CITY OF PHOENIX, ARIZONA
OFFICE OF THE CITY ENGINEER
DESIGN AND CONSTRUCTION PROCUREMENT

PROJECT SPECIFICATIONS AND CONTRACT DOCUMENTS

WATER SERVICES DEPARTMENT
VOLUME 1 OF 2

SMALL DIAMETER SANITARY SEWER REHABILITATION PROJECT

WS90500118

AGREEMENT

[Signature]

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## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>00020</td>
<td>Call for Bids</td>
<td>00020-1 to 00020-2</td>
</tr>
<tr>
<td>00100</td>
<td>Instructions to Bidders</td>
<td>00100-1 to 00100-18</td>
</tr>
<tr>
<td>00300</td>
<td>Bid Form</td>
<td>00300-1 to 00300-6</td>
</tr>
<tr>
<td>00310</td>
<td>Bid Bond</td>
<td>00310-1</td>
</tr>
<tr>
<td>00320</td>
<td>Bidder’s Questionnaire</td>
<td>00320-1 to 00320-7</td>
</tr>
<tr>
<td>00330</td>
<td>List of Major Subcontractors and Suppliers</td>
<td>00330-1</td>
</tr>
<tr>
<td>00331</td>
<td>List of All Subcontractors and Suppliers</td>
<td>00331-1</td>
</tr>
<tr>
<td>00340</td>
<td>Schedule of Manufacturers and Suppliers of Major Equipment and Material Items</td>
<td>00340-1</td>
</tr>
<tr>
<td>00351</td>
<td>Construction Trade Identification Worksheet</td>
<td>00351-1</td>
</tr>
<tr>
<td>00360</td>
<td>Bidder’s Disclosure Statement</td>
<td>00360-1 to 00360-4</td>
</tr>
<tr>
<td>00370</td>
<td>Affidavit of Identity</td>
<td>00370-1</td>
</tr>
<tr>
<td>00500</td>
<td>Agreement</td>
<td>00500-1 to 00500-7</td>
</tr>
<tr>
<td>00610</td>
<td>Performance Bond</td>
<td>00610-1</td>
</tr>
<tr>
<td>00620</td>
<td>Payment Bond</td>
<td>00620-1</td>
</tr>
<tr>
<td>00700</td>
<td>General Conditions</td>
<td>00700-1 to 00700-53</td>
</tr>
<tr>
<td>00800</td>
<td>Supplementary Conditions</td>
<td>00800-1 to 00800-2</td>
</tr>
</tbody>
</table>
CALL FOR BIDS

CITY OF PHOENIX
SMALL DIAMETER SANITARY SEWER REHABILITATION
DESIGN-BID-BUILD
PROJECT NO. WS90500118

PROCUREPHX PRODUCT CATEGORY CODE 912000000
RFx 6000000852

BIDS WILL BE DUE: TUESDAY, FEBRUARY 11, 2020 AT 2:00 P.M.
ON 5TH FLOOR, ROOM 5 WEST IN BID BOX

BIDS WILL BE READ: TUESDAY, FEBRUARY 11, 2020 AT 2:00 P.M.
ON 5TH FLOOR, ROOM 5 WEST
PHOENIX CITY HALL
200 W. WASHINGTON STREET
PHOENIX, AZ  85003-1611
*All times are local Phoenix time

Scope of Work

The City of Phoenix is seeking a qualified contractor to provide construction services for the project listed below.

Rehabilitation of the sanitary sewer system will consist of approximately 170,000 linear feet of 8-inch to 15-inch diameter, primarily vitrified clay (VCP) sanitary sewer pipe within the City of Phoenix wastewater collection system. The rehabilitation includes installing cured-in-place-pipe (CIPP) lining, performing cleanout removal/replacement, manhole repairs, lateral reinstatement, odor control, public notifications, and other work as it relates to rehabilitation of the sanitary sewer system.

There is no Small Business Enterprise goal established for this project.

Pre-bid Meeting

A pre-bid meeting will be held on Monday, January 27, 2020, at 10:00 a.m., at 200 W. Washington Street, City Hall Conference Room, 5th Floor. At this meeting, staff will discuss the scope of work, general contract issues and respond to questions from the attendees. As City staff will not be available to respond to individual inquiries regarding the project scope outside of this pre-bid meeting, it is strongly recommended that interested firms send a representative to the pre-bid meeting.

Request For Bid Packet

The bid packet will be available for download on the City of Phoenix’s “Solicitations” web page as of Thursday, January 16, 2020. The web address is:

https://solicitations.phoenix.gov
Firms receiving a copy of the bid packet through any other means are strongly encouraged to download the bid packet from the City webpage and register as a plan holder for the project. The plan holder list is available for viewing within the project folder.

**GENERAL INFORMATION**
The City reserves the right to award the contract to the lowest responsible responsive bidder or all bids will be rejected, as soon as practicable after the date of opening bids.

The City of Phoenix will provide reasonable accommodations for alternate formats of the bid packet by calling Dana M. Garr at (602) 495-2461 or calling TTY System (602) 256-4286. Requests will only be honored if made within the first week of the advertising period. Please allow a minimum of seven calendar days for production.

Questions pertaining to process or contract issues should be directed to Dana M. Garr at (602) 495-2461 or dana.garr@phoenix.gov (preferred).

Ed Zuercher  
City Manager

Eric J. Froberg, PE  
City Engineer

Published: Arizona Business Gazette  
Date: January 16, 2020  
Date: January 23, 2020

Districts: 4 and 5
SECTION 00100 – INSTRUCTIONS TO BIDDERS

1. Defined Terms

1.1. Terms used in these Instructions to Bidders which are defined in the General Conditions of the Construction Contract Section 00700 have the meanings assigned to them in the General Conditions. Certain additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof.

1.1.1. Owner - the City of Phoenix, Water Services Department.

1.1.2. Bidder - one who submits a proposal directly to Owner, as distinct from a sub-bidder who submits a Proposal directly to a Bidder.

1.1.3. Successful Bidder - the lowest, qualified, responsible and responsive Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.

1.1.4. Bid Documents - the proposed Contract Documents as advertised, and all Addenda issued before Bid opening.

2. Copies of Bid Documents

2.1. A Planholder List is available within the project folder on the Street Transportation Department's website under “Current Opportunities”:

https://www.phoenix.gov/streets/procurement-opportunities/current-opportunities

2.2. Complete sets of Bid Documents shall be used in preparing Bids; neither Owner nor Design Professional assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bid Documents.

2.3. Owner and Design Professional, in making copies of Bid Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not confer a license or privilege for any other use.

3. Qualifications of Bidders

3.1. The Bidder awarded the Contract shall comply with ARS Title 34 and all licensing requirements imposed by Owner and any other Political Subdivision with jurisdiction. Failure to provide this information with the Bidders Questionnaire may be just cause for Owner declaring the Bidder's Bid nonresponsive.

3.2. Bidders shall have the necessary equipment therefore, and shall possess sufficient capital to properly execute the Work within the time allowed.

3.3. All Bidders wishing to remain in contention for award of the contract must submit completed contract documents listed below. The documents must be submitted to the Contract Procurement Section, 5th Floor, or can be sent by email to dana.garr@phoenix.gov.

4. Examination of Bid Documents and Site

4.1. It is the responsibility of each Bidder before submitting a Bid:

4.1.1. To examine thoroughly the Bid Documents and other related data identified in the Bid Documents (including “technical data” referred to below);

4.1.2. To visit the site to become familiar with and satisfy Bidder as to the general, local and site conditions that may affect cost, progress, performance or furnishings of the Work;

4.1.3. To consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishings of the Work;

4.1.4. To study and carefully correlate Bidder's knowledge and observations with the Bid Documents and such other related data; and
4.1.5. To promptly notify Dana M. Garr, Contracts Specialist II Lead, 200 W. Washington Street, 5th Floor, Phoenix, AZ 85003-1611; Phone 602-495-2461; email dana.garr@phoenix.gov of all conflicts, errors, ambiguities or discrepancies which the Bidder has discovered in or between the Bid Documents and such other related documents. All questions regarding the plans and specifications must be received (in writing) at a minimum seven (7) calendar days prior to bid opening. Questions received after that time may not be given any consideration.

4.2. Reference is made to the Supplementary Conditions for identification of:

4.2.1. Those reports of explorations and tests of subsurface conditions at or contiguous to the site which have been utilized by Design Professional in preparation of the Bid Documents. Bidder may rely upon the general accuracy of the "technical data" contained in such reports but not upon other data, interpretations, opinions or information contained in such reports or otherwise relating to the subsurface conditions at the site, nor upon the completeness thereof for the purpose of bidding or construction.

4.2.2. Those drawings of physical conditions in or relating to existing surface and subsurface structures (except underground facilities) which are at or contiguous to the site that have been utilized by Design Professional in preparation of the Bid Documents. Bidder may rely upon the general accuracy of the "technical data" contained in such drawings but not upon other data, interpretations, opinions or information shown or indicated in such drawings or otherwise relating to such structures, nor upon the completeness thereof for the purposes of bidding or construction.

4.2.3. Copies of such reports and drawings will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Bid 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 the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion drawn from any "technical data" or any such data, interpretations, opinions or information.

4.3. Information and data shown or indicated in the Bid Documents with respect to existing underground facilities at or contiguous to the site is based upon information and data furnished to Owner and Design Professional by owners of such underground facilities or others, and Owner and Design Professional do not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary Conditions.

4.4. 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 Bid Documents due to differing or unanticipated conditions appear in Paragraphs 4.02 and 4.03 of the General Conditions.

4.5. Before submitting a Bid each Bidder will be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and underground facilities) at or contiguous to the site or otherwise, which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Bid Documents.

4.6. Reference is made to the General Requirements for the identification of the general nature of 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 for which a Bid is to be submitted. On request, Owner will provide to each Bidder for examination access to Contract Documents (other than portions thereof related to price) for such Work.

4.7. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with each and every requirement of this Paragraph 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bid Documents and applying the specific means, methods, techniques, sequences or procedures of construction (if any) shown or
indicated or expressly required by the Bid Documents; that Bidder has given Design Professional written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in the Bid Documents and the written resolutions thereof by Design Professional is acceptable to Bidder, and that the Bid Documents are sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

4.8. The provisions of the above Paragraphs 4.1 through 4.8, inclusive, do not apply to Asbestos, Polychlorinated biphenyls (PCBs), Petroleum, Hazardous Waste or Radioactive Material covered by Paragraph 4.08 of the General Conditions.

5. Interpretations and Addenda

5.1. Acknowledge all addenda; a bid will be deemed non-responsive if all issued addenda for this project are not acknowledged in writing on page 1 of Section 300 - Bid Form. The City of Phoenix shall not be responsible for any oral responses or instructions made by any employees or officers of the City of Phoenix in regard to the bidding instructions, plans, drawings, specifications, or contract documents. A verbal reply to an inquiry does not constitute a modification of the Invitation for Bids. Any changes to the plans, drawings and specifications will be in the form of an addendum.

5.2. It shall be the responsibility of the prospective bidder to determine, prior to the submittal of its bid, if any addenda to the project have been issued by The City of Phoenix, Design and Construction Procurement Section. Any changes to the plans and specifications will be in the form of an addendum. All addenda will be posted online within the bid folder at the following website:

https://www.phoenix.gov/streets/procurement-opportunities/current-opportunities

The contractors and/or consultants are responsible for insuring they have all addenda and/or notifications for all projects they are submitting on. Prospective bidders are strongly encouraged to check the Design and Construction Procurement Section website in order to ascertain if any addenda have been issued for this project.

5.3. All technical questions relating to this Work should be directed to the City representative identified in Paragraph 4.1.5.

5.4. For additional information prior to bid submission please contact:

Plans, Technical, Special Provisions, Proposal or Specifications
NAME: Dana M. Garr, Design and Construction Procurement Section
ADDRESS: 200 W. Washington St., 5th Floor, Phoenix AZ 85003-1611
PHONE: 602-495-2461 EMAIL: dana.garr@phoenix.gov

SBE Utilization
Equal Opportunity Department: 602-262-6790

6. Bid Security

6.1. No Bid will be read unless accompanied by a proposal guarantee certified check, cashier's check, or surety bond using the form in Section 00310 of the Bid Documents, for an amount not less than ten percent (10%) of the total bid amount included in the proposal as a guarantee that the Bidder will enter into a contract to perform the proposal in accordance with the Bid Documents. Surety bonds submitted for this project shall be provided by a company which has been rated “A- or better for the prior four quarters” by the A.M. Best Company. A bid will be deemed non-responsive if not accompanied by this guarantee.

6.2. The surety bond shall be executed solely by a surety company or companies holding a certificate of authority to transact surety business in the State of Arizona issued by the Director of the Department of Insurance pursuant to Title 20, Chapter 2, Article 1. The surety bond shall not be executed by an individual surety or sureties even if the requirements of Section 7-101 are satisfied. The Owner will return the cash, certified check, cashiers check, or surety bond to Bidders which are not the apparent low Bidder and do not want to remain in contention for the award, and to the Bidder awarded the contract upon execution of the contract.
6.3. Bids without adequate Bid security, including compliance with Paragraph 6.1 above, shall be considered as nonconforming in a material respect with the requirements of the Bid Documents and justifies Owner's refusal to read the Bid.

6.4. The Bid security of the apparent Successful Bidder and the security of any other Bidder remaining in contention for award of contract will be retained by Owner until the end of the period specified in Paragraph 14 below, during which Bids will remain open, or seven (7) days after Owner executes the Agreement, whichever occurs last.

6.5. When providing a surety bond, failure to provide an “A- or Better for the prior four quarters” bond will result in bid rejection.

7. Construction Time

7.1. The number of calendar days within which, or the dates by which, the Work is to be Substantially Completed and also Completed and ready for final payment are set forth in the Agreement and may be supplemented as set forth in the agreement.

7.2. If a Bidder believes that any of the Construction Times specified are insufficient or excessive, that Bidder shall advise Owner in accordance with the requirements of Paragraph 5 above.

7.3. Liquidated Damages are specified in the Agreement and may be supplemented as provided in the Agreement.

8. Pre-Approved Equal and Or-Equal Items

8.1. The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications unless Bidder requests consideration of a proposed material and/or equipment as a “pre-approved equal” as defined in General Conditions Paragraph 6.05.B. Design Professional will only consider application for acceptance as a “pre-approved equal” during the bidding phase. Such application must be received by Design Professional at least twelve (12) calendar days prior to the established bid date. The Bidder, at his own expense, shall complete the Pre-Approved Equal Application Form labeled as Attachment B at the end of this Section, and provide the additional information requested on the form. The completed form with required attachments shall be submitted to Design and Construction Procurement Section, Attn: Dana M. Garr, Contract Specialist II Lead, Phoenix City Hall 5th Floor, 200 W. Washington St., Phoenix AZ 85003 or send via email to dana.garr@phoenix.gov. It is the Bidder’s responsibility to provide the necessary data to validate that the physical and operational performance and qualities of the proposed material and/or equipment is equivalent to the material and/or equipment named in the Drawings or Specifications. If, in the opinion of the Design Professional, the proposed material and/or equipment is equivalent, a “pre-approved equal” status will be granted by Design Professional through a written Addendum to the Contract Documents no fewer than 7 calendar days prior to the established bid date (A.R.S. 34-104). If in the opinion of the Design Professional the pre-approved equal application is incomplete and lacks sufficient information to judge the quality and conformance of the proposed pre-approved equal, the Bidder will be notified in writing and the application will be returned without further consideration.

8.2. The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications, without consideration of “or equal” items as defined in General Conditions Paragraph 6.05.A. Whenever it is indicated in the Drawings or specified in the Specifications that an “or equal” item of material or equipment may be furnished or used by Contractor if acceptable to Design Professional, application for such acceptance will be considered by Design Professional only after the Notice to Proceed Date. General Conditions 6.05, describe the procedures for the approval of “or equal” items.

9. Subcontractors, Manufacturers, Suppliers, Persons, Firms and Corporations

9.1. Bidder shall submit to Owner the forms found in Sections 00330, 00331 and 00340 of the Bid Documents, listing all Subcontractors, Manufacturers, Suppliers, persons, firms and corporations 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, Manufacturer, Supplier, person, firm or corporation if requested by Owner. An Owner or Design Professional who after due investigation has reasonable objection to any proposed Subcontractor, Manufacturer, Supplier, person, firm or corporation, may before the Notice of Award is given request apparent Successful Bidder to submit an acceptable substitute, without an increase in Bid price.

9.2. If apparent Successful Bidder declines to make any such substitution, Owner may award the contract to the next lowest responsive and responsible Bidder that proposes to use acceptable Subcontractors, Manufacturers, Suppliers, persons, firms and corporations. The declining to make requested substitutions will not constitute grounds for sacrificing the Bid security of any Bidder. Any Subcontractor, Manufacturer, Supplier, person, firm or corporation listed to whom Owner or Design Professional does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Design Professional subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06.B of the General Conditions.

10. SBE Utilization
The SBE requirement has been waived for this project.

11. Bid Form and Bid Form Attachments

11.1. The Bid Documents due at time of bid include:
- Bid Form (Section 00300)
- Acknowledge all addenda (Section 00300, Paragraph 1.3.1)
- Bid Bond (Section 00310)
- List of Major Subcontractors and Suppliers (Section 00330)

The Bid Documents due post-bid include:
- Completed Bidder’s Questionnaire – Section 00320
- Verification of Experience Modifications Rate (EMR) – Section 00320
- Completed List of All Subcontractors and Suppliers Form – Section 00331
- Schedule of Manufacturers and Suppliers – Section 00340
- Completed Bidder’s Disclosure Statement – Section 00360
- Affidavit of Identity, If Sole Proprietor – Section 00370

If the Bid Form or any of the Bid Form Attachments are modified by Addendum, revised forms will be reissued in which case Bids shall be submitted on the latest revision of the form issued.

11.2. All blanks on the Bid Form and Bid Form Attachments must be completed by printing in ink or typewriter.

11.3. Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature.

11.4. Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.

11.5. Bids by Joint Ventures must be executed in the manner of each individual, partnership and corporation that is a party of the Joint Venture indicated herein.

11.6. All names must be typed or printed in ink below the signature.
11.7. The address and telephone number for communications regarding the Bid must be shown.

11.8. Evidence of authority to conduct business as an out-of-state corporation in Arizona shall be provided in accordance with Paragraph 3 above. State contractor license number must also be shown.

12. Submission of Bids

12.1. Prior to bidding on this Project, the Bidder must possess the correct license to perform the Work described in the plans and specifications, as deemed appropriate by the Arizona Registrar of Contractors.

12.2. The properly completed bid documents along with the ten (10) percent bid guarantee shall be submitted in a sealed envelope. The outside of the envelope shall be marked as follows:

| Bid of:               | [Firm's Name, Address, and Phone Number] |
| For:                 | Small Diameter Sanitary Sewer Rehabilitation |
| City of Phoenix       | WS90500118 |
| Project Number:       | |

12.3. Sealed bids shall be submitted to the bid box located by the Street Transportation Department Reception Desk on the 5th Floor of the Phoenix City Hall building, 200 W. Washington St., Phoenix AZ 85003 prior to the time and date specified for the bid opening.

13. Withdrawal of Bids

13.1. No bidder may withdraw or revise a proposal after it has been deposited with the City, except as provided in Phoenix City Code Chapter 2, Section 190.2. Proposals, read or unread, will not be returned to the bidders until after determination of award has been made.

14. Protest Procedures

A bidder wishing to file a protest for the subject project shall comply with Phoenix City Code Chapter 2, Section 188.

15. Opening of Bids, Objection to Award

15.1. Bids will be opened and (unless obviously non-responsive) read aloud publicly. An abstract of the amounts of the Base Bids will be made available to Bidders after the opening of Bids. Any Bid received after the closing time will not be considered. Any uncertainties on whether a Bid was submitted in time will be resolved against that Bidder, in Owner's sole discretion.

15.2. Only Bids submitted with the following forms will be read aloud publicly: Bid Form (Section 00300), Acknowledgment of Addenda (Section 00300, Paragraph 1.3.1), Bid Bond (Section 00310), Statement of Proposed SBE Utilization Form (Section 00350-1) and associated Letters of Intent to Perform as a Subcontractor/Supplier (Section 00351-1) or a fully documented waiver packet, and List of Major Subcontractors and Suppliers (Section 00330).

16. Other Bid Items

16.1. List of Major Subcontractors and Suppliers

16.1.1. A bid will be deemed non-responsive if not accompanied by a properly completed and signed “List of Major Subcontractors and Suppliers” form.

16.1.2. To assist in eliminating the practice of bid shopping on City construction projects, the bidder shall list all Major Subcontractors and Suppliers (including SBE) to whom the bidder intends to contract with that are equal to or greater than 5% of the base bid. The list of major subcontractors and suppliers shall be provided on the “List of Major Subcontractors” form. **Failure to properly complete and sign this form will result in bid rejection.** This form is due with the bid.
INSTRUCTIONS TO BIDDERS

16.1.3. If substantial evidence exists that bid shopping occurred on this Project, the Bidder will be ineligible to bid on City construction projects for a period of one year.

16.1.4. The list of All Subcontractors and Suppliers shall be provided on the “List of All Subcontractors and Suppliers” form. Failure to properly complete and sign this form will result in bid rejection. This form is due three days after bid opening by 5:00 p.m. A bid shall be deemed non-responsive if a properly completed and signed “List of All Subcontractors and Suppliers” form is not submitted.

