces created during backfilling.

802.3.5.1.6.2 Material used for making the box shall be non-biodegradable when buried and/or exposed to water. Life expectancy of the box shall be at least 20 years.

802.3.5.1.6.3 Overall weight of the box component shall not exceed 80 pounds.

802.3.5.1.6.4 Inside dimensions of the box shall be: width = 16 1/2 inches, length = 22 1/2 inches, and depth = 24 inches. See Standard Detail Drawings for further dimensions and

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configurations. This meter box is for one and two meter installations.

802.3.5.1.6.5 Inside and outside surfaces of walls shall be reasonable smooth and free of burrs.

802.3.5.1.6.6 All materials used for box construction shall be approved for use in domestic water supply system.

802.3.5.2 METER COVER AND LID:

802.3.5.2.1 Lightweight and heavyweight meter box covers and lids shall be of Gray Iron casting materials. The light weight type is for use in sidewalk and unpaved areas not subject to traffic loads. The heavyweight type is for use in driveways and along streets having mountable curbs. The size, dimensions and details of the castings are as shown in the Standard Detail Drawings.

802.3.5.2.2 The casting shall conform to ASTM A 48, Class 30. The castings shall be true to pattern in form and dimensions and be free from pouring faults, sponginess, cracks, blowholes or other defects. Castings shall be filleted boldly at angles and arises shall be sharp and true. Edges shall be rounded or chamfered. The castings shall be thoroughly cleaned and the parting lines, grates, and risers ground flush. The lid shall seat firmly in the cover without rocking. The lid top surface shall be flush with the top surface of the cover. The lid shall be easily removed from the cover.

802.3.5.2.3 The cover and lid shall have, integrated in the casting top, a corrugated design to provide a nonslip surface. The lid shall have, integrated in the top of the casting, the words "WATER METER." The cover and lid shall be asphalt painted with coal tar paint. The paint thickness shall not exceed 30 mils.

802.3.5.3 METER BOX FOR 1 1/2" AND 2" METERS:

802.3.5.3.1 The meter box is to be part of an underground enclosure for water meters.

802.3.5.3.2 The material used for manufacturing the box, cover and lid shall be new or recycled materials and shall have the following minimum mechanical properties at ambient temperatures from -200F to 12010F: compressive strength

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= 11,000 psi, tensile strength = 1,700 psi and flexural strength = 7,500 psi.

802.3.5.3.3 During testing of the materials at the above ambient temperatures no visual cracking, crazing, checking, blistering, surface pitting or deformation will be noted.

802.3.5.3.4 The finished meter box shall have the following physical properties:

802.3.5.3.4.1 Box, cover and lid shall be rated for a load capacity of 1,000 lbs over a 4" x 4" area.

802.3.5.3.4.2 The overall weight of the box, cover and lid and extension shall not exceed 80 lbs.

802.3.5.3.4.3 Maximum wall deflection shall not exceed 1/8" at any one point when subjected to earth pressures or forces created during backfilling.

802.3.5.3.4.4 The material used for making the box shall be non-biodegradable when buried underground and exposed to water.

802.3.5.3.4.5 The minimum dimensions of the box, cover and lid shall conform to the Standard Detail Drawings.

802.3.5.3.4.6 The walls inside and outside of the box shall be reasonably smooth and free of burrs.

802.3.5.3.4.7 Cover of the meter box must have a non-skid surface and have "WATER METER" inscribed on the top. The cover shall be secured to the box by bolts.

802.3.5.3.4.8 All materials used for constructing the box, cover and lid shall be approved for use in domestic water supply systems.

802.3.5.4 LOCATIONS OF METER BOXES: Meter Boxes shall be located within the right-of-way as shown on Standard Detail Drawings.

802.3.6 CORPORATION STOP: Corporation stop shall be AWWA thread inlet by compression-type outlet or Pack Joint to fit 3/4", 1", 1 1/2" and 2" copper tubing. The socket-housing or the rotating ball shall be PTFE coated to avoid metal to metal contact, ensure adequate seal and provide smooth turning operation. Outlet shall

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have a nominal size Standard AWWA C800 copper service thread to fit existing OWNER drilling and tapping machine equipment. All casting shall be ASTM B-62 and outlet seals shall be Buna-N

- 802.3.7 TAILPIECE: The service will be placed in the meter box with a copper tubing tailpiece for 3/4" to 2", protruding from the standard concrete pad into the owner's property with a Pack Joint capped fitting to which the plumber can connect.
- 802.3.8 COPPERSETTERS: Coppersettors shall have pipe connections for Type K Copper Tubing. The coppersetter shall be an assembly of brass and copper tubing with a bottom bar, shall have a bronze ball valve on the inlet side of the meter, and shall be furnished with coupling gaskets. Coppersettors shall have temporary threaded plugs in the meter connections and shall be furnished free of excess grease. A stabilizer bar of 12 inches by 1/2 inch galvanized pipe shall be inserted in the yoke assembly as shown on the Standard Detail Drawings. A coppersetter with dual check valve shall be installed as per the Cross Connection Control section.
- 802.3.9 CROSS CONNECTION CONTROL: Approved dual check valves shall be installed on all services as indicated on the plans. For water customers having private wells located that connect to the municipal water system shall: agree to completely sever the private well from the premises existing plumbing system and install an approved dual check valve at the water meter. The owner of the premises shall also sign a covenant that runs with the land that the private well shall not be reconnected to the premises previous plumbing.
- 802.4 SERVICE LINE INSTALLATIONS 802.4.1 NEW 3/4" TO 2" SERVICE LINES:
- 802.4.1.1 New Service lines are complete new services in accordance with Standard detail Drawings and shall include the following:
- 802.4.1.1.1 Furnish and install tapping saddle, corporation stop, tubing, coppersetter, meter box, cover and lid and tailpiece, complete in place, including excavation and backfill and flushing.
- 802.4.1.2 Meters will not be installed as part of this work. However, construction of the meter box and placement of the yoke shall be such that at a later date the meter may be installed properly and easily.
- 802.4.1.3 The CONTRACTOR shall be responsible for proper vertical and horizontal location of the box over the meter yoke.
- 802.4.2 REPLACEMENT 3/4"-2" SERVICE LINES:
- 802.4.2.1 Replacement service lines are essentially new services installed in conjunction with the replacement of the water main. Unless otherwise specified in the Contract Documents, all existing services shall be replaced with new material between the water main and the meter yoke.