16.1.5. Verification of the Bidders Experience Modifications Rate (EMR) from their respective insurer on the insurance company’s letterhead must be submitted.

17. Bids to Remain Subject to Acceptance

17.1. All Bids will remain subject to acceptance for 50 calendar days after the day of the Bid opening, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to that date.

17.2. Extensions of the period during which Bids shall remain open may only be made by agreement between Owner, the apparent Successful Bidder and any other Bidder wishing to remain in contention for the award. Any such agreement shall be based on no increase in the Base Bid of the Bidders involved or any Construction Time stated in days. If the apparent Successful Bidder or any other Bidder wishing to remain in contention for the award fails to agree to any such extension, as conditioned in this paragraph, that Bidder shall be disqualified from further consideration for the award. However, that Bidder's failure to agree to any such extension will not constitute grounds for forfeiting that Bidder's Bid security.

17.3. Cancellation of Contract for Conflict of Interest

17.3.1. All parties hereto acknowledge that this Agreement is subject to cancellation by the City of Phoenix pursuant to the provisions of Section 38-511, Arizona Revised Statute.

18. Award of Contract

18.1. It shall be the Bidder’s responsibility, liability and risk to verify and confirm with the Arizona Registrar of Contracts that the Bidder possesses the correct license for this Project. Prior to the submission of a Bid on this Project, the Bidder shall possess the correct license to perform the Work described in the Plans and Specifications. Consistent with Arizona Revised Statute Section 32-1123 (West Supp. 2002), as amended from time to time, and enforced by the Arizona Registrar of Contractors; the license requirement set forth above may not apply if this Project is: (i) funded in whole or in part by the United States Department of Transportation, (ii) a Department of Transportation Project, or (iii) a Project subject to Federal Acquisition Regulations, Title 48 Code of Federal Regulations, including Department of Defense Federal Acquisition Regulations.

Prior to Award of the Contract, the successful Bidder shall provide to the City of Phoenix the successful Bidder’s Contractor License Classification and number, City of Phoenix Privilege License Number, and Federal Tax Identification Number.

18.2. Owner reserves the right to reject any and all Bids, including without limitation the rights to reject any or all nonconforming, nonresponsive, unbalanced or conditional Bids and to 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, whether the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criterion established by Owner. Owner also reserves the right to reject any or all Bids, to waive any non-conformance, to readvertise for Bids, to withhold the award for any reason the Owner determines.

18.2.1. The proposal total will be obtained by adding the extension amount or lump sum indicated for the individual pay items. If there is a conflict between words and figures, the words shall apply. If there is a conflict between the unit bid price and the extension for a particular pay item, the unit bid price shall govern. In either case, the Contracting Agency shall correct the discrepancy in accordance with the above procedure and the corrected proposal total will apply.
18.3. In evaluating Bids, Owner will consider the qualification of the Bidders, whether or not the Bids comply with the prescribed requirements, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

18.4. Owner will consider the qualifications and experience of Subcontractors, Manufacturers, Suppliers, persons, firms and corporations proposed for those portions of the Work as to which the identity of Subcontractors, Manufacturers, Suppliers, persons, firms and corporations must be submitted as provided herein. Owner also may consider the operating costs, maintenance requirements, performance data, and guarantees or major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.

18.5. Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, Manufacturers, Suppliers, persons, firms and corporations to perform and furnish the Work in accordance with the Bid Documents to Owner's satisfaction within the prescribed time.

18.6. If the Contract is to be awarded, it will be awarded to a responsive and responsible Bidder based on the low total base bid (Items 1 through 10 on the BID FORM). If unit pricing is required in the proposal, the extensions and additions will be verified to assure correctness. Award will be based on the revised total if any errors are found. Additionally, the Contractor shall meet the minimum SBE subcontracting goal set for this Project or have been granted a full or partial waiver of the goal.

Any bidder that currently contracts with the City must be in good standing for its proposal to be considered responsive. For the purpose of this Invitation to Bid, good standing means compliance with all contractual provisions, including payment of financial obligations.

18.7. If the contract is to be awarded, Owner will give the Successful Bidder a Notice to Proceed within sixty (60) days after the date of the Bid opening.

18.8. The Owner expressly reserves the right to cancel this award without recourse or prejudice to contractor until all parties have executed the agreement in full.

19. **Contract Security**

19.1. Article 5 of the General Conditions set forth the Owner's requirements as to Performance and Payment Bonds. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by the required Performance and Payment Bonds issued by surety company or companies holding a certificate of authority to transact surety business in the State of Arizona issued by the Director of the Department of Insurance pursuant to Title 20, Chapter 2, Article 1. The bonds shall not be executed by an individual surety or sureties even if the requirements of Section 7-101 are satisfied. Failure to comply with these provisions will be cause for rejection of the Bidders Bid.

20. **Insurance Requirements**

20.1. Article 5 of the General Conditions and set forth the Owner’s requirements as to insurance requirements. When the Successful Bidder delivers the executed Agreement to the Owner, it must be accompanied by the Certificate of Insurance on a standard insurance industry ACORD form. The ACORD form shall be issued by an insurance company authorized to transact business in the State of Arizona, or one that is named to the List of Qualified Unauthorized Insurers maintained by the Arizona Department of Insurance.

21. **Signing Agreement**

21.1. When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other written Contract Documents attached. Within ten days thereafter Contractor shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner with the required Bonds and insurance policy(ies). Within a reasonable time thereafter Owner shall deliver one fully signed counterpart to Contractor. Each counterpart is to be accompanied by a complete set of Drawings with appropriate identification.
21.2. The Agreement is subject to cancellation by the City of Phoenix for prohibited conflicts of interest, if any exist, pursuant to the provisions of ARS Title 38, Section 511.

22. **Sequence of Work**

22.1. The Work under this Contract must be accomplished while the existing facility is in operation, unless otherwise allowed in the General Requirements. Work must be performed so that operation of the facility will not be jeopardized or reduced in efficiency. Bidders are referred to the General Requirements for requirements concerning sequencing of the Work.

23. **Compliance with Other Regulations**

23.1. **ADA and ANSI Access of Premises During Construction**

23.1.1. Contractor shall maintain ADA and ANSI accessibility requirements during construction activities in an occupied building or facility. ADA and ANSI accessibility requirements shall include, but not be limited to, parking, building access, entrances, exits, restrooms, areas of refuge, and emergency exit paths of travel. Contractor shall be responsible for the coordination of all Work to minimize disruption to building occupants and facilities.

23.2. **Immigration Reform and Control Act**

23.2.1. Compliance with Federal Laws Required. Contractor understands and acknowledges the applicability of the Immigration Reform and Control Act of 1986 and the Drug Free Workplace Act. Contractor agrees to comply with these Federal Laws in performing under this Agreement and to permit City inspection of personnel records to verify such compliance.

24. **Confidentiality of Plans and Specifications**

24.1. Any plans generated for this project must include the following statement in the Title Block on every page: “Per City of Phoenix City Code Chapter 2, Article 2-28, these plans are for official use only and may not be shared with others except as required to fulfill the obligations of the Design Professional's contract with the City of Phoenix.”

25. **Leadership in Energy and Environmental Design (LEED)**

25.1. The contractor shall provide an easily accessible area to serve the construction site that is dedicated to the separation, collection and storage of materials for recycling including (at a minimum) paper, glass, plastics, metals and designate an area specifically for construction and demolition waste recycling. The Contractor must provide documentation that the materials have been taken to a Maricopa County approved recycling facility.

26. **Legal Worker Requirements**

26.1. The City of Phoenix is prohibited by A.R.S. § 41-4401 from awarding a contract to any Consultant/Architect/Engineer/Contractor who fails, or whose Subconsultants/subcontractors fail, to comply with A.R.S. § 23-214(A). Therefore, Contractor agrees that:

26.1.1. Contractor and each subcontractor it uses warrants their compliance with all federal immigration laws and regulations that relate to their employees and their compliance with § 23-214, subsection A.

26.1.2. A breach of a warranty under paragraph 1 shall be deemed a material breach of the contract that is subject to penalties up to and including termination of the contract.

26.1.3. The City of Phoenix retains the legal right to inspect the papers of any Contractor or subcontractor employee who works on the contract to ensure that the Contractor or subcontractor is complying with the warranty under paragraph 1.

27. **Contractor and Subcontractor Worker Background Screening**

27.1. Contract Worker Background Screening.
27.1.1. Contractor agrees that all contract workers and subcontractors [collectively “Contract Worker(s)”] that Contractor furnishes to the City pursuant to this Agreement shall be subject to background and security checks and screening (collectively “Background Screening”) at Contractor’s sole cost and expense as set forth in this Section. The Background Screening provided by Contractor shall comply with all applicable laws, rules and regulations. Contractor further agrees that the Background Screening required in this Section is necessary to preserve and protect public health, safety and welfare. The Background Screening requirements set forth in this Section are the minimum requirements for this Agreement. The City in no way warrants that these minimum requirements are sufficient to protect Contractor from any liabilities that may arise out of Contractor’s services under this Agreement or Contractor’s failure to comply with this Section. Therefore, in addition to the specific measures set forth below, Contractor and its Contract Workers shall take such other reasonable, prudent and necessary measures to further preserve and protect public health, safety and welfare when providing services under this Agreement. The City may, in its sole discretion, accept or reject any or all of the Contract Workers proposed by Contractor for performing work under this Agreement.

27.2. Background Screening Requirements and Criteria

27.2.1. Contractor agrees that it will verify legal Arizona worker status as required by Arizona Revised Statutes (A.R.S.) §41-4401. Contractor further agrees that it will conduct a background check for real identity/legal name on all Contract Workers prior to proposing the Contract Worker to the City.

27.3. Additional City Rights Regarding Security Inquiries

27.3.1. In addition to the foregoing, the City reserves the right but not the obligations to: (1) have a Contract Worker be required to provide fingerprints and execute such other documentation as may be necessary to obtain criminal justice information pursuant to A.R.S. § 41-1750(G)(4) or Phoenix City Code § 4-22; (2) act on newly acquired information whether or not such information should have been previously discovered; (3) unilaterally change its standards and criteria relative to the acceptability of Contract Workers; and (4) object, at any time and for any reason, to a Contract Worker performing work (including supervision and oversight) under this Agreement.

27.4. Contractor Certification

27.4.1. By executing this Agreement, Contractor certifies and warrants that Contractor has read the Background Screening requirements and criteria in this Section, understands them and that all Background Screening information furnished to the City is accurate and current. Also, by executing this Agreement, Contractor further certifies and warrants that Contractor has satisfied all such Background Screening requirements as required. A Contract Worker rejected for work under this Agreement shall not be proposed to perform work under other City contracts or engagements without the City’s prior written approval.

27.5. Terms of This Section Applicable to all of Contractor’s Contracts and Subcontracts

27.5.1. Contractor shall include the terms of this Section for Contract Worker Background Screening in all contracts and subcontracts for services furnished under this Agreement including, but not limited to, supervision and oversight services.

27.6. Materiality of Background Screening Requirements; Indemnity

27.6.1. The Background Screening requirements of this Section are material to the City’s entry into this Agreement and any breach of this Section by Contractor shall be deemed a material breach of this Agreement. In addition to the indemnity provisions set forth in Article 6 of the General Conditions, Contractor shall defend, indemnify and hold harmless the City for any and all Claims arising out of this Background Screening Section including, but not limited to, the disqualification of a Contract Worker by Contractor or the City for failure to satisfy this Section.
27.7. Continuing Duty; Audit

27.7.1. Contractor’s obligations and requirements that Contract Workers satisfy this Background Screening Section shall continue throughout the entire term of this Agreement. Contractor shall notify the City immediately of any change to a Background Screening of a Contract Worker previously approved by the City. Contractor shall maintain all records and documents related to all Background Screenings and the City reserves the right to audit Contractor’s compliance with this Section pursuant to Article 10 of the General Conditions.

28. Contract Worker Access Controls, Badge and Key Access Requirements

28.1. A CONTRACT WORKER SHALL NOT BE ALLOWED TO BEGIN WORK IN ANY CITY FACILITY OR SYSTEM WITHOUT:

28.1.1. THE PRIOR COMPLETION AND THE CITY’S ACCEPTANCE OF THE REQUIRED BACKGROUND SCREENING; AND

28.1.2. WHEN REQUIRED, THE CONTRACT WORKER’S RECEIPT OF A CITY ISSUED BADGE. A BADGE WILL BE ISSUED TO A CONTRACT WORKER SOLELY FOR ACCESS TO THE CITY FACILITY(S) TO WHICH THE CONTRACT WORKER IS ASSIGNED. EACH CONTRACT WORKER WHO ENTERS A CITY FACILITY MUST USE THE BADGE ISSUED TO THE CONTRACT WORKER.

28.2. Badges

28.2.1. After receipt of the badge application, the Contract Worker will proceed to the badging office for processing of the badge application and issuance of the badge. The City will not process the badge application until the Contract Worker satisfies the required Background Screening (as defined herein). The Contract Worker shall comply with all requirements and furnish all requested information as requested by the badging office. Any and all fees associated with security badging will be assessed in compliance with Phoenix City Code §4-22.


28.3.1. If the Contract Worker’s services require keyed access to enter a City facility(s), a separate key issue/return form must be completed and submitted by Contractor for each key issued.

28.4. Stolen or Lost Badges or Keys.

28.4.1 Contractor shall report lost or stolen badges or keys to their local police department and must obtain a police department report (PDR) prior to re-issuance of any lost or stolen badge or key. A new badge application or key issue form shall be completed and submitted along with payment of the applicable fees listed below prior to issuance of a new badge or key.

28.5. Return of Badges or Keys.

28.5.1. All badges and keys are the property of the City and must be returned to the City at the badging office within one (1) business day of when the Contract Worker’s access to a City facility is no longer required to furnish the services under this Agreement. Contractor shall collect a Contract Worker’s badge and key(s) upon the termination of the Contract Worker’s employment; when the Contract Worker’s services are no longer required at the particular City facility(s); or upon termination, cancellation or expiration of this Agreement.

28.6. Contractor’s Default; Liquidated Damages; Reservation of Remedies for Material Breach

28.6.1. Contractor’s default under this Section shall include, but is not limited to the following:

28.6.1.1. Contract Worker gains access to a City facility(s) without the proper badge or key;

28.6.1.2. Contract Worker uses a badge or key of another to gain access to a City facility;
28.6.1.3. Contract Worker commences services under this Agreement without the proper badge, key or Background Screening;

28.6.1.4. Contract Worker or Contractor submits false information or negligently submits wrong information to the City to obtain a badge, key or applicable Background Screening; or

28.6.1.5. Contractor fails to collect and timely return Contract Worker's badge or key upon termination of Contract Worker's employment, reassignment of Contract Worker to another City facility or upon the expiration, cancellation or termination of this Agreement.

28.6.2. Contractor acknowledges and agrees that the access control, badge and key requirements in this Section are necessary to preserve and protect public health, safety and welfare. Accordingly, Contractor agrees to properly cure any default under this Section within three (3) business days from the date notice of default is sent by the City. The parties agree that Contractor’s failure to properly cure any default under this Section shall constitute a breach of this Section. In addition to any other remedy available to the City at law or in equity, Contractor shall be liable for and shall pay to the City the sum of one thousand dollars ($1,000.00) for each breach by Contractor of this Section. The parties further agree that the sum fixed above is reasonable and approximates the actual or anticipated loss to the City at the time and making of this Agreement in the event that Contractor breaches this Section. Further, the parties expressly acknowledge and agree to the fixed sum set forth above because of the difficulty of proving the City's actual damages in the event that Contractor breaches this Section. The parties further agree that three (3) breaches by Contractor of this Section arising out of any default within a consecutive period of three (3) months or three (3) breaches by Contractor of this Section arising out of the same default within a period of twelve (12) consecutive months shall constitute a material breach of this Agreement by Contractor and the City expressly reserves all of its rights, remedies and interests under this Agreement, at law and in equity including, but not limited to, termination of this Agreement.

29. Business and Operation Licenses, Permits and Certifications Required

29.1. On or before the submission of a bid for this project, bidder must possess all federal, state, county and City licenses, permits, certifications and any other legal authorizations required by law to transact business and to perform the services set forth in this Agreement (collectively “Business Licenses”). Bidder shall submit a completed Bidder’s Disclosure Statement as set forth in Section 00360, and provide the following Business License information with its bid:

29.1.1. proper State of Arizona contractors license classification and number;

29.1.2. City of Phoenix transaction privilege license number;

29.1.3. federal tax identification number; and

29.1.4. any special use or other zoning permits required for Bidder’s operation and performance of the services under this Agreement.

Unless provided otherwise in this solicitation, **Bidder will be deemed non-responsive and the bid rejected if Bidder fails to possess the proper Business Licenses at the time of bid or fails to submit a substantially completed Bidder’s Disclosure Statement as specified in this paragraph.**

30. Tax Liabilities; Disclosure of Convictions and Breach(s) of Contract

On or before the award of the contract for this project, the successful bidder shall: (i) file all applicable tax returns and shall make payment for all applicable State of Arizona and Maricopa County Transaction Taxes (ARS Sec. 41-1305) and City of Phoenix Privilege License Taxes (Phoenix City Code Sec.14-415); (ii) disclose any civil fines, penalties or any criminal convictions, other than for traffic related offenses, for violation of federal, state, county or city laws, rules or regulations including, but not limited to, environmental, OSHA, or labor compliance laws (collectively “Laws”) by Bidder, Bidder’s directors, managing members, responsible corporate officers or party who will be responsible for overseeing and administering this project (collectively “Bidder”); and (iii) disclose any material breach(s) of an agreement with the City of Phoenix, any termination for cause or any
litigation involving the City of Phoenix occurring within the past three calendar years. Unless provided otherwise in this solicitation, the successful bidder shall be deemed non-responsible and the bid rejected for any of the following: (i) Bidder’s civil or criminal conviction, other than for traffic related offenses, for a violation of Laws within the past three calendar years; (ii) liability or culpability resulting in payment of fines or penalties in the cumulative total amount of $100,000 or greater for a violation of “Laws” within the past three calendar years; (iii) material breach of a City of Phoenix agreement, termination for cause or litigation with the City of Phoenix within the past three calendar years; and (iv) Bidder’s failure to disclose the information as required by this provision. Further, after award of contract, in addition to any other remedy, Bidder’s failure to remit proper taxes to the City of Phoenix may result in the City withholding payment pursuant to Phoenix City Charter Chapter XVIII, Section 14 until all delinquent taxes, interest, and penalties have been paid.

State and Local Transaction Privilege Taxes:

In accordance with applicable state and local law, transaction privilege taxes may be applicable to this transaction. The state and local transaction privilege (sales) tax burden is on the person who is conducting business in Arizona and the City of Phoenix. The legal liability to remit the tax is on the person conducting business in Arizona. Any failure by the Contractor to collect applicable taxes from the City shall not relieve the Contractor from its obligation to remit taxes.

It is the responsibility of the prospective bidder to determine any applicable taxes. The City will look at the price or offer submitted and will not deduct, add or alter pricing based on speculation or application of any taxes, nor will the City provide advice or guidance.

If you have questions regarding your tax liability, please seek advice from a tax professional prior to submitting your bid. You may also find information at https://www.phoenix.gov/finance/plt or https://www.azdor.gov/Business.aspx. Once your bid is submitted, the Offer is valid for the time specified in this Solicitation, regardless of mistake or omission of tax liability.

If the City finds over payment of a project due to tax consideration that was not due, the Contractor will be liable to the City for that amount, and by contracting with the City agrees to remit any overpayments back to the City for miscalculations on taxes included in a bid price.

Tax Indemnification:
Contractor shall, and require the same of all subcontractors, pay all federal, state and local taxes applicable to its operation and any persons employed by the Contractor. Contractor shall, and require the same of all subcontractors, hold the City harmless from any responsibility for taxes, damages and interest, if applicable, contributions required under federal, and/or state and local laws and regulations and any other costs including transaction privilege taxes, unemployment compensation insurance, Social Security and Worker’s Compensation.

Tax Responsibility Qualification:
Contractor may be required to establish, to the satisfaction of City, that any and all fees and taxes due to the City or the State of Arizona for any License or Transaction Privilege taxes, Use Taxes or similar excise taxes, are currently paid (except for matters under legal protest).

Contractor agrees to a waiver of the confidentiality provisions contained in the City Finance Code and any similar confidentiality provisions contained in Arizona statutes relative to State Transaction Privilege Taxes or Use Taxes.

Contractor agrees to provide written authorization to the City Finance Department and to the Arizona State Department of Revenue to release tax information relative to Arizona Transaction Privilege Taxes or Arizona Use Taxes in order to assist the Department in evaluating Contractor’s qualifications for and compliance with contract for duration of the term of contract.
31. **Lawful Presence Requirement**

31.1. Pursuant to A.R.S. §§ 1-501 and 1-502, the City of Phoenix is prohibited from awarding a contract to any natural person who cannot establish that such person is lawfully present in the United States. To establish lawful presence, a person must produce qualifying identification and sign a City-provided affidavit affirming that the identification provided is genuine. This requirement will be imposed at the time of contract award. This requirement does not apply to business organizations such as corporations, partnerships or limited liability companies.

32. **City of Phoenix Equal Employment Opportunity Requirement**

1. In order to do business with the City, Contractor must comply with Phoenix City Code, 1969, Chapter 18, Article V, as amended, Equal Employment Opportunity Requirements. Contractor will direct any questions in regard to these requirements to the Equal Opportunity Department, (602) 262-6790.

2. Any Contractor in performing under this contract shall not discriminate against any worker, employee or applicant, or any member of the public, because of race, color, religion, sex, national origin, age, or disability nor otherwise commit an unfair employment practice. The Contractor will ensure that applicants are employed, and employees are dealt with during employment without regard to their race, color, religion, sex, national origin, age, or disability, and will adhere to a policy to pay equal compensation to men and women who perform jobs that require substantially equal skill, effort, and responsibility, and that are performed within the same establishment under similar working conditions. Such action shall include but not be limited to the following: Employment, promotion, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training; including apprenticeship. The Contractor further agrees that this clause will be incorporated in all subcontracts with all labor organizations furnishing skilled, unskilled and union labor, or who may perform any such labor or services in connection with this contract.

If the Contractor employs more than thirty-five employees, the following language shall apply as the last paragraph to the clause above:

The Contractor further agrees not to discriminate against any worker, employee or applicant, or any member of the public, because of sexual orientation or gender identity or expression and shall ensure that applicants are employed, and employees are dealt with during employment without regard to their sexual orientation or gender identity or expression.

3. **Documentation.** Contractor may be required to provide additional documentation to the Equal Opportunity Department affirming that a nondiscriminatory policy is being utilized.

4. **Monitoring.** The Equal Opportunity Department shall monitor the employment policies and practices of suppliers and lessees subject to this article as deemed necessary. The Equal Opportunity Department is authorized to conduct on-site compliance reviews of selected firms, which may include an audit of personnel and payroll records, if necessary.

33. **Fair Treatment of Workers**

33.1. The Contractor shall keep fully informed of all Federal and State laws, County and City ordinances, regulations, codes and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any way affect the conduct of the work. He shall at all times observe and comply with all such laws, ordinances, regulations, codes, orders and decrees; this includes, but is not limited to laws and regulations ensuring fair and equal treatment for all employees and against unfair employment practices, including OSHA and the Fair Labor Standards Act (FLSA). The contractor shall protect and indemnify the Contracting Agency and its representatives against any claim or liability arising from or based on the violation of such, whether by himself or his employees.
34. **Record Drawings**

34.1. The Contractor shall maintain a record set of plans at the job site. These shall be kept legible and current and shall show all changes or work added in a contrasting, reproducible color. When the project is substantially complete, the Contractor shall submit these plans to the Engineer for approval. When landscaping is included, the Contractor shall submit, prior to final inspection, corrected landscape drawings showing the location of all utility services, controller, pipe, valves, and wiring. The Engineer shall be the sole judge as to the acceptability of the record plans and receipt of an acceptable set is a pre-requisite for final payment.

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Attachment A: Bidder’s Checklists

Submittal Checklist: CONTENTS OF OPAQUE SEALED BID ENVELOPE:

1. COMPLETED SECTION 00300 - BID FORM.
2. COMPLETED ACKNOWLEDGMENT OF ADDENDA AS PROVIDED ON THE BID FORM – SECTION 00300, PARAGRAPH 1.3.1.
3. BID BOND - COMPLETED SECTION 00310, including evidence of power of attorney (rated “A- or Better for the prior four quarters”).
4. COMPLETED LIST OF MAJOR SUBCONTRACTORS AND SUPPLIERS FORM – SECTION

Post-Bid Submittal Checklist (3 days after bid opening by 5:00pm):

1. COMPLETED BIDDER’S QUESTIONNAIRE – SECTION 00320
2. VERIFICATION OF EXPERIENCE MODIFICATIONS RATE (EMR) – SECTION 00320
3. COMPLETED LIST OF ALL SUBCONTRACTORS AND SUPPLIERS FORM – SECTION 00331
4. SCHEDULE OF MANUFACTURERS AND SUPPLIERS – SECTION 00340
5. COMPLETED BIDDER’S DISCLOSURE STATEMENT – SECTION 00360
6. AFFIDAVIT OF IDENTITY, if Sole Proprietor – SECTION 00370

These checklists are included solely to aid the Bidder in submitting a Bid. They shall not be relied on to include all items necessary to ensure a complete Bid. The Bidder is solely responsible for including all items as required by the Bid Documents, including any items required by Addenda, which may not be listed in the checklist.

END OF ATTACHMENT "A" TO SECTION 00100
Attachment B: Pre-Approved Equal Application Form

The Bidder, ______________________________________________________, requests “pre-approved equal” status be granted to the following material and/or equipment:

This item(s) is proposed as an “equal” to the similar item specified (or named): ____________ in Section _____, Page ____, Paragraph/Line ___________________, of the Specifications.

Attach the following documentation to verify compliance with the Contract Documents:

1. Complete product description consisting of detailed dimensioned shop drawings, photographs, performance and test data, model number(s), materials of construction finishes, options, etcetera.

2. A copy of the referenced specification section, and all other applicable specification sections, with each paragraph check marked to indicate material and/or equipment compliance. Check marks () shall denote full compliance with a paragraph as a whole. Deviations from the specifications shall be underlined and shall be listed and identified below.

3. A list of existing installations including the names and phone numbers of references at those installations.

The Bidder will submit dimensioned drawings necessary to prove to Design Professional that the proposed equipment will fit the installation shown on the Drawings without any modification to the building or structure housing the equipment, piping system, and electrical/control system; without modification to or compromising the process the equipment is a part of; and without modification of other associated equipment and components.

If the Bidder knows that modifications are required to the building or structure housing the equipment, the process, or other associated equipment and components, the submittal must list all such modifications required, and the Bidder must submit a signed statement agreeing to pay for the design changes, engineering costs, and drawing changes, which will be made by Design Professional.

The Bidder will identify all deviations from the Contract Documents. If there are differences between proposed substitution and specified item, please list them below.

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<th>Specified</th>
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What effect does the substitution, or pre-approved equal have on other trades?

__________________________________________________________________________________________

__________________________________________________________________________________________

__________________________________________________________________________________________

00100-17
INSTRUCTIONS TO BIDDERS

Does manufacturer’s warranty of proposed substitution, or pre-approved equal, differ from that specified?  
Yes ☐ No ☐ If YES, explain:

Will substitution, or pre-approved equal, affect progress schedule? 
Yes ☐ No ☐ If YES, explain: 

Will substitution, or pre-approved equal, require more license fees or royalties than specified product? 
Yes ☐ No ☐ If YES, explain:

Will maintenance and service parts be locally available for substitution or pre-approved equal? The Bidder will give the address of the nearest source of factory certified maintenance parts. 
Yes ☐ No ☐ If YES, explain:

Submitted By: 
Signature: __________________________ Title: ___________ Date: ________________
Firm: ______
Address: ______ 
______
Phone: ______ Fax: ______________________________

For Design Professional’s Use Only:
Pre-approved Equal status is:
☐ Granted 
☐ Denied 
☐ Granted with special requirements attached  
☐ Denied because of late submittal 
☐ Not Reviewed because of incomplete submittal  
By: ______ Date: ______________________________
Remarks: ____________________________________________
____________________________________________________
____________________________________________________

END OF ATTACHMENT "B" TO SECTION 00100
SECTION 00300 – BID FORM AND BID FORM ATTACHMENTS

TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Subject</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>BID FORM</td>
<td>00300-1 to 00300-7</td>
</tr>
<tr>
<td>BID BOND</td>
<td>00310-1</td>
</tr>
<tr>
<td>BIDDER’S QUESTIONNAIRE</td>
<td>00320-1 to 00320-7</td>
</tr>
<tr>
<td>LIST OF MAJOR SUBCONTRACTORS AND SUPPLIERS</td>
<td>00330-1</td>
</tr>
<tr>
<td>LIST OF ALL SUBCONTRACTORS AND SUPPLIERS</td>
<td>00331-1</td>
</tr>
<tr>
<td>SCHEDULE OF MANUFACTURERS AND SUPPLIERS OF MAJOR</td>
<td>00340-1</td>
</tr>
<tr>
<td>EQUIPMENT AND MATERIAL ITEMS</td>
<td></td>
</tr>
<tr>
<td>TRADE IDENTIFICATION WORKSHEET</td>
<td>00350-1</td>
</tr>
<tr>
<td>BIDDER’S DISCLOSURE STATEMENT</td>
<td>00360-1 to 00360-4</td>
</tr>
<tr>
<td>AFFIDAVIT OF IDENTITY</td>
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</tbody>
</table>
SECTION 00300 - BID FORM

PROPOSAL to the City Engineer of the City of Phoenix. In compliance with the Advertisement for Bids, by the City Engineer, the undersigned bidder:

________________________________________________________
(Print or type contractor name)

1. Bid Submission

1.1 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with Owner in the form included in the Bid Documents to perform and furnish all Work as specified or indicated in the Bid Documents for the Bid Price and within the Bid Times indicated in this Bid and in accordance with the other terms and conditions of the Bid Documents.

1.2 Bidder accepts all of the terms and conditions of the Call for Bids and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 50 calendar days after the day of Bid opening. Bidder will sign and deliver the required number of counterparts of the Agreement with the bonds and other documents required by the Bid Requirements within ten (10) days after the date of Owner's Notice of Award.

1.3 In submitting this Bid, Bidder represents, as more fully set forth in the Agreement, that:

1.3.1 Bidder has examined and carefully studied the Bidding Documents and the following Addenda receipt of all which hereby is acknowledged: (List Addenda by Addendum Number)

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1.3.2 Bidder has visited the site and become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance and furnishing of the Work.

1.3.3 Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.

1.3.4 Bidder has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in Article 4 of the General Conditions. Bidder accepts the determination set forth in Article 4 of the General Conditions of the extent of the "technical data" contained in such reports and drawings upon which Bidder is entitled to rely. Bidder acknowledges that such reports and drawings are not Bid Documents and may not be complete for Bidder's purposes. Bidder acknowledges that Owner and Design Professional do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Bid Documents with respect to Underground Facilities at or contiguous to the site. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques,
sequences and procedures of construction to be employed by Bidder and safety precautions and programs incident thereto. Bidder does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for performance and furnishing of the Work in accordance with the times, price and other terms and conditions of the Bid Documents.

1.3.5 Bidder is aware of the general nature of Work to be performed by Owner and others at the site that relates to Work for which this Bid is submitted as indicated in the Bid Documents.

1.3.6 Bidder has correlated the information known to Bidder, information and observations obtained from visits to the site, reports and drawings identified in the Bid Documents and all additional examinations, investigations, explorations, tests, studies and data with the Bid Documents.

1.3.7 Bidder has given Design Professional written notice of all conflicts, errors, ambiguities or discrepancies that Bidder has discovered in the Bid Documents and the written resolution thereof by Design Professional is acceptable to Bidder, and the Bid Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Bid is submitted.

1.3.8 This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any person, firm or corporation to refrain from bidding; and Bidder has not sought collusion to obtain for itself any advantage over any other Bidder or over Owner.

(THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK)
1.4 **Bid Schedule**

1.4.1 Bidder will complete the Work in accordance with the Bid Documents and accept in full payment for the Work items listed below, the following Unit Prices and/or Bid Prices, as applicable:

<table>
<thead>
<tr>
<th>Bid Item No.</th>
<th>Bid Quantity</th>
<th>Unit</th>
<th>Description</th>
<th>Unit Price</th>
<th>Bid Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>114,955</td>
<td>Linear Foot</td>
<td>Initial Cleaning and CCTV of 8-in line</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>2</td>
<td>2,609</td>
<td>Linear Foot</td>
<td>Initial Cleaning and CCTV of 10-in line</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>3</td>
<td>3,760</td>
<td>Linear Foot</td>
<td>Initial Cleaning and CCTV of 12-in line</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>4</td>
<td>3,222</td>
<td>Linear Foot</td>
<td>Initial Cleaning and CCTV of 15-in line</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>5</td>
<td>114,955</td>
<td>Linear Foot</td>
<td>Cured-in-place sewer lining of 8-in</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>6</td>
<td>2,609</td>
<td>Linear Foot</td>
<td>Cured-in-place sewer lining of 10-in</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>7</td>
<td>3,760</td>
<td>Linear Foot</td>
<td>Cured-in-place sewer lining of 12-in</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>8</td>
<td>3,222</td>
<td>Linear Foot</td>
<td>Cured-in-place sewer lining of 15-in</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>9</td>
<td>2,419</td>
<td>Each</td>
<td>Reinstate Laterals</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>Each</td>
<td>Allowances (Traffic Control, replace stub, spot repair, testing)</td>
<td>$380,000</td>
<td>$380,000</td>
</tr>
</tbody>
</table>

**Base Bid** (The sum of the computed totals for Bid Items 1 through 10 only):

Dollars and Cents

(Written words)

$  

(Figures)
THE BIDDER ACKNOWLEDGES AND AGREES THAT DETERMINATION OF THE LOWEST BIDDER SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF PARAGRAPH 17.6 OF THE INSTRUCTIONS TO BIDDERS.

THE BASE BID DOLLAR VALUE WILL BE ANNOUNCED AT THE BID OPENING.

2. Time of Completion

2.1 Bidder agrees that the Work will be substantially complete within four hundred (400) calendar days after the date when the Construction Times commence to run as provided in Article 2 of the General Conditions, and completed and ready for final payment in accordance with Article 14 of the General Conditions within thirty (30) calendar days after the actual date when pursuant to paragraph 14.04 of Section 00700, General Conditions, Substantial Completion of the Work has been achieved.

2.2 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified in the Agreement.

2.3 In addition, Bidder agrees to meet the specified interim Milestones as defined in the General Requirements.
3. Bid Terms

3.1 Terms used in this Bid which are defined in the General Conditions or Instructions to Bidders will have the meanings indicated in the General Conditions or Instructions to Bidders.

Submitted on _________________ ___ , 20___.

3.2 If Bidder is an Individual:

Name of Individual: ____________________________

Name & Title of Person
Authorized to sign: ____________________________

Signature: ____________________________

Doing business as: ____________________________

Business Address:
________________________________________
________________________________________

Phone Number: _________________ FAX Number: _________________

3.3 If Bidder is a Corporation:

By: ____________________________

(CORPORATION NAME)

Signature: ____________________________

Name and Title: ____________________________

Attest: ____________________________

Name and Title: ____________________________

Business Address:
________________________________________
________________________________________

Phone Number: _________________ FAX Number: _________________

State of Incorporation: ____________________________

(THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK)
3.4 **If Bidder is a Joint Venture (Partnership):**

By: ____________________________  
(NAME OF PARTNERSHIP)

By: ____________________________  
(NAME OF PARTNERSHIP)

Signature: ________________________  
Signature: ________________________

Name & Title: ______________________  
Name & Title: ______________________

________________________________  
________________________________

Business Address: ____________________  
Business Address: ____________________

Phone Number: ____________________  
Phone Number: ____________________

FAX Number: ____________________  
FAX Number: ____________________

3.5 **If Bidder is a Joint Venture (Corporation):**

By: ____________________________  
(CORPORATION NAME)

By: ____________________________  
(CORPORATION NAME)

Signature: ________________________  
Signature: ________________________

Name and Title: ______________________  
Name and Title: ______________________

________________________________  
________________________________

Attest: ____________________________  
Attest: ____________________________

Name and Title: ______________________  
Name and Title: ______________________

________________________________  
________________________________

Business Address: ____________________  
Business Address: ____________________

Phone Number: ____________________  
Phone Number: ____________________

FAX Number: ____________________  
FAX Number: ____________________

State of Incorporation: ____________________  
State of Incorporation: ____________________

3.6 **Phone and Address for receipt of official communications:** ____________________
That we, ____________________________________________, as Principal, (hereinafter called the Principal) and the _________________________, a corporation duly organized under the laws of the State of ___________________, as Surety, (hereinafter called the Surety) are held and firmly bound unto the City of Phoenix as Obligee, in the sum of ten (10) percent of the total amount of the bid of Principal, submitted by him to the City of Phoenix for the work described below, for the payment of which sum, well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents and in conformance with A.R.S. #34-201.

WHEREAS, the said Principal is herewith submitting its proposal for SMALL DIAMETER SANITARY SEWER REHABILITATION

NOW, THEREFORE, if the City of Phoenix shall accept the proposal of the Principal and the Principal shall enter into a contract with the City of Phoenix in accordance with the terms of such proposal and give such Bonds and Certificates of Insurance as specified in the Standard Specifications with good and sufficient Surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter into such contract and give such Bonds and Certificates of Insurance, if the Principal shall pay to the City of Phoenix the difference not to exceed the penalty of the bond between the amount specified in the proposal and such larger amount for which the Obligee may in good faith contract with another party to perform the work covered by the proposal, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this _______ day of _______________________________________ A.D., 2018

_______________________________
Principal

_______________________________
Title

_______________________________
Surety

WITNESS:

_______________________________

A.M. BEST RATING:
SECTION 00320 - BIDDER'S QUESTIONNAIRE

The undersigned Bidder warrants that all statements and answers made to the interrogatories that follow are current, accurate and complete as of the date stated below.

This form is due no later than 5:00pm on the 3rd day after the Bid.

1. Organization

1.1 How many years has your organization been in business under your present name? ___________

1.2 Date and state of organization/incorporation: _______________ (IRS) EIN: _______________

1.3 Title and name of Principals (President, Vice-President, Secretary and Treasurer, if a corporation; partners, if a partnership).

1.4 If your organization, any business entity related to or affiliated with your organization, or any present of former executive employee, officer, director, shareholder (owning 20% or more of the outstanding shares), partner, or owner of your organization or of any such related or affiliated entity has ever been convicted of a felony, or has felony charges pending, in any state within the last three years from the date of Bid opening, including but not limited to a felony conviction under ARS Title 34, Section 252, furnish with this Bidder's Questionnaire all materials facts relating to any such felony conviction or any such pending felony charges against (1) your organization, (2) any such business entity related to or affiliated with your organization, or (3) any such present or former executive employee, officer, director, shareholder (owning 20% or more of the outstanding shares), partner, or owner of your organization or of any such related or affiliated entity.

Attachment ______, consisting of ______ pages.

2. Licensing

2.1 For each Arizona Contractor's license required to perform the Work identified in the Bid Documents, attach a copy of the "identification card" issued by the Registrar of Contractors. Also attach a copy of any privilege license issued to your organization by the City of Phoenix, the State, and any other Political Subdivision with jurisdiction over the Work. Information concerning the City of Phoenix Privilege License may be obtained from the City of Phoenix Finance Department, Tax and License Division, 251 West Washington Street, 3rd Floor, Phoenix, Arizona, 85003, Attention: License Services, telephone (602) 262-6785, FAX (602) 495-5605.

Attachment ______, consisting of ______ pages.

2.2 Does your organization hold contractor's licenses covering specialty classification of Work that your organization itself intends to perform and for which a specific specialty license is required under ARS Title 32, by Owner, or any other Political Subdivision with jurisdiction over the Work? If so, attach a list with all licenses by number and classification; state the name of the organization holding the license, the renewal date of each license, and whether each license is active. Also, attach a copy of the corresponding identification cards issued by the Registrar of Contractors, the Owner or the particular Political Subdivision with jurisdiction over the Work.

Attachment ______, consisting of ______ pages.
3. Experience

3.1 What is the general character of the work performed by your organization? _________________

3.2 (A) How many years of experience has your organization had as a General Contractor and as a Subcontractor involving work similar in character and scope to the Work described by the Bid Documents? ________

(B) How many years of experience has your subcontractors listed in Section 00330 - List of Subcontractors and Suppliers had as a General Contractor and as a Subcontractor involving Work similar in character and scope to the Work described by the Bid Documents? _______

3.3 (A) Attach a list of all public contracts and subcontracts that your organization has performed within the last five years over $500,000 involving Work similar in character and scope to the Work described by the Bid Documents (using the forms in the "References Attachment" provided with this Questionnaire). If the contract or subcontract referenced is not substantially completed, furnish the percent complete for that contract or subcontract.

Attachment ______, consisting of ______ pages.

(B) Attach a list of all public contracts and subcontracts that your major subcontractors listed in Section 00330 - List of Subcontractors and Suppliers have performed within the last five years over $500,000 involving Work similar in character and scope to the Work described by the Bid Documents (using the forms in the "References Attachment" provided with this Questionnaire). If the contract or subcontract referenced is not substantially completed, furnish the percent complete for that contract or subcontract.

Attachment ______, consisting of ______ pages.

3.4 Within the last five years, has your organization failed to complete a contract or subcontract awarded to it? ______ If so, for each contract or subcontract, state when, where and why.

3.5 Within the last five years, has any officer or partner of your organization been an officer or partner of another organization that failed to complete a contract or subcontract awarded to it? ______ If so, for each contract or subcontract, state the name of each officer or partner, the name of the organization(s), the name of the owner(s), and the reasons why the contract(s) or subcontract(s) was/were not completed.

3.6 Within the last five years, has any officer or partner of your organization failed to complete a contract or subcontract awarded in that person's own name? ______ If so, for each contract or subcontract, state the name of each officer or partner, the name of the owner(s), and the reasons why the contract(s) or subcontract(s) was/were not completed?
3.7 Within the last five years, have any claims arising from or relating to a contract or subcontract been made against your organization or any officer or partner of your organization that resulted in litigation or arbitration?_______ If so, the Bidder shall attach a description of each claim, the amount of the claim, the parties involved, and the settlement amount or award.