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- 802.4.2.2 Replacement service line work does not include any relocation or rehabilitation of the meter. The work shall consist of the following:
- 802.4.2.2.1 Furnish and install tapping saddle, corporation stop, coppersetter and tubing, complete in place, including flushing.
 - 802.4.2.2.2 Re-connection to the meter.
 - 802.4.2.2.3 All necessary excavation and backfill and concrete removal and replacement.
- 802.4.3 3/4" thru 2" METER RELOCATION:
- 802.4.3.1 A meter relocation is the relocation of an existing meter to a position closer to or further away from the centerline of the street. The meter relocation item is to be used when the service line is not replaced.
 - 802.4.3.2 A new meter box and cover shall be furnished and installed.
 - 802.4.3.3 A coppersetter shall be used in the reinstallation of the meter, for services sized 3/4" thru 2", and shall be of a height to properly position the meter, vertically, within the box, as shown in the Standard Detail Drawings.
 - 802.4.3.4 When moving the meter toward the property line, new tubing shall be installed, from the inlet connection point of the meter to be relocated, to the coppersetter, and a tailpiece shall be installed on the outlet side of the coppersetter to the property line. When the existing meter is moved toward the street, the gap in the service line shall be filled with new tubing, including connectors.
 - 802.4.3.5 When determined by the OWNER, the existing meter shall be replaced by the CONTRACTOR with a meter furnished by the OWNER. 1" meters will be substituted for 1-1/4" meters.
 - 802.4.3.6 The work and materials shall include the coppersetter, connector pieces, excavation, tubing, backfill, removal of old meter and meter box, installation of new meter, meter box, and concrete pad, necessary disconnections, and connections of the house and meter box service lines, complete restoration of the affected site (including landscaping) and adjustment of the meter to the level shown in the Standard Detail Drawings.
- 802.6 3/4" thru 2" METER REHABILITATION AND REPLACEMENT
- 802.6.1 3/4" THRU 2" METER REHABILITATION:
 - 802.6.1.1 Meter rehabilitation is applicable where the meter box deficiency exists. Deficiencies include obsolete, broken above or below grade, improperly sized, or existing location does not allow access to the meter, curb stop or connector pieces (does not meet new installation

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standards). When any of these conditions exists, the meter box and meter installation shall be rehabilitated, as authorized by the ENGINEER.

802.6.1.2 The work and materials shall include:

802.6.1.2.1 Furnish and install a new coppersetter, meter box, cover and lid and concrete pad.

802.6.1.2.2 Furnish and install any reconnection pieces necessary for a complete service restoration.

802.6.1.2.3 Flushing out of the service line.

802.6.1.2.4 Site restoration (including any necessary landscaping) and cleanup.

802.6.2 3/4" thru 2" METER REPLACEMENT: Meters to be replaced under "Service Line Replacement" and "Meter Relocation" work shall be performed in accordance with the following procedure:

802.6.2.1 All existing meters involved with "Service Line Replacement" and "Meter Relocation" work shall be replaced by the CONTRACTOR with a meter provided by the OWNER as determined by the OWNER.

802.6.2.2 The replacement meter shall be requested, in writing by the CONTRACTOR from the OWNER with documentation of address and size meter for each meter to be replaced, project name and number, and CONTRACTOR's name.

802.6.2.3 The request shall be received at least seven days prior to issuance of meters.

802.6.2.4 The CONTRACTOR will be issued a directive with each meter issued. The CONTRACTOR shall return the directive along with the replaced meter, within five days of replacement of the meter to the OWNER.

802.6.2.5 The work order must be turned in with the specific meter for which the meter replacement was issued. The replaced meter shall have a tag affixed to the meter, by the CONTRACTOR, showing the CONTRACTOR's name, and project name and address from which the meter was removed.

802.6.2.6 The CONTRACTOR shall handle all meters so as not to damage them and shall be responsible for the meters from the time of receipt to turn in. Stolen or lost meters shall be replaced at the CONTRACTOR's expense.

802.7 METER PIT FOR SERVICES 3" AND LARGER: Meter pit construction details and the installation of the pipe, valves and meter details will be shown on the construction plans.

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802.8 MEASUREMENT AND PAYMENT

- 802.8.1 METERED SERVICE LINE INSTALLATIONS: For 3/4 inch thru 2 inches, new service lines, service line replacements and transfers, meter relocations, and meter replacements, and meter rehabilitation shall be measured and paid for as a completed unit of installation in accordance with the applicable items contained in the Bid Proposal, which payment shall include all materials, labor and equipment required to install, flush and place into service the applicable item.
- 802.8.2 SERVICE LINE TUBING: Unless otherwise authorized in the Contract Documents or by the ENGINEER, service line tubing shall be considered incidental to the applicable pay item established in the Bid Proposal.
- 802.8.3 PAVEMENT REMOVAL AND REPLACEMENT: Unless otherwise authorized in the Contract Documents or by the ENGINEER, pavement removal and replacement shall be considered incidental to the applicable pay item established in the Bid Proposal.