Attachment _____, consisting of _____ pages.

3.8 Within the last five years, has your organization or an officer or partner of your organization made any claims arising from or relating to a contract or subcontract that resulted in litigation or arbitration?_______ If so, the Bidder shall attach a description of each claim, the amount of the claim, the parties involved, and the settlement amount or award.

Attachment _____, consisting of _____ pages.

3.9 Bidder shall have an Experience Modifications Rate (EMR) of less than or equal to 1.20 as determined by insurance industry standards. Failure to submit verification of their Experience Modifications Rate (EMR) from their respective insurer on the insurance company's letterhead, within the specified period, justifies the disqualification of the Bidder for consideration for the award.

Attachment _____, consisting of _____ pages.

4. Additional Eligibility Data Under ARS Section 34-255

4.1 Parts of the Work, besides those disclosed on the List of Subcontractors and Suppliers, Section 00330, that you intend to subcontract: ____________________________________________________________

Attachment _____, consisting of _____ pages.

4.2 If any of those Subcontractors nominated in paragraph 4.1 has ever been convicted of a felony, or has felony charges pending, in any state within the last three years from the date of Bid opening, including but not limited to a felony conviction under ARS Title 34, Section 252, furnish with this Questionnaire all materials facts relating to any such felony conviction or any such pending felony charges strictly in accordance with the requirements of paragraph 1.4.

Attachment _____, consisting of _____ pages.

4.3 If any of the Suppliers (having a direct Subagreement with the Bidder or any of the Bidder's Subcontractors) has ever been convicted of a felony charge or has any felony charges pending in any state within the last three years from the date of Bid opening, including but not limited to a felony conviction under ARS Title 34, Section 252, furnish with this Questionnaire all material facts relating to any such felony conviction or any such pending felony charges strictly in accordance with the requirements in paragraph 1.4.

Attachment _____, consisting of _____ pages.

4.4 State the name, address and telephone number of a representative of your organization who personally visited and inspected the site:

______________________________________________

______________________________________________

00320 - 3
Also, describe subsurface and physical conditions at or contiguous to the site that your representative investigated and how they were accounted for in the preparation of your organization's Bid.

Attachment _____, consisting of _____ pages.

4.5 Attach a list of construction equipment and machinery your organization intends to use in the execution of the Work, as estimated in the preparation of your organization's Bid.

Attachment _____, consisting of _____ pages.

4.6 Does your organization rent and/or lease equipment and/or facilities from other affiliate organizations? _____. If so, state the name of the affiliate organization(s): ________________

4.7 Credit available? _____ Amount: $

4.8 Will your organization, i.e., the Bidder named in the Authorized Signature Article on the Bid Form, be the only named Principal in the Performance Bond and Payment Bond? __________

If not, please identify the organization who will be named as Principal or Co-Principal on the Performance Bond and Payment Bond ________________________________.

Also, state how such organization relates to the Bidder ________________________________.

(Note: If another organization is identified, the Bidder shall submit to the Owner or Design Professional a separate Questionnaire filled out by that organization as part of the Qualification Submittal required under Paragraph 3 of the Instructions to Bidders.)

(The remainder of this page is intentionally left blank)
5. References

5.1 Trade references of work similar in character and scope to the Work described by the Bid Documents. (Minimum of three):

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

5.2 Bank references:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

5.3 Insurance:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

6. Certificate of Submittal

By: ________________________________________ (name of individual, partnership, corporation or joint venture)

Signed By: ________________________________________

Name and Title: ________________________________________

on this _________ day of __________, 20____.

(THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK)
REFERENCES ATTACHMENT TO BIDDER'S QUESTIONNAIRE

REFERENCE
Public Owner: 
Project/Contract Name: 
Location of Project: 
Contract Price: 
Project Started:    Completed: 
Owner's Representative (Name & Phone): 
Bidder's Representative (Name & Phone): 
Scope of Project: 

REFERENCE
Public Owner: 
Project/Contract Name: 
Location of Project: 
Contract Price: 
Project Started:    Completed: 
Owner's Representative (Name & Phone): 
Bidder's Representative (Name & Phone): 
Scope of Project: 

REFERENCE
Public Owner: 
Project/Contract Name: 
Location of Project: 
Contract Price: 
Project Started:    Completed: 
Owner's Representative (Name & Phone): 
Bidder's Representative (Name & Phone): 
Scope of Project: 
REFERENCES ATTACHMENT TO BIDDER'S QUESTIONNAIRE (continued):

<table>
<thead>
<tr>
<th>REFERENCE</th>
<th>REFERENCE</th>
<th>REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Owner:</td>
<td></td>
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<tr>
<td>Project/Contract Name:</td>
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<td>Location of Project:</td>
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<td>Contract Price:</td>
<td></td>
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<tr>
<td>Project Started:</td>
<td>Completed:</td>
<td></td>
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<tr>
<td>Owner's Representative (Name &amp; Phone):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bidder's Representative (Name &amp; Phone):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scope of Project:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## SECTION 00330- LIST OF MAJOR SUBCONTRACTORS/SUPPLIERS

<table>
<thead>
<tr>
<th>DESCRIPTION OF WORK OR MATERIALS (CONTRACTOR TO ENTER TRADE/SUPPLIER AREAS)</th>
<th>SELF-PERFORMED BY PRIME CONTACTER</th>
<th>SUBCONTRACTOR/SUPPLIER COMPANY NAME (if not self-performed)</th>
<th>CONTACT PERSON</th>
<th>PHONE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ YES □ NO</td>
<td>□ YES □ NO</td>
<td>□ YES □ NO</td>
<td>□ YES □ NO</td>
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</tr>
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<td>□ YES □ NO</td>
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<td>□ YES □ NO</td>
</tr>
</tbody>
</table>

I hereby certify by signing below that the above listed companies will be utilized to perform work on this project for an amount equal to or greater than 5% of the base bid. These companies shall not be removed or replaced without prior written approval by the City of Phoenix Project Manager. The City requires, as in Paragraph D – List of Major Subcontractors and Suppliers in the Information for Bidders that ALL vendors are listed or you will be disqualified. If you are self-performing the work, you must still list any suppliers for materials, or list any contractors that will assist you in any form.

COMPANY NAME ________________________________________  SIGNATURE ____________________________________________

NAME & TITLE _______________________________  PHONE NUMBER ___________________  DATE __________________

EMAIL ADDRESS ________________________________

00330-1
<table>
<thead>
<tr>
<th>DESCRIPTION OF WORK OR MATERIALS (CONTRACTOR TO ENTER TRADE/SUPPLIER AREAS)</th>
<th>SELF-PERFORMED BY PRIME CONTRACTOR</th>
<th>SUBCONTRACTOR/SUPPLIER COMPANY NAME (IF NOT SELF-PERFORMED)</th>
<th>CONTACT PERSON</th>
<th>PHONE NUMBER</th>
</tr>
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<tbody>
<tr>
<td>□ YES □ NO</td>
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</tbody>
</table>

I hereby certify by signing below that the above listed companies will be utilized to perform work on this project. These companies shall not be removed or replaced on the project without prior written approval by the City of Phoenix Project Manager. The City requires, as in Paragraph D - List of All Subcontractors and Suppliers in the Information for Bidders that ALL vendors are listed or you will be disqualified. If you are self-performing the work, you must still list any suppliers for materials, or list any contractor’s that will assist you in any form.

COMPANY NAME ___________________________________________    SIGNATURE _________________________________________________

NAME & TITLE ___________________________________________    PHONE NUMBER ___________________    DATE _________________

EMAIL ADDRESS ___________________________________________
As provided in the Instructions to Bidders, the Bidder proposes that the items of major equipment or materials named herein will be supplied by the Manufacturers and Suppliers set forth below as written by the Bidder, unless changes are specifically authorized by the Owner. Preliminary acceptance of equipment or materials listed by the Manufacturer's name shall not in any way constitute a waiver of the specifications; final acceptance will be based on full conformity with the specifications covering the equipment and/or materials. Failure to provide this information will be just cause for Owner declaring the Bidder's Bid nonresponsive. **This form is due no later than 5:00pm on the 3rd day after the Bid.**

### Listing of Major Equipment

<table>
<thead>
<tr>
<th>SECTION</th>
<th>TITLE/DESCRIPTION</th>
<th>MANUFACTURER</th>
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<tbody>
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### Material

<table>
<thead>
<tr>
<th>SECTION</th>
<th>TITLE/DESCRIPTION</th>
<th>MANUFACTURER</th>
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</table>

Submitted By: ____________________________
(name of individual, partnership, corporation or joint venture)

Signed By: ____________________________

Name and Title: ____________________________
Below is a listing of possible trade areas for this project. These were the trade areas identified in the goal setting process. However, the contractor may identify additional trade areas to be used.

N/A – SBE Goal waived for this project

Only SBE subcontractors certified by the City of Phoenix under Chapter 18, Article VII of the Phoenix City Code are eligible to fulfill the participation goal as stated. A firm's certification must be current and in force at the date and time of the bid. The most current electronic listing of all certified SBE firms can be accessed through the Internet at:

https://phoenix.diversitycompliance.com

SBE = 0%
Authorized Contact for this Disclosure Statement

Name: 
Title: 
E-mail: 
Phone number: 
FAX number: 

List any other DBA, trade name, other identity, or EIN used in the last five (5) years, the state or country where filed, and the status (active or inactive): 

________________________________________________________________________________________
________________________________________________________________________________________

Business Characteristics:

Business entity type – Please check appropriate box and provide additional information:

☐ Corporation
☐ Limited Liability Company
☐ Limited Liability Partnership
☐ Limited Partnership
☐ General Partnership
☐ Sole Proprietor
☐ Other (explain)

Date of incorporation: 
Date organized: 
Date of registration: 
Date established: 

Was the business entity formed in the State of Arizona? ☐ Yes ☐ No

If no, indicate jurisdiction where Business Entity was formed: ____________________________

Is the Business Entity currently registered to do business in Arizona with the Arizona Corporation Commission? ☐ Yes ☐ No ☐ Not required 

________ (if sole proprietor or general partnership)

Does the Business Entity have a City of Phoenix business privilege license? ☐ Yes ☐ N

If “no” explain and provide detail such as “not required” or “application in progress” or other reason.

________________________________________________________________________________________
Is the Business Entity publicly traded? □ Yes □ No

Is the responding Business Entity a Joint Venture? □ Yes □ No Note: If the Submitting Business entity is a Joint Venture, also submit a questionnaire for each Business Entity comprising the Joint Venture.

Is the Business Entity's Principal Place of Business/Executive office in Phoenix? □ Yes □ No If "no" does the Business Entity maintain an office in Phoenix? □ Yes □ No Provide the address and phone number for the Phoenix office.

Is the business certified by Phoenix as a Small Business Enterprise? □ Yes □ No

Identify Business Entity Officials and principal Owners:

Name(s) _________________________________________Title________________________________
Percentage ownership ____%(Enter 0% if not applicable).

Name(s) _________________________________________Title________________________________
Percentage ownership ____%(Enter 0% if not applicable).

Name(s) _________________________________________Title________________________________
Percentage ownership ____%(Enter 0% if not applicable).

Name(s) _________________________________________Title________________________________
Percentage ownership ____%(Enter 0% if not applicable).

Affiliates and Joint Venture Relationships

Does the Business entity have any Affiliates? □ Yes □ No Attach additional pages if necessary. Affiliate name:__________________________________________________________
Affiliate EIN (if available):__________________________________________________________.
Affiliate’s primary Business Activity:__________________________________________________________
Explain relationship with Affiliate and indicate percent ownership, if applicable. ________________

Are there any Business Entity Officials or Principal Owners that the Business Entity has uncommon with this Affiliate? □ Yes □ No Individual’s Name:__________________________________________________________
Position/Title with Affiliate:__________________________________________________________
Has the Business Entity participated in any joint Ventures within the past three years?  □ Yes  □ No
(Attach additional pages if necessary)
  Joint Venture Name: ____________________________________________________________
  Joint venture EIN (if applicable): __________________________
  Identify parties to the Joint Venture:
  __________________________________________________________________________

Contract History
Has the Business Entity held any contracts with the City of Phoenix in the last three (3) years?
□ Yes  □ No  If “yes” attach a list.

Integrity – Contract Bidding

Within the past three (3) years:
  Has the Business Entity or any Affiliate been suspended or debarred from any government contracting process or been disqualified on any government procurement?  □ Yes  □ No
  Been subject to a denial or revocation of a government prequalification?  □ Yes  □ No
  Been denied a contract award or had a bid rejected based upon a finding of a non-responsibility by a government entity?  □ Yes  □ No
  Agreed to a voluntary exclusion from bidding/contracting with a government entity?  □ Yes  □ No
  Initiated a request to withdraw a bid submitted to a government entity or made any claim of an error on a bid submitted to a government entity?  □ Yes  □ No

For each “Yes” answer above, provide an explanation of the issues.

Integrity – Contract Award

Within the past three (3) years has the Business Entity or any Affiliate been suspended, cancelled, or terminated for cause on any government contract?  □ Yes  □ No

Been subject to an administrative proceeding or civil action seeking specific performance or restitution in connection with any government contract?  □ Yes  □ No

For each “yes” answer, provide an explanation. (Attach explanation on a separate sheet of paper).

Certifications/Licenses
Within the past three (3) years, has the Business Entity or Affiliate had a revocation, suspension, or disbarment of any business or professional permit and/or license? ☐ Yes ☐ No

If “yes” provide an explanation of the issue(s), the Business Entity involved, the relationship to the submitting Business Entity, relevant dates, the government entity involved, and any remedial or corrective action(s) taken and the current status of the issues.

**Legal Proceedings**

Within the past three (3) years, has the Business Entity of any Affiliate:

- Been the subject of an investigation, whether open or closed, by any government entity for a civil or criminal violation? ☐ Yes ☐ No
- Been the subject of an indictment, grant of immunity, judgment or conviction, (including entering into a plea bargain for conduct constituting a crime)? ☐ Yes ☐ No
- Received any OSHA citation and Notification of Penalty containing a violation classified as serious or willful? ☐ Yes ☐ No

If “yes” provide an explanation of the issue(s), the Business Entity involved, the relationship to the submitting Business Entity, relevant dates, the government entity involved, and any remedial or corrective action(s) taken and the current status of the issues.

**Leadership Integrity**

If the Business Entity is a joint Venture Entity, answer “N/A – Not Applicable” to questions below:

- Within the past three (3) years has any individual previously identified, or any other Business Entity Leader not previously identified, or any individual having the authority to sign, execute, or approve bids, proposals, contracts or supporting documentation with the city of Phoenix been subject to:
  - A sanction imposed relative to any business or professional permit and/or license? ☐ Yes ☐ No
  - An investigation, whether open or closed, by any government entity for a civil or criminal violation for any business related conduct? ☐ Yes ☐ No ☐ N/A
CITY OF PHOENIX: Water Services Department
PROJECT NAME: Small Diameter Sanitary Sewer Rehabilitation
PROJECT NUMBER: WS90500118

AFFIDAVIT OF IDENTITY

Your completion of this form is required by Arizona state law. A.R.S. §§ 1-501 and -50 only if you are a sole proprietor.

I, ________________________________________________(print full name exactly as on document), hereby affirm, upon penalty of perjury, that I presented the document marked below to the City of Phoenix, that I am lawfully present in the United States, and that I am the person stated on the document. (select one category only)

- Arizona driver license issued after 1996.
  Print first four numbers/letters from license:

- Arizona non-operating identification license.
  Print first four numbers/letters from license:

- Birth certificate or delayed birth certificate issued in any state, territory or possession of the U.S.
  Year of birth:  Place of birth:

- United States Certificate of birth abroad
  Year of birth:  Place of birth:

- United States Passport
  Print first four number/letters on Passport:

- Foreign Passport with United States Visa
  Print first four number/letters on Passport:
  Print first four number/letters on Visa:

- I-94 Form with a photograph
  Print first four numbers on I-94

  Print first four numbers on EAD
  or Perm. Resident Card (acceptable alternative):

- Refugee Travel Document
  Date of issuance:  Refugee Country:

- U.S. Certificate of Naturalization
  Print first four digits of CIS Reg. No.

- U.S. Certificate of Citizenship
  Date of issuance:  Place of issuance:

- Tribal Certificate of Indian Blood
  Date of issuance:  Name of Tribe:

- Tribal or Bureau of Indian Affairs Affidavit of Birth
  Year of birth:  Place of birth:

Signed:  Dated:
## SECTION 00500 - AGREEMENT

### TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Subject</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTICLE 1 - WORK</td>
<td>1</td>
</tr>
<tr>
<td>ARTICLE 2 - DESIGN PROFESSIONAL</td>
<td>1</td>
</tr>
<tr>
<td>ARTICLE 3 - CONTRACT TIMES</td>
<td>1</td>
</tr>
<tr>
<td>ARTICLE 4 - CONTRACT PRICE</td>
<td>2</td>
</tr>
<tr>
<td>ARTICLE 5 - PAYMENT PROCEDURES</td>
<td>2</td>
</tr>
<tr>
<td>ARTICLE 6 - INTEREST</td>
<td>2</td>
</tr>
<tr>
<td>ARTICLE 7 - CONTRACTOR'S REPRESENTATIONS</td>
<td>2</td>
</tr>
<tr>
<td>ARTICLE 8 - CONTRACT DOCUMENTS</td>
<td>3</td>
</tr>
<tr>
<td>ARTICLE 9 - MISCELLANEOUS</td>
<td>4</td>
</tr>
<tr>
<td>ARTICLE 10 - CITY OF PHOENIX EQUAL EMPLOYMENT OPPORTUNITY</td>
<td>5</td>
</tr>
<tr>
<td>ARTICLE 11 - SBE UTILIZATION GOALS</td>
<td>4</td>
</tr>
<tr>
<td>AGREEMENT FORM</td>
<td>5</td>
</tr>
</tbody>
</table>
SECTION 00500 - AGREEMENT

THIS AGREEMENT is dated as of the ____ day of __________ in the year 20__ by and between the City of Phoenix, Arizona, an Arizona municipal corporation organized and existing under and by virtue of the laws of the State of Arizona (hereinafter called Owner) and __________________________ (hereinafter called Contractor). Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 - WORK

Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is located at Multiple jobsite locations and generally described as follows:

Rehabilitation of the sanitary sewer system will consist of approximately 125,000 linear feet of 8-inch to 15-inch diameter, primarily vitrified clay (VCP) sanitary sewer pipe within the City of Phoenix wastewater collection system. The rehabilitation method shall install of cured-in-place (CIPP) lining, and performing cleanout removal/replacement, manhole repairs, lateral reinstatement, odor control, public notifications, and other work as it relates to rehabilitation of the sanitary sewer system.

ARTICLE 2 - DESIGN PROFESSIONAL

The Owner has retained Dibble & Associates Consulting Engineers, Inc, who is hereinafter called the Design Professional and who is to act as Owner's representative, assume all duties and responsibilities of and have the rights and authority assigned to the Design Professional in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 3 - CONTRACT TIMES

The periods allowed for completion of the Work are as follows:

3.1. The entire Work shall be Substantially Complete in accordance with the requirements of the Contract Documents within four hundred (400) calendar days from the date when the Contract Times commence to run.

3.2. All Work shall be complete and ready for final acceptance as specified in the Contract Documents within Four hundred and thirty (430) calendar days from the actual date when pursuant to Section 00700, General Conditions, Substantial Completion of the Work has been achieved.

Liquidated Damages. Owner and Contractor recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not completed within the times specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay Owner one thousand five hundred dollars and no cents ($1,500.00) for each day that expires after the time specified in paragraph 3.1. for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse or fail to complete the remaining Work within the time specified in paragraph 3.2. for completion and readiness for final payment or any proper extension thereof granted by Owner, Contractor shall pay Owner two hundred and fifty dollars and no cents ($250.00) for each day that expires after the time specified in paragraph 3.2. for completion and readiness for final payment.

In addition, Contractor agrees to meet any additional Contract Times set forth in Attachment A to this Agreement. Contractor further agrees to pay Owner the liquidated damage amounts as specified in Attachment A to this Agreement, if such work is not completed on time.
All time limits stated in the Contract Documents are of the essence of the Agreement.

**ARTICLE 4 - CONTRACT PRICE**

Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the amount determined pursuant to paragraph 4.1 below:

for all Work, in accordance with the Bid Form, a Sum of:

$ \text{DOLLARS AND CENTS}

(written words)

$ \text{(figures)}

All specific cash allowances are included in the above price and have been computed in accordance with paragraph 11.02 of the General Conditions.

**ARTICLE 5 - PAYMENT PROCEDURES**

Contractor shall submit to Design Professional for review Applications for Payment covering Work performed during the preceding calendar month. Owner and Contractor mutually agree that Owner will make a progress payment based on a duly certified (by Design Professional) and approved (by a duly authorized representative of Owner) estimate of the Work covered by the corresponding Application for Payment, subject to those conditions stipulated below, in the General Conditions and in other parts of the Contract Documents.

Owner may deduct from each progress payment and final payment an amount equal to Owner's estimate of the liquidated damages then due or that would become due based on Owner's estimate of late completion of the Work, provided Contractor fails to submit and implement a written schedule recovery plan describing the cause of schedule slippage or delayed progress and the actions proposed and taken to recover schedule.

**ARTICLE 6 - INTEREST**

All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest in accordance with ARS #34-221(G).

**ARTICLE 7 - CONTRACTOR’S REPRESENTATIONS**

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

Contractor has examined and carefully studied the Contract Documents (including the Addenda listed in paragraph 8) and the other related data identified in the Bidding Documents including “technical data.”

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, performance or furnishing of the Work.

Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.

Contractor has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been
identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions. Contractor accepts the determination set forth in Article 4 of the General Conditions of the extent of the "technical data" contained in such reports and drawings upon which Contractor is entitled to rely. Contractor acknowledges that such reports and drawings are not Contract Documents and may not be complete for Contractor's purposes. Contractor acknowledges that Owner and Design Professional do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site. Contractor has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing all the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto. Contractor does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.

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.

Contractor has correlated the information known to Contractor, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.

Contractor has given Design Professional written notice of all conflicts, errors, ambiguities or discrepancies that Contractor has discovered in the Contract Documents and the written resolution thereof by Design Professional is acceptable to Contractor, and the Contract Documents are sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 8 - CONTRACT DOCUMENTS

The Contract Documents are complementary, and anything mentioned or shown in a part of the Contract Documents shall be of like effect as if mentioned or shown in all parts of the Contract Documents. In resolving conflicts, the Contract Documents shall be given the priority determined by Design Professional which results in Work consistent with and reasonably inferable from their intent. Except when in contradiction with this priority rule, the Contract Documents shall be given priority by Design Professional in the following order:

This Agreement (pages 00500-1 to 00500-5, inclusive), fully executed by Owner and Contractor.

Addenda numbers __ to __, inclusive.

Performance Bond (page 00610-1) and Payment Bond (page 00620-1).

Notice to Proceed.

Change orders.

Contractor's Bid Package (Sections 00300 thru 00370).

Supplementary Conditions (pages 00800-1 to 00800-2, inclusive).

General Conditions (pages 00700-1 to 00700-53, inclusive).

Specifications bearing the following general title and consisting of Divisions 1 through 2 and pages listed
Small Diameter Sanitary Sewer Rehabilitation FY19/20, Volume 2 of 2, Technical Specifications.

Drawings bearing the following general title and consisting of a cover sheet and sheets listed in the Index of Drawings therein:

Small Diameter Sanitary Sewer Rehabilitation Project, Volume 2 of 2, Appendix A Drawings

Insurance Policies

The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto:

All Written Amendments and other documents amending, modifying or supplementing the Contract Documents pursuant to paragraphs 3.06 of the General Conditions.

The documents listed in paragraphs 8.2 et seq. above are attached to this Agreement (except as expressly noted otherwise above).

There are no Contract Documents other than those listed above in this Article 8. The Contract Documents may only be amended, modified or supplemented as provided in paragraphs 3.06 of the General Conditions.

ARTICLE 9 - MISCELLANEOUS

Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.

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

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.

Any provision or part of the Contract Documents held to be void or unenforceable under any Law of 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.

ARTICLE 10 - CITY OF PHOENIX EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENT

See Section 00100-14 - Instructions to Bidders

ARTICLE 11 - SBE UTILIZATION GOAL

See Section 350-1 – Small Business Enterprise Goal Clause and Forms
IN WITNESS WHEREOF, this Agreement has been duly executed by the parties herein named, on the date and year first above written.

The Contractor agrees that this Contract, as awarded, is for the stated work and understands that payment for the total work will be made on the basis of the indicated amount(s), as bid in the Proposal.

PROJECT NO. WS90500118
PROJECT DESCRIPTION: SMALL DIAMETER SANITARY SEWER REHABILITATION

$____________________

City of Phoenix, an Arizona municipal corporation
ED ZUERCHER, City Manager

By: _________________________________ By:__________________________________
    Eric J. Froberg, PE, City Engineer   Name of Signatory/Title

RECOMMENDED:

By: __________________________________
    Kathryn Sorensen, Director
    Water Services Department

APPROVED AS TO FORM

__________________________________
ACTING CITY ATTORNEY

__________________________________
ATTEST: CITY CLERK

Authority - City Council Awarded
<table>
<thead>
<tr>
<th>Subject</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Bond</td>
<td>00610-1</td>
</tr>
<tr>
<td>Payment Bond</td>
<td>00620-1</td>
</tr>
</tbody>
</table>
STATUTORY PERFORMANCE BOND
PURSUANT TO TITLE 34, CHAPTER 6
OF THE ARIZONA REVISED STATUTES
(Penalty of this bond must be 100% of the Contract Amount)

KNOW ALL MEN BY THESE PRESENT, that, «Company», (hereinafter called the Principal), as Principal, and ____________________________, a corporation organized and existing under the laws of the State of ____________________________, with its principal office in the City of ____________________________, (hereinafter called the Surety), as Surety, are held and firmly bound unto the City of Phoenix in the County of Maricopa, State of Arizona, (hereinafter called the Obligee), in the amount of CONTRACT AMOUNT IN WORDS DOLLARS, ($ContractAmountInFigures), for the payment thereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these present.

WHEREAS, the Principal has entered into a certain written contract with the Obligee, dated the «City Clerk Date WSuffix» day of «CouncilActionDateMonth», «CouncilActionDateYear», for WS90500118, Small Diameter Sanitary Sewer Rehabilitation, for which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the said Principal shall faithfully perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said Contract during the original term of said Contract any extension thereof, with or without notice to the Surety, and during the life of any guaranty required under the Contract, and shall also perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any all duly authorized modifications of said Contract that may hereafter be made, notice of which modifications to the Surety being hereby waived; then the above obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34, Chapter 6, of the Arizona Revised Statutes, and all liabilities on this Bond shall be determined in accordance with the provisions of said Title, Chapter, and Article, to the extent as if it were copied at length herein.

THE prevailing party in a suit on this Bond shall be entitled to such reasonable attorney's fees as may be fixed by a judge of the Court.

WITNESS our hands this _________ day of ________________________, 20____

«Company»      ____________________________________
PRINCIPAL SEAL AGENT OF RECORD

By:  ____________________________________ ____________________________________
AGENT ADDRESS

SURETY SEAL TELEPHONE NUMBER

A.M. BEST RATING:_______________________

By:  ____________________________________                By:_______________________________
ATTORNEY-IN-FACT AGENT

C.B.-1 (610)
LABOR AND MATERIALS BOND
STATUTORY PAYMENT BOND PURSUANT TO
TITLE 34, CHAPTER 6, OF THE ARIZONA REVISED STATUTES
(Penalty of this Bond must be 100% of the Contract Amount)

KNOW ALL MEN BY THESE PRESENT, that, «Company» (hereinafter called the Principal), as Principal, and _________________________________, a corporation organized and existing under the laws of the State of _________________________________, with its principal office in the City of _________________________________, (hereinafter called the Surety), as Surety, are held and firmly bound unto the City of Phoenix in the County of Maricopa, State of Arizona, (hereinafter called the Obligee), in the amount of CONTRACT AMOUNT IN WORDS DOLLARS, ($ContractAmountInFigures), for the payment thereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these present.

WHEREAS, the Principal has entered into a certain written contract with the Obligee, dated the «City Clerk Date WSuffix» day of «CouncilActionDateMonth», «CouncilActionDateYear», for WS90500118, Small Diameter Sanitary Sewer Rehabilitation, for which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the said Principal shall promptly pay all moneys due to all persons supplying labor or materials to him or his subcontractors in the prosecution of the work provided for in said contract, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34, Chapter 6, of the Arizona Revised Statutes, and all liabilities on this Bond shall be determined in accordance with the provisions of said Title, Chapter, and Article, to the extent as if it were copied at length herein.

THE prevailing party in a suit on this Bond shall be entitled to such reasonable attorney's fees as may be fixed by a judge of the Court.

WITNESS our hands this _________ day of ________________________, 20____

«Company»
PRINCIPAL SEAL
_____________________________________
AGENT OF RECORD
By: ___________________________________
_____________________________________
AGENT ADDRESS
________________________________________
SURETY SEAL
______________________________________
TELEPHONE NUMBER
A.M. BEST RATING:
By: ___________________________________
By:___________________________________
ATTORNEY-IN-FACT AGENT
SECTION 00700 - GENERAL CONDITIONS

Table of Contents

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY ................................................................. 4
  1.01 Defined Terms ............................................................................................................. 4
  1.02 Terminology ................................................................................................................ 7

ARTICLE 2 - PRELIMINARY MATTERS ........................................................................ 8
  2.01 Delivery of Bonds and Evidence of Insurance .......................................................... 8
  2.02 Copies of Documents ................................................................................................ 8
  2.03 Commencement of Contract Times; Notice to Proceed .............................................. 8
  2.04 Starting the Work ....................................................................................................... 8
  2.05 Before Starting Construction ..................................................................................... 8
  2.06 Dust Control and Prevention .................................................................................... 8

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE .................. 9
  3.01 Intent ........................................................................................................................... 9
  3.02 Reference Standards .................................................................................................. 9
  3.03 Reporting and Resolving Discrepancies ................................................................... 10
  3.06 Amending and Supplementing Contract Documents ................................................ 10
  3.07 Reuse of Documents ................................................................................................ 11
  3.08 Electronic Data .......................................................................................................... 11
  3.09 Data Confidentiality .................................................................................................. 11
  3.10 Personal Identifying Information - Data Security ..................................................... 12

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS;
HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS ....................... 12
  4.01 Availability of Lands .................................................................................................. 13
  4.02 Subsurface and Physical Conditions ....................................................................... 13
  4.03 Differing Subsurface or Physical Conditions ............................................................ 13
  4.04 C Possible Price and Times Adjustments .................................................................. 13
  4.05 Archaeological Deposits ........................................................................................... 14
  4.06 Compliance with A.R.S. 40-360.21 ......................................................................... 15
  4.07 Reference Points ........................................................................................................ 15
  4.08 Hazardous Environmental Condition at Site .......................................................... 15
  4.09 Materials Containing Asbestos ................................................................................ 16

ARTICLE 5 – BONDS AND INSURANCE ......................................................................... 16
  5.03 Insurance Requirements .......................................................................................... 17
  5.05 Minimum Scope and Limits of Insurance ................................................................. 17

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES ....................................................... 19
  6.01 Supervision and Superintendence .......................................................................... 19
  6.02 Labor; Working Hours ............................................................................................. 19
  6.03 Services, Materials, and Equipment ......................................................................... 20
  6.04 Progress Schedule .................................................................................................. 20
  6.05 Substitutes and “Or-Equals”...................................................................................... 20
11.02.B Cash Allowances ............................................................................................................. 38
11.02.C Contingency Allowance .................................................................................................... 38
11.03 Unit Price Work .................................................................................................................. 38

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES .......... 39
12.01 Change of Contract Price .................................................................................................. 39
12.02 Change of Contract Times ................................................................................................ 39
12.03 Delays .................................................................................................................................. 40

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE
OF DEFECTIVE WORK .................................................................................................................. 41
13.01 Notice of Defects .................................................................................................................. 41
13.02 Access to Work .................................................................................................................... 41
13.03 Tests and Inspections .......................................................................................................... 41
13.04 Uncovering Work .................................................................................................................. 41
13.05 Owner May Stop Work ........................................................................................................ 42
13.06 Correction or Removal of Defective Work ....................................................................... 42
13.07 Correction Period ................................................................................................................ 42
13.08 Acceptance of Defective Work .......................................................................................... 43
13.09 Owner May Correct Defective Work .................................................................................. 43

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION .................. 43
14.01 Schedule of Values .............................................................................................................. 44
14.02 Progress Payments ............................................................................................................. 44
14.02.A.4 SBE Goal Compliance ................................................................................................. 44
14.02.A.5 Stored Materials and Equipment .................................................................................. 44
14.02.A.6 Retainage ........................................................................................................................ 45
14.02.B Review of Applications ................................................................................................... 45
14.02.C Reduction in Payment ....................................................................................................... 45
14.03 Contractor’s Warranty of Title ............................................................................................. 47
14.04 Substantial Completion ....................................................................................................... 47
14.05 Partial Utilization .................................................................................................................. 48
14.06 Final Inspection .................................................................................................................... 48
14.07 Final Payment ....................................................................................................................... 48
14.08 Waiver of Claims .................................................................................................................. 50

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION ......................... 50
15.01 Owner May Suspend Work ................................................................................................. 50
15.02 Owner May Terminate for Cause ...................................................................................... 50
15.03 Owner May Terminate For Convenience ......................................................................... 51
15.04 Contractor May Stop Work or Terminate ......................................................................... 51

ARTICLE 16 - DISPUTE RESOLUTION ................................................................. 51
16.01 Methods and Procedures .................................................................................................. 51
16.02 Certification of Contractor Claims .................................................................................... 52
16.03 Venue: Service of Process ................................................................................................ 52

ARTICLE 17 - MISCELLANEOUS ........................................................................ 52
ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

1.01.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.

1.01.A.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.

1.01.A.2 Agreement - The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

1.01.A.3 Application for Payment - The form acceptable to Design Professional 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.

1.01.A.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.

1.01.A.5 Bid - The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.01.A.6 Bidder - The individual or entity who submits a proposal directly to Owner.

1.01.A.7 Bidding Documents - The Bidding Requirements and the proposed Contract Documents (including all Addenda).

1.01.A.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.

1.01.A.9 Bonds - Performance and Payment bonds and other instruments of security.

1.01.A.10 Change Order - A document recommended by Design Professional 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.

1.01.A.11 Claim - An 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.

1.01.A.12 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.

1.01.A.13 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.

1.01.A.14 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).

1.01.A.15 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 Design Professional’s written recommendation of final payment.

1.01.A.16 Contractor - The individual or entity with whom Owner has entered into the Agreement.

1.01.A.17 Contractor’s Contingency - means a fund to cover cost growth during the Project used at the discretion of the Contractor usually for costs that result from Project circumstances. The amount of the Contractor’s Contingency is
negotiated as a separate line item in each JOA proposal.

1.01.A.18 Cost of the Work - See Paragraph 11.01 for definition. Cost of the Work does not equal Contract Price or adjusted Contract Price.

1.01.A.19 Design Professional – The individual or entity named as such in the Agreement

1.01.A.20 Design Professional's Consultant - An individual or entity having a contract with Design Professional to furnish services as Design Professional's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

1.01.A.21 Drawings - That part of the Contract Documents prepared or approved by Design Professional 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.

1.01.A.22 Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective.

1.01.A.23 Engineer - May be used interchangeably with Design Professional

1.01.A.24 Field Order - A written order issued by Design Professional which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

1.01.A.25 General Conditions Costs – Includes, but not limited to, the following types of costs for the Contractor during the construction phase: payroll costs for project manager or construction manager but not both for Work conducted at the Site, payroll costs for the superintendent and full - time general foremen, payroll costs for management personnel resident and working on the Site, workers not included as direct labor costs engaged in support (e.g. loading/unloading, clean - up, etc.), costs of offices and temporary facilities including office materials, office supplies, office equipment minor expenses, utilities, fuel, sanitary facilities and telephone services at the Site, costs of liability insurance premiums not included in labor burdens for direct labor costs, costs of bond premiums, costs of consultants not in the direct employ of the Contractor or Subcontractors, taxes on the Work and for which the Contractor is liable, fees for permits and licenses. Certain limitations and exclusions related to Changes are described in the General Conditions for the construction phase.

1.01.A.26 General Requirements - Sections of Division 1 of the Specifications.

1.01.A.27 Hazardous Environmental Condition - The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Substance, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.

1.01.A.28 Hazardous Substance - any material, whether solid, semi - solid, liquid or gas, which, if not stored and/or used properly, may cause harm or injury to persons through inhalation, ingestion, absorption or injection, or which may negatively impact the environment through the use or discharge of the material on the ground, in the water (including groundwater), or to the air.

1.01.A.29 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.

1.01.A.30 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.

1.01.A.31 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.

1.01.A.32 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.

1.01.A.33 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.

1.01.A.34 Owner - The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
1.01.A.35 Owner's Contingency - means a fund to cover cost growth during the Project used at the discretion of the City usually for costs that result from City directed changes or differing/unforeseen site conditions. Owner's Contingency applies to conditions that are unanticipated and may be referred to as "unknown unknowns". The amount of the Owner's Contingency is set by the City and is in the Contract Price.

1.01.A.36 PCBs - Polychlorinated biphenyls.

1.01.A.37 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.

1.01.A.38 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.

1.01.A.39 Project - The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

1.01.A.40 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.

1.01.A.41 Related Entity - An officer, director, partner, employee, agent, consultant, or Subcontractor.

1.01.A.42 Resident Project Representative - The authorized representative of Design Professional who may be assigned to the Site or any part thereof.

1.01.A.43 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.

1.01.A.44 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.

1.01.A.45 Schedule of Values - A schedule, prepared and maintained by Contractor, which divides the Contract Price into pay items, such that the sum of all pay items equals the Contract Price for the Work, or for any portion of the Work having a separate specified Contract Price.

1.01.A.46 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.

1.01.A.47 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.

1.01.A.48 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.

1.01.A.49 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.

1.01.A.50 Substantial Completion - The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Design Professional, 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.

1.01.A.51 Successful Bidder - The Bidder submitting a responsive Bid to whom Owner makes an award.

1.01.A.52 Supplementary Conditions - That part of the Contract Documents which amends or supplements these General Conditions.

1.01.A.53 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.
1.01.A.54 Total Float - Number of calendar days by which the Work or any part of the Work may be delayed without necessarily extending a pertinent Contract Time.

1.01.A.55 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.

1.01.A.56 Unit Price Work - Work to be paid for on the basis of unit prices.

1.01.A.57 Warranty Period – Period for which Contractor is responsible for correction of defective Work as defined in Paragraph 13.07.

1.01.A.58 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.

1.01.A.59 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 Design Professional 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.

1.01.A.60 Written Amendment - A written amendment of the Contract Documents, signed by Owner and Contractor on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction related aspects of the Contract Documents.

1.02 Terminology

1.02.A The words and terms discussed in Paragraph 1.02B through G are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

1.02.B Intent of Certain Terms or Adjectives:

1.02.B.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 Design Professional. 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 Design Professional 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 Design Professional 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.

1.02.C Day:

1.02.C.1 The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

1.02.D Defective:

1.02.D.1 The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:

1.02.D.1.a does not conform to the Contract Documents; or

1.02.D.1.b does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

1.02.D.1.c has been damaged prior to Design Professional’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).

1.02.E Furnish, Install, Perform, Provide:

1.02.E.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.

1.02.E.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.

1.02.E.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.

1.02.E.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.

1.02.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.

1.02.G Shall, Will

1.02.G.1 The words “shall” and “will” are used interchangeably to express what is mandatory.

**ARTICLE 2 - PRELIMINARY MATTERS**

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

2.01.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.

2.01.B Evidence of Insurance: Before any Work at the Site is started, Contractor shall deliver to Owner, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance which Contractor is required to purchase and maintain in accordance with Article 5.

**2.02 Copies of Documents**

2.02.A Owner shall furnish to Contractor one reproducible copy of the Drawings and Specifications. Additional copies will be furnished upon request at the cost of reproduction.

**2.03 Commencement of Contract Times; Notice to Proceed**

2.03.A The Contract Times will commence to run on the day indicated in the Notice To Proceed. A Notice To Proceed may be given at any time within ninety (90) days after the Effective Date of the Agreement.

**2.04 Starting the Work**

2.04.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**

2.05.A Preconstruction Conference: A conference attended by Contractor, Design Professional, Owner 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 the General Requirements, procedures for handling Shop Drawings and other submittals, processing Applications for Payment and maintaining required records.

2.05.B Designation of Authorized Representatives: 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.

**2.06 Dust Control and Prevention**

2.06.A To facilitate and encourage strict compliance with the Maricopa County Air Pollution Control Regulations pertaining to fugitive dust control, Contractor shall submit the following documentation to the Project Manager at the preconstruction conference prior to conducting any earth moving or dust generating activities under the Contract.
2.06.A.1 Copy of a valid Maricopa County Earth Moving (Dust Control) Permit applicable to the Work or services under the Contract.

2.06.A.2 Copy of the Dust Control Plan applicable to the Work or services under the Contract.

2.06.A.3 Documentation that all of Contractor’s on-site project managers have received the Comprehensive or Basic dust control training as required by Maricopa County Rule 310 based on project disturbed acres.

2.06.B For construction sites where:

2.06.B.1 5-acres or more are disturbed, Contractor shall designate and identify to the City an individual who has completed the dust control training set forth in Section 2 above as the site Dust Control Coordinator. The Dust Control Coordinator shall be present on-site all times that earth moving or dust generating activities are occurring and until all ground surfaces at the site have been stabilized.

2.06.B.2 less than 1-acre is disturbed, the Contractor shall designate an individual who has completed Basic Training to be on site at all times that earth moving or dust generating activities are occurring.

2.06.C Contractor shall notify the Project manager within twenty-four (24) hours of any inspection, Notice of Violation, or other contact by the Maricopa County Air Quality Department with it or any of its subcontractors regarding the Work or services under the Contract. A copy of any written communications, notices or citations issued to Contractor or any of its subcontractors regarding the work or services under the Contract shall likewise be transmitted to the Project Manger within twenty-four (24) hours.

2.06.D The Contractor shall prevent any dust nuisance due to construction operations in accordance with MAG Specifications, Section 104.1.3, Cleanup and Dust Control. The Contractor shall use a power pick-up broom as part of the dust control effort. No separate measurement or payment will be made for cleanup or dust control, or for providing a power pick-up broom on the job.

2.06.E The Contractor may be instructed by the Design Professional to provide additional pavement cleaning (in parking lots, or other locations) above and beyond the normal expected cleanup and dust control required by MAG Section 104.1.3 If requested by the Design Professional, Contractor shall clean the requested areas with a power pick-up broom.

2.06.F Use of the power pick-up broom in the special requested areas only, shall be measured and paid for on an hourly basis under the bid item, “Power Broom”. The number of hours listed in the bid proposal is only an estimate. Actual hours requested for this project may vary.

2.06.G Contractor agrees to indemnify and reimburse Owner for any fine, penalty, fee or monetary sanction imposed on Owner by Maricopa County arising out of or caused by the performance of Work or services under the Contract. Contractor shall remit payment of the reimbursable sum to the City within thirty (30) days of being presented with a demand for Payment from Owner.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 Intent

3.01.A The Contract Documents are complementary; what is required by one is as binding as if required by all.

3.01.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.

3.01.C Clarifications and interpretations of the Contract Documents shall be issued by Design Professional as provided in Article 9.

3.02 Reference Standards

3.02.A Standards, Specifications, Codes, Laws, and Regulations

3.02.A.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.

3.02.A.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 Design Professional, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, or Design Professional, or any of their Related Entities, 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

3.03.A Reporting Discrepancies

3.03.A.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 Design Professional any conflict, error, ambiguity, or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Design Professional before proceeding with any Work affected thereby.

3.03.A.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 Design Professional 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 3.06.

3.03.A.3 Contractor shall not be liable to Owner or Design Professional for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor knew or reasonably should have known thereof.

3.03.B Resolving Discrepancies

3.03.B.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:

3.03.B.1.a the provisions of any standard, specification, manual, or code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

3.03.B.1.b the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 If the issue of priority involves the Specifications and Drawings, figured dimensions shall govern over scaled dimensions. Work not dimensioned shall be subject to interpretation by Design Professional. Work not expressly shown, identified, sized or located shall be the same as similar Work shown or specified. Detail drawings shall govern over general Drawings, larger scale Drawings take precedence over smaller scale Drawings and Contract Drawings govern over Shop Drawings. Whenever notes, specifications, dimensions, details or schedules in the Specifications or Drawings, or between the Specifications and Drawings conflict, Contractor shall furnish the higher performance requirement.

3.05 References made on the Plans and in the Specifications to Maricopa Association of Governments (MAG) Standards Details and Specifications are for information only. Any references made to the MAG General Provisions by these details and specifications are not applicable to this Project. The General Conditions and Supplementary Conditions as described in the Contract Documents are applicable.

3.06 Amending and Supplementing Contract Documents

3.06.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:

3.06.A.1 a formal Written Amendment,
3.06.A.2 a Change Order, or
3.06.A.3 a Work Change Directive.
3.06.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:

3.06.B.1 A Field Order;
3.06.B.2 Design Professional's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17); or
3.06.B.3 Design Professional's written interpretation or clarification.

3.07 Reuse of Documents

3.07.A Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing all of the Work under a direct or indirect contract with Contractor, shall not:

3.07.A.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 Design Professional or its consultants, including electronic media editions; or
3.07.A.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 Design Professional and specific written verification or adaptation by Design Professional.

3.07.B The prohibitions of this Paragraph 3.07 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.08 Electronic Data

3.08.A Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Design Professional to Contractor or by Contractor to Owner or Design Professional, 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.

3.08.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.

3.08.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.

3.09 Data Confidentiality

3.09.A "Data" means all information, whether written or verbal, including plans, photographs, studies, investigations, audits, analyses, samples, reports, calculations, internal memos, meeting minutes, data field notes, work product, proposals, correspondence and any other similar documents or information prepared by, obtained by, or transmitted to the Contractor or its subcontractors in the performance of this Contract.

3.09.B The parties agree that all data, regardless of form, including originals, images, and reproductions, prepared by, obtained by, or transmitted to the Contractor or its subcontractors in connection with the Contractor's or its subcontractor's performance of this Contract is confidential and proprietary information belonging to the City.

3.09.C Except as specifically provided in this Contract, the Contractor or its subcontractors shall not divulge data to any third party without prior written consent of the City. The Contractor or its subcontractors shall not use the data for any purposes except to perform the services required under this Contract. These prohibitions shall not apply to the following data provided the Contractor or its subcontractors have first given the required notice to the City:

3.09.C.1 Data which was known to the Contractor or its subcontractors prior to its performance under this Contract unless such data was acquired in connection with work performed for the City;

3.09.C.2 Data which was acquired by the Contractor or its subcontractors in its performance under this Contract and which was disclosed to the Contractor or its subcontractors by a third
party, who to the best of the Contractor’s or its subcontractor’s knowledge and belief, had the legal right to make such disclosure and the Contractor or its subcontractors are not otherwise required to hold such data in confidence; or

3.09.C.3 Data which is required to be disclosed by virtue of law, regulation, or court order, to which the Contractor or its subcontractors are subject.

3.09.D In the event the Contractor or its subcontractors are required or requested to disclose data to a third party, or any other information to which the Contractor or its subcontractors became privy as a result of any other contract with the City, the Contractor shall first notify the City as set forth in this section of the request or demand for the data. The Contractor or its subcontractors shall give the City sufficient facts so that the City can be given an opportunity to first give its consent or take such action that the City may deem appropriate to protect such data or other information from disclosure.

3.09.E The Contractor, unless prohibited by law, within ten calendar days after completion of services for a third party on real or personal property owned or leased by the City, the Contractor or its subcontractors shall promptly deliver, as set forth in this section, a copy of all data to the City. All data shall continue to be subject to the confidentiality agreements of this Contract.

3.10 Personal Identifying Information - Data Security

3.10.A Personal identifying information, financial account information, or restricted City information, whether electronic format or hard copy, must be secured and protected at all times. At a minimum, Contractor must encrypt and/or password protect electronic files. This includes data saved to laptop computers, computerized devices or removable storage devices.

3.10.B When personal identifying information, financial account information, or restricted City information, regardless of its format, is no longer necessary, the information must be redacted or destroyed through appropriate and secure methods that ensure the information cannot be viewed, accessed, or reconstructed.

3.10.C In the event that data collected or obtained by Contractor or its subcontractors in connection with this Contract is believed to have been compromised, Contractor or its subcontractors shall immediately notify the Project Manager and City Engineer. Contractor agrees to reimburse the City for any costs incurred by the City to investigate potential breaches of this data and, where applicable, the cost of notifying individuals who may be impacted by the breach.

3.10.D Contractor agrees that the requirements of these Paragraphs 3.09 and 3.10 shall be incorporated into all subcontracts entered into by Contractor. It is further agreed that a violation of this Section shall be deemed to cause irreparable harm that justifies injunctive relief in court. A violation of this Section may result in immediate termination of this Contract without notice.

3.10.E Contractor shall indemnify, defend, save and hold harmless the City and its officers, officials, agents, and employees from and against any and all claims, actions, liabilities, damages, losses, or expenses (including court costs, attorneys’ fees, and cost of claims processing, investigation and litigation) for any loss caused, or alleged to be caused, in whole or in part, by Contractor or any of its owners’, officers’, directors’, agents’ or employees’ failure to comply with the requirements of this Section. This indemnity includes any claim arising out of the failure of Contractor to conform to any federal, state or local law, statute, ordinance, rule, regulation or court decree.

3.10.F The obligations of Contractor or its subcontractors under these Paragraphs 3.09 and 3.10 shall survive the termination of this Contract.

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

4.01 Availability of Lands

4.01.A The Contract Documents indicate the lands upon which the Work is to be performed and those rights - of - way and access easements furnished by Owner. Easements for permanent structures or for permanent changes in existing facilities will be obtained by Owner, unless otherwise stated.

4.01.B Contractor shall obtain, at no increase in Contract Price or Contract Time, any additional lands, rights - of - way and easements that Contractor, in its sole discretion, requires for temporary facilities, ingress and egress, storage, disposal of spoil or waste material or any other purpose. Contractor shall obtain all required permits from the U.S. Government, the State and any Political Subdivision or public utility with jurisdiction, and permission by written agreement if private property. Contractor shall submit copies of all permits and written agreements to Owner.

4.02 Subsurface and Physical Conditions

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

4.02.A.1 those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and

4.02.A.2 those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

4.02.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 Design Professional, or any of their Related Entities with respect to:

4.02.B.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;

4.02.B.2 other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

4.02.B.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

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

4.03.A.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

4.03.A.2 is of such a nature as to require a change in the Contract Documents; or

4.03.A.3 differs materially from that shown or indicated in the Contract Documents; or

4.03.A.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 Design Professional 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.

4.03.B Design Professional’s Review: After receipt of written notice as required by Paragraph 4.03.A, Design Professional 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 Design Professional’s findings and conclusions.

4.03.C Possible Price and Times Adjustments

4.03.C.1 In accordance with Articles 11 and 12 of the General Conditions, an adjustment in the Contract Price or in the Contract Times, or both,
will be allowed 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:

4.03.C.1.a such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

4.03.C.1.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.

4.03.C.2 Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

4.03.C.2.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

4.03.C.2.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

4.03.C.2.c Contractor failed to give the written notice as required by Paragraph 4.03.A.

4.03.C.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 nor Design Professional, nor and any of their Related Entities 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 other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 Archaeological Deposits:

4.04.A Pursuant to Arizona Revised Statutes (ARS) Section 41 - 844 as amended, if Contractor discovers archaeological sites or objects, Contractor shall promptly report them to the Director of the Arizona State Museum and Owner. Contractor shall conform with ARS Section 41 - 844 in all respects. Contractor may be allowed an adjustment of Contract Time(s) pursuant to Article 12. If Owner, with the advice of Design Professional, concludes that the Contract Documents require changes due to archaeological features, Owner shall, pursuant to Article 10 of the General Conditions, order any changes in the Work and corresponding adjustments in Contract Price required solely because of the archaeological features encountered.

4.05 Underground Facilities

4.05.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 Design Professional by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

4.05.A.1 Owner and Design Professional shall not be responsible for the accuracy or completeness of any such information or data provided by others; and

4.05.A.2 the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

4.05.A.2.a reviewing and checking all such information and data;

4.05.A.2.b locating all Underground Facilities shown or indicated in the Contract Documents;

4.05.A.2.c coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and

4.05.A.2.d the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

4.05.B Not Shown or Indicated:

4.05.B.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 Owner and Design Professional. Design Professional 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.

4.05.B.2 If Design Professional 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 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.

4.06 Compliance with A.R.S. 40-360.21

4.06.A Owner shall comply in all respects with A.R.S. 40 - 360.21 et seq. as amended.

4.07 Reference Points

4.07.A Owner shall provide engineering surveys to establish reference points for construction which in Design Professional’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 Design Professional 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.

4.08 Hazardous Environmental Condition at Site

4.08.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.

4.08.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 Design Professional, or any of their Related Entities with respect to:

4.08.B.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

4.08.B.2 other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

4.08.B.3 any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions or information.

4.08.C Contractor, Subcontractors, Manufacturers and Suppliers shall use, store, process, transfer, transport, dispose of and otherwise handle Hazardous Substances in accordance with applicable Rules and Regulations.

4.08.D Except as otherwise provided in the Technical Specifications, if Contractor encounters Hazardous Substances on-site (including, but not limited to Asbestos, polychlorinated biphenyls (PCBs), Petroleum products, radioactive products or materials used in the normal course of construction as paint thinners, solvents, gasoline, oil, etc.) which were neither shown in nor inferable from Contract Documents (or otherwise identified as part of the Work) and which may present substantial danger, Contractor shall immediately (a) stop all affected Work, (b) give verbal and written notice to Owner of the conditions, and (c) take appropriate health and safety precautions. Upon receipt of the notice, Owner will investigate the conditions. If the material is a Hazardous Substance which may present substantial danger,
Owner shall stop the affected Work in writing. Except as otherwise provided in Paragraph 4.08.F, Owner shall arrange for removal or other appropriate handling of the Hazardous Substance by negotiating a change in the Work with Contractor, by separate contract with other contractors, or as Owner may otherwise deem expedient; in the alternative, Owner may terminate the Agreement or affected Work with Contractor for Owner’s convenience.

4.08.E Once the Hazardous Substance has been removed or rendered harmless in accordance with Paragraph 4.08.D, the affected Work may be resumed as directed by Owner. Pursuant to A.R.S. Section 32.1129.03, and subject to Contractor’s compliance with that Section and Paragraph 12.03.A, Contractor may be entitled to damages and time for delay attributable to the discovery of Hazardous Substances which interrupt the Work.

4.08.F Requirements for the Contractor’s management of Hazardous Substances (materials) brought onto the construction site by Contractor are addressed in the General Requirements. If contamination occurs on-site due to (a) Contractor’s violation(s) of Rules, Regulations or Contract Documents covering the use, storage, processing, transfer, transport, disposal or otherwise handling of any Hazardous Substances, or (b) any other cause within the control attributable to the fault or negligence of the Contractor, such as the spillage of chemicals, Contractor shall be responsible for all costs and time required to clean up the Site and render harmless the Hazardous Substances to the satisfaction of Owner, the State and any political subdivision with jurisdiction. Immediately upon contamination of the Site, Contractor shall notify Owner’s representative or designee. If Contractor fails to proceed with due diligence or act appropriately, Owner, in its sole discretion, shall have the right to act, and if it does so, Contractor shall defend, indemnify and hold Owner harmless from and against all claims, as provided in Paragraph 6.20.A arising out of or in any way resulting from Owner’s action under this provision. If the Owner is cited and fined by any political subdivision with jurisdiction for the herein described actions of the Contractor, Contractor shall immediately reimburse Owner for the cost of such fines.

4.09 Materials Containing Asbestos

4.09.A Materials containing asbestos and/or lead in any form are unacceptable to incorporate into the Project unless formally accepted in writing by the Owner. This written approval shall take place prior to the material being incorporated into the project and/or brought to the site.

4.09.B Repair kits or touch-up materials, materials that include asbestos and/or lead introduced into the product at the factory or applied at the assembly plant are all unacceptable. Any and all field-applied products that are comprised of asbestos and/or lead containing materials are also unacceptable.

4.09.C If asbestos and/or lead are installed without written approval by Owner, Contractor will remove these materials at his expense and dispose of these materials in accordance with all State and Federal laws and pay for the supervision and reporting costs in addition to the cost to properly remove them.

ARTICLE 5 – BONDS AND INSURANCE

5.01 Performance and Payment Bonds: 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 Contractor’s obligations under the Contract Documents. The Payment Bond shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws and Regulations or by the Contract Documents. The Performance Bond shall remain in effect as long as Contractor is liable for (a) defective Work appearing after final inspection, (b) failure to comply with the Contract Documents or the terms or any special guaranties specified therein, or (c) Contractor’s continuing obligations under the Contract Documents. Failure to comply with these provisions will be cause for rejection of the bidder’s proposal.

5.01.A Bonds shall be executed by surety company or companies holding a Certificate of Authority to transact surety business in the State of Arizona, issued by the Director of the Department of Insurance. A copy of the Certificate of Authority shall accompany the bonds. The certificate shall be made payable and acceptable to the City of Phoenix. The bonds shall be written or countersigned by an authorized representative of the surety who is either a resident of the state of Arizona or whose principal office is maintained in this state, as by law required, and the bonds shall have attached thereto a certified copy of Power of
5.01.B All bonds submitted for this project shall be provided by a company which has been rated “A- or better for the prior four quarters” by the A.M. Best Company.

5.02 If the surety on any Bond furnished by Contractor is declared a bankrupt or becomes insolvent or its right to do business is terminated in the State of Arizona or it ceases to meet the requirements of paragraph 5.01, Contractor shall within ten days thereafter substitute another Bond and surety, both of which must be acceptable to Owner.

5.03  Insurance Requirements

5.03.A Contractor and Subcontractors must procure insurance against claims that may arise from or relate to performance of the work hereunder by Contractor and its agents, representatives, employees and subconsultants. Contractor and subcontractors must maintain that insurance until all of their obligations have been discharged, including any warranty periods under this Contract.

5.03.B The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract.

5.04 The Owner in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of the Work under this Contract by the Contractor, his agents, representatives, employees or Subcontractors. Contractor is free to purchase such additional insurance as may be determined necessary.

5.05  Minimum Scope and Limits of Insurance

5.05.A Contractor must provide coverage with limits of liability not less than those stated below. An excess liability policy or umbrella liability policy may be used to meet the minimum liability requirements provided that the coverage is written on a “following form” basis.

5.05.A.1 Commercial General Liability - Occurrence Form: Policy must include bodily injury, property damage, broad form contractual liability and XCU coverage

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Aggregate</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Products - Completed Operations Aggregate</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Personal &amp; Advertising Injury</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Each Occurrence</td>
<td>$1,000,000</td>
</tr>
</tbody>
</table>

5.05.A.1.a The policy must be endorsed to include the following additional insured language: “The City of Phoenix is named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor, including completed operations”.

5.05.A.2 Automobile Liability: Bodily injury and property damage for any owned, hired, and non-owned vehicles used in the performance of this Contract

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Single Limit (CSL)</td>
<td>$1,000,000</td>
</tr>
</tbody>
</table>

5.05.A.2.a The policy must be endorsed to include the following additional insured language: “The City of Phoenix shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor, including automobiles owned, leased, hired or borrowed by the Contractor”.

5.05.A.3 Workers’ Compensation and Employers’ Liability

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers’ Compensation</td>
<td>Statutory</td>
</tr>
<tr>
<td>Employers’ Liability</td>
<td></td>
</tr>
<tr>
<td>- Each Accident</td>
<td>$100,000</td>
</tr>
<tr>
<td>- Disease – Each Employee</td>
<td>$100,000</td>
</tr>
<tr>
<td>- Disease – Policy Limit</td>
<td>$500,000</td>
</tr>
</tbody>
</table>

5.05.A.3.a Off Duty Police Office Requirements

5.05.A.3.b It is required that the City provide off-duty police officers for construction projects as defined in the most recent edition of the City of Phoenix Traffic Barricade Manual. The Engineer must competitively procure Off Duty Police with vendors who are Authorized Traffic Coordinators with the City of Phoenix Police Department Off Duty Coordinator. The following requirements must be included in the procurement:

5.05.A.3.c Hourly fees charged

5.05.A.3.d Administrative fees (administrative fees to be charged as a part of the hourly rate, not billed separately)

5.05.A.3.e Pay applications requesting reimbursement for Off Duty Police hours worked will be accompanied with itemized documentation indicating officer name, date worked, hours worked, time of day worked and location.
5.05.A.3.f For audit purposes, contractor’s files will contain documentation from the successful off duty vendor that the above items are accounted for in the vendor’s price proposal.

5.05.A.3.g Insurance Requirements:

5.05.A.3.h Commercial General Liability – Occurrence Form

5.05.A.3.i Policy must include bodily injury, property damage and broad form contractual liability coverage.

5.05.A.3.j General Aggregate $2,000,000/$5,000,000

5.05.A.3.k Products – Completed Operations Aggregate $1,000,000/$5,000,000

5.05.A.3.l Personal and Advertising Injury $1,000,000/$5,000,000

5.05.A.3.m Each Occurrence $1,000,000/$5,000,000

5.05.A.3.n The policy must be endorsed to include the City of Phoenix as an additional insured with respect to liability arising out of the activities performed by, or on behalf of, the contract worker.

5.05.A.3.o Non-owned Auto Liability $1,000,000/$5,000,000

5.05.A.3.p Coverage must be provided if a City of Phoenix Police vehicle is being used in the performance of the off-duty traffic control services.

5.05.A.3.q The policy must be endorsed to include the City of Phoenix as an additional insured with respect to liability arising out of the use and operation of a City vehicle.

5.05.A.3.r Worker’s Compensation and Employers’ Liability

5.05.A.3.s Workers’ Compensation Statutory

5.05.A.3.t Employers’ Liability

5.05.A.3.u Each Accident $100,000

5.05.A.3.v Disease – Each Employee $100,000

5.05.A.3.w Disease – Policy Limit $500,000

5.05.A.3.x

5.05.A.3.y Policy must contain a waiver of subrogation against the City of Phoenix.

5.05.A.3.z

5.05.A.3.aa The policy must contain a waiver of subrogation against the City of Phoenix.

5.05.A.3.bb This requirement does not apply when a contractor or subcontractor is exempt under A.R.S. 23-902(E), and when such contractor or subcontractor executes the appropriate sole proprietor waiver form.

5.05.A.3.cc Contractor is responsible for the payment of all policy deductibles.

5.05.A.4 (IF APPLICABLE) Builders’ Risk Insurance or Installation Floater: In an amount equal to the initial Contract Amount plus additional coverage equal to Contract amount for all subsequent Change Orders.

5.05.A.4.a The City of Phoenix, Contractor, and Subcontractors, must be named Insureds on the policy.

5.05.A.4.b Coverage must be written on an all risk, replacement cost basis and must include coverage for flood and earth movement.

5.05.A.4.c Policy must be maintained until whichever of the following must first occur: (1) final payment has been made; or, (2) until no person or entity, other than the Owner, has an insurable interest in the property required to be covered.

5.05.A.4.d Policy must be endorsed such that the insurance must not be cancelled or lapse because of any partial use or occupancy by the Owner.

5.05.A.4.e Policy must provide coverage from the time any covered property becomes the responsibility of the Contractor, and continue without interruption during construction, renovation, or installation, including any time during which the covered property is being transported to the construction installation site, or awaiting installation, whether on or off site.

5.05.A.4.f Policy must contain a waiver of subrogation against the Owner.

5.05.A.4.g Contractor is responsible for the payment of all policy deductibles.

5.05.B Additional Insurance Requirements: The policies must include, or be endorsed to include, the following provisions:

5.05.B.1 On insurance policies where the Owner is named as an additional insured, the Owner is an additional insured to the full limits of liability purchased by the Contractor even if those limits of liability are in excess of those required by this Contract.
5.05.B.2 The Contractor’s insurance coverage must be primary insurance and non-contributory with respect to all other available sources.

5.05.B.3 With regard to general liability, the Owner is named as an additional insured for both products completed operations and premises operations.

5.05.C Notice of Cancellation

5.05.C.1 For each insurance policy required by the insurance provisions of this Contract, the Contractor must provide to the City, within 2 business days of receipt, a notice if a policy is suspended, voided or cancelled for any reason. Such notice must be sent directly to the Owner’s Project Manager listed in the Supplementary Conditions.

5.05.D Acceptability of Insurers

5.05.D.1 Insurance is to be placed with insurers duly licensed or authorized to do business in the State of Arizona and with an “A.M. Best” rating of not less than B+ VI. The Owner in no way warrants that the above required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

5.05.E Verification of Coverage

5.05.E.1 Contractor must furnish the Owner with certificates of insurance (ACORD form or equivalent approved by the Owner) as required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf.

5.05.E.2 All certificates and any required endorsements are to be received and approved by the Owner before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the Project. Failure to maintain the insurance policies as required by this Contract or to provide evidence of renewal is a material breach of the Contract.

5.05.E.3 All certificates required by this Contract must be sent directly to Design and Construction Procurement, 200 W. Washington Street, 6th Floor, Phoenix, AZ 85003. The Project Number and Project title must be noted on the certificate of insurance. The Owner reserves the right to require complete, certified copies of all insurance policies required by this Contract, at any time. DO NOT SEND CERTIFICATES OF INSURANCE TO THE OWNER’S RISK MANAGEMENT DIVISION.

5.05.F Subcontractors

5.05.F.1 Contractor’s certificate(s) must include all Subcontractors as additional insureds under its policies or Subcontractors shall maintain separate insurance as determined by the Contractor, however, Subcontractor’s limits of liability must not be less than $1,000,000 per occurrence / $2,000,000 aggregate.

5.05.G Approval

5.05.G.1 Any modification or variation from the insurance requirements in this Contract must be made by the Law Department, whose decision is final. Such action will not require a formal Contract amendment, but may be made by administrative action.

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

6.01 Supervision and Superintendence

6.01.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 Design Professional 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.

6.01.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 Design Professional except under extraordinary circumstances.

6.01.C All communications given to or received from the contractor’s representative, designated pursuant to Paragraph 2.05.B, shall be binding on Contractor.

6.02 Labor; Working Hours

6.02.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.

6.02.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 Design Professional.

6.02.B.1 Regular working hours, unless specifically disallowed by Laws or Regulations, shall be between 6:00 a.m. and 7:00 p.m. from May 1st through September 30th and between 7:00 a.m. and 7:00 p.m. from October 1st through April 30th, not exceeding forty-five (45) hours per week. Contractor shall reimburse Owner for all additional costs resulting from Work performed outside regular working hours, which shall include (a) premium time charges of Design Professional and Owner, and (b) added costs assessed against or incurred by Owner which Contractor could reasonably foresee.

6.02.C The combined premium time charges of Design Professional and Owner shall be as defined in the Supplementary Conditions.

6.03 Services, Materials, and Equipment

6.03.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.

6.03.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 Design Professional, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

6.03.C All materials and equipment shall be stored, applied, 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

6.04.A Contractor shall adhere to the Progress Schedule developed and maintained by Contractor in accordance with the General Requirements.

6.04.B 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 or Written Amendment.

6.05 Substitutes and “Or-Equals”

6.05.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. If the specification or description contains or is followed by the words “or-equal”, other items of material or equipment or other Suppliers may be accepted by the Design Professional under circumstances stated in Paragraph 6.05.A.1 below. Requests for acceptance of “or-equal” items will be received by the Design Professional after Notice to Proceed has been issued.

6.05.A.1 “Or Equal” Items: If in Design Professional’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 Design Professional as an “or equal” item, in which case review and approval of the proposed item may, in Design Professional’s sole discretion, be accomplished without compliance with some or all of the requirements for acceptance 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:

6.05.A.1.a in the exercise of reasonable judgment Design Professional determines that:
6.05.A.1.a.1 It is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

6.05.A.1.a.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

6.05.A.1.a.3 It has a proven record of performance and availability of responsive service.

6.05.A.1.b Contractor certifies that, if approved and incorporated into the Work:

6.05.A.1.b.1 There will be no increase in cost to the Owner or increase in Contract Times; and

6.05.A.1.b.2 It will conform substantially to the detailed requirements of the item named in the Contract Documents.

6.05.B If the specification, description, list of acceptable equipment and/or Suppliers is not followed by the words “or-equal”, other equivalent equipment or Suppliers proposed by the Contractor will be reviewed as a “pre-approved equal” by the Design Professional only prior to the Bid date. The Instructions to Bidders describes the time schedule, procedure, and other requirements for application for “pre-approved equal” acceptance. Proposed “pre-approved equal” and “or-equal” items must be determined by the Design Professional to be equivalent as prescribed in Paragraph 6.05.A.1.

6.05.C If the Contractor proposes to use equipment, Supplier(s) or materials not equivalent to what is specified, Contractor must make an application to the Design Professional for approval of a substitute in accordance with Paragraph 6.05.C.3. Requests by the Contractor to use substitute items must be submitted to the Design Professional after the Notice to Proceed has been issued. Generally, a substitute will not be approved without a cost credit to the Owner. A substitute will be approved only through a Change Order.

6.05.C.1 Substitute Items: If in Design Professional’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.

6.05.C.2 Contractor shall submit sufficient information as provided below to allow Design Professional 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 Design Professional from anyone other than Contractor.

6.05.C.3 Contractor shall make written application to Design Professional for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

6.05.C.3.a shall certify that the proposed substitute item will:

6.05.C.3.a.1 perform adequately the functions and achieve the results called for by the general design,

6.05.C.3.a.2 be similar in substance to that specified, and

6.05.C.3.a.3 be suited to the same use as that specified;

6.05.C.3.b will state:

6.05.C.3.b.1 the extent, if any, to which the use of the proposed substitute item will prejudice Contractor’s achievement of Substantial Completion on time;

6.05.C.3.b.2 whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

6.05.C.3.b.3 whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

6.05.C.3.c will identify:

6.05.C.3.c.1 all variations of the proposed substitute item from that specified, and

6.05.C.3.c.2 available engineering, sales, maintenance, repair, and replacement services; and

6.05.C.3.d 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.
6.05.D 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 Design Professional. Contractor shall submit sufficient information to allow Design Professional, in Design Professional’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 Design Professional will be similar to those provided in Paragraph 6.05.C.3.

6.05.E Design Professional’s Evaluation: Design Professional will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.C. Design Professional may require Contractor to furnish additional data about the proposed substitute item. Design Professional will be the sole judge of acceptability. No “or equal” or substitute will be ordered, installed or utilized until Design Professional’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.” Design Professional will advise Contractor in writing of any negative determination.

6.05.E.1 The Design Professional will not accept any substitute item unless it yields a net savings to Owner and does not extend Contract Time(s), and seventy-five percent (75%) of the savings in Contract Price and reduction in Contract Time(s) are credited to Owner. The remaining twenty five percent (25%) of the net savings in Contract Price and/or reduction in Contract Time will be credited to Contractor. If, in Design Professional’s judgment, acceptance of a substitute item will result in increased future costs to Owner for operation, maintenance, or replacement, the portion of the net savings in Contract Price which is to be credited to Contractor will be reduced by an amount equal to twenty five percent (25%) of the estimated present worth of such increased future costs to Owner.

6.05.F Special Guarantee: Owner may require Contractor to furnish at Contractor’s expense a special performance guarantee or other surety with respect to any substitute.

6.05.G Design Professional’s Cost Reimbursement: Design Professional will record Design Professional’s costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A and 6.05.C. Whether or not Design Professional approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Design Professional for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the charges of Design Professional 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.

6.05.H 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

6.06.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.

6.06.B The identity of certain Subcontractors, Manufacturers, Suppliers, individuals or entities (including those who are to furnish the principal items of materials or equipment) are required to be submitted as specified in the Bid Documents for acceptance by Owner, and if Bidder has submitted a list thereof in accordance with Section 00330 (List of Major Subcontractors and Suppliers), Section 00331 (List of All Subcontractors and Suppliers) and Section 00340 (List of Major Subcontractors and Suppliers), Owner’s acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bid Documents or the Contract Documents) of any Subcontractor, Manufacturer, Supplier, individual or entity so identified may be revoked on the basis of reasonable objection after due investigation, in which case 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 Design Professional to reject work.

6.06.C Contractor shall be fully responsible to Owner 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:

6.06.C.1 shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Design Professional and any such Subcontractor, Supplier or other individual or entity, nor

6.06.C.2 shall create any obligation on the part of Owner or Design Professional 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.

6.06.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.

6.06.E Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Design Professional through Contractor.

6.06.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.

6.06.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 Design Professional. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in Article 5, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Design Professional, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (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 Payments to Subcontractors and Suppliers

6.07.A Contractor Payment to Subcontractor or Supplier. Contractor shall pay its Subcontractors or Suppliers within seven (7) calendar days of receipt of each progress payment from the Owner. The Contractor shall pay for the amount of work performed or materials supplied by each Subcontractor or Supplier as accepted and approved by the Owner with each progress payment. In addition, any reduction of retention by the Owner to the Contractor shall result in a corresponding reduction to Subcontractors or Suppliers who have performed satisfactory work. Contractor shall pay Subcontractors or Suppliers the reduced retention within fourteen (14) calendar days of the payment of the reduction of the retention to the Contractor. No Contract between Contractor and its Subcontractors and Suppliers may materially alter the rights of any Subcontractor or Supplier to receive prompt payment and retention reduction as provided herein.

6.07.B Prompt Payment: If the Contractor fails to make payments in accordance with these provisions, the Owner may take any one or more of the following actions and Contractor agrees that the Owner may take such actions:

6.07.B.1 to hold the Contractor in default under this Agreement;

6.07.B.2 withhold future payments including retention until proper payment has been made to Subcontractors or Suppliers in accordance with these provisions;

6.07.B.3 reject all future Bids from the Contractor for a period not to exceed one year
from Substantial Completion date of this Project; or
6.07.B.4 terminate Agreement.
6.07.C Alternative Dispute Resolution Between Contractor and Subcontractor or Supplier.
6.07.C.1 If Contractor’s payment to a Subcontractor or Supplier is in dispute, Contractor and Subcontractor or Supplier agree to submit the dispute to any of one of the following dispute resolution processes within fourteen (14) calendar days from the date of any party gives notice to the others:
6.07.C.1.a binding arbitration;
6.07.C.1.b a form of alternative dispute resolution (ADR) agreeable to all parties or
6.07.C.1.c a City of Phoenix facilitated mediation.
6.07.C.2 When disputed claim is resolved through ADR or otherwise, the Contractor and Subcontractor or Supplier agrees to implement the resolution within seven (7) calendar days from the resolution date.
6.07.D Inspection and Audit. Contractor, its subcontractors and suppliers shall comply with A.R.S. 35-214 and the Owner shall have all rights and remedies to inspect and audit the records and files of Contractor, subcontractor or supplier, as afforded the State of Arizona, in accordance with the provisions of A.R.S. Section 35-214.
6.07.D.1 Records of the Contractor’s direct personnel payroll, bond expenses, and reimbursable expenses pertaining to this Project and records of accounts between the City and the Contractor must be kept on the basis of generally accepted accounting principles and must be made available to the City and its auditors for up to five years following Final Acceptance of the Project.
6.07.D.2 The City, its authorized representative, and/or any federal agency, reserves the right to audit the Contractor’s records to verify the accuracy and appropriateness of all cost and pricing data, including data used to negotiate the Contract Documents and any Change Orders.
6.07.D.3 The City reserves the right to decrease the Contract Price and/or payments made on this Agreement and/or request reimbursement from the Contractor following final contract payment on this Agreement if, upon audit of the Contractor’s records, the audit discloses the Contractor has provided false, misleading, or inaccurate cost and pricing data.
6.07.D.4 The Contractor shall include a similar provision in all of its contracts with Subcontractors and Suppliers providing services or supplying materials under the Contract Documents to ensure that the City, its authorized representative, and/or the appropriate federal agency has access to the Subcontractors and Suppliers records to verify the accuracy of all cost and pricing data.
6.07.D.5 The City reserves the right to decrease the Contract Price and/or payments made on this Agreement and/or request reimbursement from the Contractor following final contract payment on this Agreement if the above provision is not included in Subcontractors and Suppliers contracts, and one or more Subcontractors or Suppliers refuse to allow the City to audit their records to verify the accuracy and appropriateness of cost and pricing data.
6.07.D.6 If, following an audit of this Agreement, the audit discloses the Contractor has provided false, misleading, or inaccurate cost and pricing data, and the cost discrepancies exceed 1% of the total Agreement billings, the Contractor shall be liable for reimbursement of the reasonable, actual cost of the audit.
6.07.E Non-Waiver. Should the Owner fail or delay in exercising or enforcing any right, power, privilege, or remedy under this Section, such failure or delay shall not be deemed a waiver, release, or modification of the requirements of this Section or of any of the terms or provisions thereof.
6.07.F Inclusion of Provisions in Subcontracts. Contractor shall include these prompt payment provisions in every subcontract, including procurement of materials and leases of equipment for the Agreement.
6.07.G No Third Party Benefits or Rights. Nothing contained in the Agreement is intended to benefit or confer any rights on any person or entity not a party to the Agreement, and no such person or entity, including but not limited to other Contractors, Subcontractors or Suppliers, may assert any claim, cause of action, or remedy against the Owner hereunder.
6.08 Patent Fees and Royalties
6.08.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 Design Professional its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

6.08.B To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Design Professional, 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 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.

6.09 Permits

6.09.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.

6.10 Laws and Regulations

6.10.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 Design Professional shall be responsible for monitoring Contractor’s compliance with any Laws or Regulations.

6.10.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 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.

6.10.C Contractor shall (a) comply with all Laws and Regulations governing the use of explosives, (b) obtain and pay for any required permits before their use, and (c) furnish a copy of the permits to Design Professional before using explosives. Contractor shall, under the supervision of competent and suitably trained and qualified personnel, exercise the utmost care not to endanger life or damage property in the transportation, storage, handling, use and disposal of explosives. Contractor shall be responsible for and shall defend, indemnify and hold harmless Owner and Design Professional against all claims for injury, damage and other adverse impacts inside and outside the permit area resulting from the use of explosives, including but not limited to all costs, delay and delay costs.

6.10.D 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.

6.10.E Fair Treatment of Workers

6.10.E.1 The Contractor shall keep fully informed of all Federal and State laws, County and City ordinances, regulations, codes and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any way affect the conduct of the work. He shall at all times observe and comply with all such laws, ordinances, regulations, codes, orders and decrees; this includes, but is not limited to Laws
and Regulations ensuring fair and equal treatment for all employees and against unfair employment practices, including OSHA and Fair Labor Standards Act (FSLA). The Contractor shall protect and indemnify the Contracting Agency and its representatives against any claim or liability arising from or based on the violation of such, whether by himself or his employees.

6.10.F No Israel Boycott

6.10.F.1 By entering into this contract, the Engineer/Contractor certifies that they are not currently engaged in, and agrees for the duration of the Contract to not engage in, a boycott of Israel.

6.11 Use of Site and Other Areas

6.11.A Limitation on Use of Site and Other Areas

6.11.A.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 as directed in the General Requirements. 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.

6.11.A.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 other dispute resolution proceeding or at law.

6.11.A.3 To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Design Professional, 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 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, Design Professional, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

6.11.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.

6.11.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.

6.11.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.

6.12 Record Documents


6.13 Safety and Protection

6.13.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:

6.13.A.1 all persons on the Site or who may be affected by the Work;

6.13.A.2 all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

6.13.A.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.

6.13.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.

6.13.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.

6.13.D Contractor shall inform Owner and Design Professional of the specific requirements of Contractor’s safety program with which Owner’s and Design Professional’s employees and representatives must comply while at the site.

6.13.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 Design Professional, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

6.13.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 Design Professional has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.D that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 Safety Representative

6.14.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.

6.14.B The safety representative will also be qualified to manage the hazardous materials management requirements described in the General Requirements.

6.15 Hazard Communication Programs

6.15.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. This also applies to the hazardous materials management requirements described in the General Requirements.

6.15.B Contractor shall contact the Owner’s Environmental Health and Safety (EHS) Specialist at the Site where Work is to be performed to obtain information regarding the EHS policies and participate in any required training. Contractor shall comply with all EHS policies in effect during the performance of its Work.

6.16 Emergencies

6.16.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 Design Professional 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 Design Professional 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

6.17.A Unless otherwise indicated in the General Requirements, Contractor shall submit Shop Drawings and Samples to Design Professional, for review and approval. Procedures for submittal, review, approval and resubmittal of Shop Drawings, Samples and other submittals are detailed in the General Requirements.

6.17.B Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Design Professional's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
6.17.B.1 Technical submittal(s) consisting of drawings and specifications involving architecture, professional engineering, land surveying or landscape architecture, as defined in A.R.S. Title 32, shall be prepared by or under the direct supervision of a registrant within the specific category involved.

6.17.B.2 Submittal(s) are not Contract Documents. Technical submittal(s) are intended to demonstrate how Contractor intends to conform with the design concept of the Project and the information given in the Contract Documents.

6.17.C Design Professional’s Review

6.17.C.1 Design Professional’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 and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

6.18 Continuing the Work

6.18.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

6.19.A Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Design Professional and its Related Entities shall be entitled to rely on representation of Contractor’s warranty and guarantee.

6.19.B Contractor’s warranty and guarantee hereunder excludes defects or damage caused by:

6.19.B.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

6.19.B.2 normal wear and tear under normal usage.

6.19.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:

6.19.C.1 observations by Design Professional;

6.19.C.2 recommendation by Design Professional or payment by Owner of any progress or final payment;

6.19.C.3 the issuance of a certificate of Substantial Completion by Design Professional or any payment related thereto by Owner;

6.19.C.4 use or occupancy of the Work or any part thereof by Owner;

6.19.C.5 any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Design Professional;

6.19.C.6 any inspection, test, or approval by others; or

6.19.C.7 any correction of defective Work by Owner.

6.19.C.8 expiration of the correction period pursuant to Paragraph 13.07.

6.20 Indemnification

6.20.A Contractor agrees to indemnify, defend, save and hold harmless the City of Phoenix and its officers, agents and employees (and any jurisdiction or agency issuing permits for any work included in the project, and its officers, agents and employees), (“Indemnitee”) from all claims, actions, liabilities, damages, losses or expenses, (including court costs, attorney’s fees and costs of claim processing, investigation and litigation) (“Claims”) caused or alleged to be caused, in whole or in part, by the wrongful, negligent or willful acts, or errors or omissions of Contractor or any of its owners, officers, directors, agents, employees, or subcontractors in connection with this Contract. This indemnity includes any Claim or amount arising out of or recovered under workers’ compensation law or on account of the failure of Contractor to conform to any federal, state or local law, statute, ordinance, rule, regulation, or court decree. Contractor must indemnify Indemnitee from and against any and all Claims, except those
arising solely from Indemnitee’s own negligent or willful acts or omissions. Contractor is responsible for primary loss investigation, defense and judgment costs where this indemnification applies. In consideration of the City’s award of this Contract, Contractor agrees to waive all rights of subrogation against Indemnitee for losses arising from or related to this Contract. The obligations of Contractor under this provision survive the termination or expiration of this Contract.

6.20.B Delegation of Professional Design Services

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

6.20.D 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 Design Professional 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 Design Professional.

6.21 Quality Control

6.21.A Contractor shall establish a quality control program:

6.21.A.1 to insure sufficient supervision, examination, inspection and testing of all items of Work at appropriate intervals, including those of Subcontractors and Suppliers; and

6.21.A.2 to control conformance to the applicable Specifications and Drawings with respect to identified products, workmanship, construction, maintenance while idle, finish and functional performance. At minimum Contractor’s quality control program shall include checking, approval and coordination of submittal and oversight of all specified tests; and it shall specifically assign to responsible Contractor personnel the obligation to verify and inspect when complete all items of Work which cannot be later located or inspected without uncovering Work. Contractor shall accurately annotate data on the thus obtained record documents.

ARTICLE 7 - OTHER WORK AT THE SITE

7.01 Related Work at Site

7.01.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:

7.01.A.1 written notice thereof will be given to Contractor prior to starting any such other work; and

7.01.A.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.

7.01.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 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 Design Professional 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.

7.01.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 Design Professional 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

7.02.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:

7.02.A.1 the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

7.02.A.2 the specific matters to be covered by such authority and responsibility will be itemized; and

7.02.A.3 the extent of such authority and responsibilities will be provided.

7.02.B Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 Legal Relationships

7.03.A Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

7.03.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 actions or inactions.

7.04 Mutual Duties and Responsibilities

7.04.A If Contractor causes damage to the Work or property of others, Contractor shall promptly attempt to settle with that party or otherwise resolve the claim. Contractor shall defend, indemnify and hold harmless Owner and Design Professional from and against all claims, as provided in Paragraph 6.20.A, arising out of or resulting from damage by Contractor to the Work or property of others or from Contractor's performance of the Work.

7.04.B If another party causes damage to the Work or property of Contractor, Contractor shall promptly attempt to settle with that party or otherwise resolve the claim. Contractor shall not begin any action against Owner or Design Professional, their consultants, agents or any of their directors, officers, shareholders, agents or employees, or permit any action against them to be maintained in Contractor's name or for Contractor's benefit in any court or tribunal, which action seeks to impose liability or recover damages from Owner or Design Professional for such claim.

7.04.C If Contractor becomes involved in settling or otherwise resolving claims with other persons performing work under the circumstances covered in Paragraphs 7.04.A or 7.04.B, or because of any other similar controversy, including damage to the Work or other work or a dispute about responsibility for clean-up or any other issue, neither Owner, Design Professional, nor any of their respective consultants, directors, officers, stockholders, employees or agents will be involved in any way in such actions (unless subpoenaed). If Owner incurs costs contrary to the provisions of this Article, Contractor shall reimburse Owner for those costs.
ARTICLE 8  -  OWNER'S RESPONSIBILITIES

8.01 Communications to Contractor
8.01.A Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Design Professional.

8.02 Replacement of Individual or Entity
8.02.A In case of termination of the employment of Design Professional, Owner shall appoint a design professional to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Design Professional.
8.02.B If Design Professional reasonably objects to any of Contractor's personnel because they are unfit, unskilled, disorderly or counter-productive to the Work, Contractor shall promptly correct the problem and, if required, remove such personnel from the Work. Contractor shall defend, indemnify and hold Owner and Design Professional harmless from and against all claims, losses and expenses (including attorneys' fees and costs of defense and appeal, if any) arising from the enforcement of this clause.

8.03 Furnish Data
8.03.A Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 Pay When Due
8.04.A Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.B and 14.07.E.1.

8.05 Lands and Easements; Reports and Tests
8.05.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 4.07. 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 Change Orders
8.06.A Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.07 Inspections, Tests, and Approvals
8.07.A Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.08 Limitations on Owner's Responsibilities
8.08.A The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
8.08.B Neither (a) Owner's authority to review Contractor's Progress Schedules (as set forth in Article 6), nor (b) Owner's decision to raise or not raise objections about Progress schedule submittal, shall create or impose any duty or responsibility on Owner to exercise any such authority or decision for the benefit of Contractor, any Subcontractor or Supplier or any other person.
8.08.C Neither (a) Owner's authority to review the required certificates and policies of insurance, nor (b) Owner's decision to object or not to object to the certificates or policies, shall create or impose any duty or responsibility on Owner to exercise any such authority or decision for the benefit of Contractor, any Subcontractor or Supplier or any other person.

8.09 Undisclosed Hazardous Environmental Condition
8.09.A Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.08.

8.10 Compliance with Safety Program
8.10.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  -  DESIGN PROFESSIONAL’S STATUS DURING CONSTRUCTION

9.01 Owner’s Representative
9.01.A Design Professional will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Design Professional as Owner's
representative during construction are set forth in the Contract Documents and will not be changed without written consent of Owner.

9.02 Visits to Site

9.02.A Design Professional will make visits to the Site at intervals appropriate to the various stages of construction as Design Professional 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, Design Professional, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Design Professional will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Design Professional’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, Design Professional will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

9.02.B Design Professional’s visits and observations are subject to all the limitations on Design Professional’s authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Design Professional’s visits or observations of Contractor’s Work, Design Professional 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.

9.03 Project Representative

9.03.A If Owner and Design Professional agree, Design Professional will furnish a Resident Project Representative to assist Design Professional in providing more extensive observation of the Work. If Owner designates another representative or agent to represent Owner at the Site who is not Design Professional’s consultant, agent or employee, they will be identified, and 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

9.04.A Design Professional 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

9.05.A Design Professional will have authority to reject Work which Design Professional believes to be defective, or that Design Professional 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. Design Professional 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

9.06.A In connection with Design Professional’s authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

9.06.B In connection with Design Professional’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.

9.06.C In connection with Design Professional’s authority as to Change Orders, see Articles 10, 11, and 12.

9.06.D In connection with Design Professional’s authority as to Applications for Payment, see Article 14.

9.07 Determinations for Unit Price Work
9.07.A Design Professional will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Design Professional will review with Contractor the Design Professional's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Design Professional's written decision thereon will be final and binding (except as modified by Design Professional 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

9.08.A Design Professional will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Design Professional will issue such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as Design Professional may determine necessary, which shall be consistent with the intent of and reasonably inferable from Contract Documents. 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 Design Professional in writing within 30 days of the event giving rise to the question.

9.08.B Design Professional 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 Design Professional's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

9.08.C Design Professional's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08.D When functioning as interpreter and judge under this Paragraph 9.08, Design Professional 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 Design Professional's Authority and Responsibilities

9.09.A Neither Design Professional's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Design Professional 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 Design Professional shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Design Professional to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

9.09.B Design Professional 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. Design Professional will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.09.C Design Professional 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.

9.09.D Design Professional'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.C 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.

9.09.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

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

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 Authorized Changes in the Work

10.01.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, a Written Amendment, 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).

10.01.A.1 Contractor may propose modifications to the Work for the purpose of reducing the total cost of construction. Such a proposal shall be identified as an Alternatives Evaluation Proposal, and shall be submitted in accordance with Article 6.7 of these General Conditions, “Substitutes and Or-Equal Items.”

10.01.A.2 Owner may in its sole discretion accept or reject an Alternatives Evaluation Proposal. The Contract Price is not to be based on the anticipated approval of an Alternatives Evaluation Proposal.

10.01.A.3 If Owner determines that an Alternatives Evaluation Proposal is to be accepted, Contractor will be credited with 25% of the net savings in Contract Price, less certain costs as further defined in Article 6.7 of these General Conditions.

10.01.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.

10.01.C No proposal or Claim by Contractor based on changes in the Work, differing site conditions, quantity variations or any other matter shall be allowed if made after final payment.

10.02 Unauthorized Changes in the Work

10.02.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.B.

10.03 Execution of Change Orders

10.03.A Owner and Contractor shall execute appropriate Change Orders recommended by Design Professional covering:

10.03.A.1 changes in the Work which are:

10.03.A.1.a ordered by Owner pursuant to Paragraph 10.01.A,

10.03.A.1.b required because of acceptance of defective Work under Paragraph 13.08.A or Owner’s correction of defective Work under Paragraph 13.09, or

10.03.A.1.c agreed to by the parties;

10.03.A.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

10.03.A.3 changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Design Professional 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.

10.03.B A Change Order duly signed by Owner and Contractor, without Contractor’s reservation of the right to Claim additional adjustments in Contract Price or Contract Time, constitutes an all-inclusive settlement for all related changes and for all related direct, indirect, supplemental, consequential and cumulative costs and delays; Contractor’s signature also constitutes a release and waiver of any and all rights to file a Claim based on the changes covered by the Change Order.

10.03.C A Change Order duly signed by Owner and Contractor, with Contractor’s reservation of the right to Claim additional adjustments, shall
10.04 Notification to Surety

10.04.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

10.05.A Design Professional’s Decision Required: All Claims, except those waived pursuant to Paragraph 14.08, shall be referred to the Design Professional for decision. A decision by Design Professional 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.

10.05.B Notice: Written notice stating the general nature of each Claim, shall be delivered by the claimant to Design Professional 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 Design Professional and the other party to the Contract within 60 days after the start of such event (unless Design Professional 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 Design Professional and the claimant within 30 days after receipt of the claimant’s last submittal (unless Design Professional allows additional time).

10.05.C Design Professional’s Action: Design Professional 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:

10.05.C.1 deny the Claim in whole or in part;
10.05.C.2 approve the Claim; or
10.05.C.3 notify the parties that the Design Professional is unable to resolve the Claim if, in the Design Professional’s sole discretion, it would be inappropriate for the Design Professional to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

10.05.D In the event that Design Professional does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

10.05.E Design Professional’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.

10.05.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.

10.06 Owner’s Right to Audit

10.06.A Owner, reserves the right to decrease adjustments made in any Change Order if, upon audit of Contractor’s records, the audit discloses Contractor provided false or inaccurate cost and pricing data in negotiating the Change Order. In enforcing this provision, the parties shall follow the procedures provided in Paragraph 10.07.

10.07 Audit Procedure

10.07.A Unless exempted from this clause by meeting one of the following conditions:

10.07.A.1 the pricing is based on adequate competition;
10.07.A.2 prices are set by law;
10.07.A.3 a commercial item is being acquired;
10.07.A.4 a waiver has been granted;
10.07.B A change in the approved cost for a change order may be required due to inaccuracies
in the pricing where the value of the change order, including profit, exceeds $550,000 and the change increased the contract value by a significant amount. A reduction in the contract amount shall be issued if one of the following conditions applies:

10.07.B.1 the furnished pricing was incomplete, inaccurate or not current,

10.07.B.2 a subcontractor furnished pricing that was incomplete, inaccurate or not current,

10.07.B.3 any party furnished any data that is not accurate.

10.07.B.4 the contractor did not submit a Certificate of Current Cost or Pricing Data.

10.07.C Any resulting reduction due to data from a subcontractor who was not awarded the work will be in the amount only by which the actual cost was less than the prospective subcontractor.

10.07.D If a reduction is required, the contractor may not raise the following as a defense:

10.07.D.1 the contractor or subcontractor was a sole source supplier or otherwise in a superior bargaining position and thus would not have modified the contract even if accurate pricing had been submitted.

10.07.D.2 the Owner should have known the pricing was inaccurate

10.07.D.3 the contract was based on a total cost and no agreement was made regarding the cost of individual items.

10.07.E The reduction may be offset if

10.07.E.1 the contractor certifies that it is entitled to the offset, and

10.07.E.2 the contractor can prove that the price was available before the date of the change but was not submitted by that date

10.07.F An offset will not be allowed if:

10.07.F.1 the contractor knew the data was incorrect

10.07.F.2 the owner demonstrates that the price would not have increased by the amount to be offset even if data were available.

10.07.G.1 simple interest on the amount of the repayment computed from the date of the overpayment to the date of repayment at a rate of the current federal short term rate plus 3%, and

10.07.G.2 A penalty equal to the amount of the overpayment, if the contractor knowingly submitted incorrect data.

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

11.01 Cost of the Work

11.01.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:

11.01.A.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.

11.01.A.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.

11.01.A.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 Design Professional, 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.

11.01.A.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.

11.01.A.5 Supplemental costs including the following:

11.01.A.5.a The proportion of necessary transportation, travel, and subsistence expenses of Contractor’s employees incurred in discharge of duties connected with the Work.

11.01.A.5.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.

11.01.A.5.c Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements, competitive in the local Phoenix metropolitan area, approved by Owner with the advice of Design Professional, 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.

11.01.A.5.d Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

11.01.A.5.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.

11.01.A.5.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 Article 5), 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 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.

11.01.A.5.g The cost of utilities, fuel, and sanitary facilities at the Site.

11.01.A.5.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.

11.01.A.5.i The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

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

11.01.B.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, expediters, 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.

11.01.B.2 Expenses of Contractor’s principal and branch offices other than Contractor’s office at the Site.

11.01.B.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.

11.01.B.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.

11.01.B.5 Acceleration costs to overcome suspension of Work or other delays which warrant extensions in Contract Time but exclude increases in Contract Price; escalation costs for any part of the Work not delayed beyond the late dates in the Progress Schedule; or delay costs not expressly allowed in this Article.

11.01.B.6 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.

11.01.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 Paragraph 12.01.C unless otherwise 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.

11.02 Allowances

11.02.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 Design Professional.

11.02.B Cash Allowances

11.02.B.1 Contractor agrees that the allowances include all costs to the Contractor of materials, equipment, taxes, unloading, handling on the Site, labor, installation costs, overhead, profit, and other expenses required to furnish and install the Work described by the allowances.

11.02.C Contingency Allowance

11.02.C.1 Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

11.02.D Prior to final payment, an appropriate Change Order will be issued as recommended by Design Professional 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

11.03.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.

11.03.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 Design Professional subject to the provisions of Paragraph 9.07.

11.03.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.

11.03.D Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

11.03.D.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

11.03.D.2 there is no corresponding adjustment with respect to any other item of Work; and
11.03.D.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

12.01.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 Design Professional and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

12.01.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:

12.01.B.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

12.01.B.2 where the Work is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum, itemized and supported by substantiating data, (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2);

12.01.B.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).

12.01.C Contractor’s Fee: The Contractor’s fee for overhead and profit shall be determined as follows:

12.01.C.1 a mutually acceptable fixed fee; or

12.01.C.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:

12.01.C.2.a for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor’s fee shall be 15 percent;

12.01.C.2.b for costs incurred under Paragraph 11.01.A.3, the Contractor’s fee shall be five percent;

12.01.C.2.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;

12.01.C.2.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;

12.01.C.2.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 plus a deduction in Contractor’s fee by an amount equal to five percent of such net decrease; and

12.01.C.2.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.

12.01.D Contractor will establish and maintain records related to the cost of any change in accordance with generally accepted accounting practices and submit in a form acceptable to Design Professional an itemized cost breakdown together with supporting data.

12.02 Change of Contract Times

12.02.A The Contract Times may only be changed by a Change Order or Written Amendment. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Design Professional and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

12.02.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

12.03.A Notwithstanding anything to the contrary in the Contract Documents, Contractor assumes all risks of delays, disruptions and hindrances, and Contractor shall not make any Claim for adjustment in Contract Price or for damages (or any other kind of compensation) for any delays, disruptions or hindrances from any cause whatsoever, including acts and omissions of Owner or Design Professional, except as provided in Paragraphs 12.03.A.1 and 12.03.A.2

12.03.A.1 Owner and Contractor shall negotiate for the recovery of damages related to expenses incurred by Contractor for delay if, but only if, (a) Owner is responsible for the delay; and (b) the delay is unreasonable under the circumstances; and (c) the delay was not within the contemplation of Owner and Contractor; and (d) Contractor gives Owner notice and submits a Claim in the manner and within the times specified in Article 10. Contractor shall make every effort to avoid the consequences and mitigate damages from any delay.

12.03.A.2 No delay resulting from the negotiations or resolution of changes in the Work, differing site conditions or variation in quantities shall be unreasonable under the circumstances unless the delay exceeds two days plus the time required by Contractor to deliver a related proposal. Such delays are contemplated by Contractor and Owner.

12.03.B 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. An extension in Contract Time will not be justified unless Contractor demonstrates delay in completing all or a specified part of the Work arising from unforeseeable causes beyond the control and without the fault or negligence of Contractor, and the delay is unreasonable under the circumstances. Examples of events which may justify an extension of Contract Time, subject to the requirements of the Contract Documents, include: acts of God, the public enemy, or acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7; acts of the U.S. Government, the State or another Political Subdivision; fires, floods, epidemics, quarantine restrictions; strikes, freight embargoes abnormal weather, including storms, tornados, etc. (abnormal in the sense of expectation, frequency or severity compared with the prior 5 year average); unusually severe shortages of construction materials, considering all feasible sources of supply; newly discovered Underground Utilities; objection, for Owner's convenience, to a nominated Subcontractor; an emergency; incidents with archaeological features suspension of Work; changes in the Work, differing site conditions or variation in quantities of Unit Price Work. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

12.03.C If Contractor is prevented from completing any part of the Work within the Contract Times (or Milestones) for unforeseeable causes beyond the control of both Owner and Contractor, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be Contractor's sole and exclusive remedy for the delay. In no event shall Owner be liable to Contractor, any Subcontractor, any Manufacturer, any Supplier, any person, any firm, any corporation, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from (a) delays caused by or within the control of Contractor, or (b) delays beyond the control of both parties as specified in Paragraph 12.03.B.

12.03.D No delay in completing the Work, or any specified part of the Work, for which the Owner is responsible, shall be unreasonable under the circumstances or justify an increase in Contract Time or Contract Price, unless, and then only to the extent that, the delay extends completion of the Work, or specified part of the Work, beyond the corresponding Contract Time. Notwithstanding the first sentence of this Paragraph 12.03.D, if the Progress Schedule depicts Total Float whether expressly disclosed or implied by the use of float suppression techniques, the Total Float is owned jointly by Contractor and Owner.

12.03.E Owner, Design Professional and the Related Entities of each of them 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 other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

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

13.01 Notice of Defects

13.01.A Prompt notice of all defective Work of which Owner or Design Professional 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

13.02.A Owner, Design Professional, 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

13.03.A Contractor shall give Design Professional 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.

13.03.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:

13.03.B.1 for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below; or

13.03.B.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

13.03.B.3 as otherwise specifically provided in the Contract Documents.

13.03.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 Design Professional the required certificates of inspection or approval.

13.03.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 Design Professional’s acceptance of materials or equipment to be incorporated in the Work; or acceptance of 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 Design Professional.

13.03.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 Design Professional, Contractor shall, if requested by Design Professional uncover such Work for observation.

13.03.F Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor’s expense unless Contractor has given Design Professional timely notice of Contractor’s intention to cover the same and Design Professional has not acted with reasonable promptness in response to such notice.

13.04 Uncovering Work

13.04.A If any Work is covered contrary to the written request of Design Professional, it must, if requested by Design Professional, be uncovered for Design Professional’s observation and replaced at Contractor’s expense.

13.04.B If Design Professional considers it necessary or advisable that covered Work be observed by Design Professional or inspected or tested by others, Contractor, at Design Professional’s request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Design Professional may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

13.04.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 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.

13.04 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 Work

13.05 A If Work is defective, or Contractor fails to provide sufficient, skilled workers or suitable materials or equipment, or otherwise fails to perform Work in compliance with the Contract Documents, Owner may order Contractor to stop all or part of the Work until any problem is corrected. Contractor shall (a) remain responsible for recovering schedule, (b) not be entitled to any increase in Contract Time or Contract Price, and reimburse Owner for all direct, indirect or consequential costs incurred by Owner resulting from any such stop Work order. Owner's authority to stop all or part of the Work shall not create or impose any duty or responsibility on Owner to exercise any such authority for the benefit of Contractor or any other person.

13.06 Correction or Removal of Defective Work

13.06 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 Design Professional, 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 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).

13.06 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

13.07 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:

13.07 A.1 repair such defective land or areas; or
13.07 A.2 correct such defective Work; or
13.07 A.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
13.07 A.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.

13.07 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 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.

13.07 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 or by Written Amendment.

13.07.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.

13.07.E The specified warranties and guarantees and Contractor's obligations for correction of Work specified in this Article are in addition to, and not in limitation of, any other specific remedies provided in the Contract Documents or by Law. Nothing contained in this Paragraph or this Article shall be construed as establishing a period of limitations for, or limiting the obligations of, Contractor under the Contract Documents.

13.08 Acceptance of Defective Work

13.08.A If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Design Professional's recommendation of final payment, Design Professional) 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 other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Design Professional as to reasonableness) and the for diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Design Professional'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

13.09.A If Contractor fails within a reasonable time after written notice from Design Professional to correct defective Work or to remove and replace rejected Work as required by Design Professional 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.

13.09.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 Design Professional and Design Professional's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

13.09.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 other 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.

13.09.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.
14.01 Schedule of Values

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

14.01.B Whenever the Bid Schedule on the Bid Form lists an item of Work entitled “Mobilization Pay Item”, such mobilization pay item shall be intended to cover, in part at least

14.01.B.1 reasonable costs of establishing those temporary offices specified in the Technical Specifications;

14.01.B.2 reasonable cost of transporting to the site and the unloading and assembly of construction equipment that arrives on site promptly after the Date of Commencement of the Contract Time;

14.01.B.3 fees for permits required to commence the Work;

14.01.B.4 premiums for Performance Bond, Payment Bond and any other performance Bonds required by the Contract Documents;

14.01.B.5 premiums for policies of insurance purchased by the Contractor to comply with the requirements of the Contract Documents;

14.01.B.6 and reasonable costs of demobilization including vacating and clearing the site.

14.01.C Except when seeking progress payment under the mobilization pay item for payroll or other similar costs, the basis of measurement for payment shall be proof of actual payment. Payment shall be based on the requirements of the Contract Documents governing progress payments, subject to the following:

14.01.C.1 Up to forty percent (40%) of the payment earned under this item may be requested for payment with the Application for Payment following receipt by the Owner of a sufficiently responsive initial Progress Schedule (meaning sufficiently responsive based on the requirements of the Contract Documents and the Technical Specifications).

14.01.C.2 Up to eighty percent (80%) of the payment earned under this item may be requested for payment with the Application for Payment following return to the Contractor of the revision of the initial Progress Schedule Submittal marked “Resubmittal Not Required”.

14.01.C.3 The balance of the payment earned under the “Mobilization Pay Item” may be requested for payment with the final Application for Payment. Such payment is intended to cover demobilization costs.

14.02 Progress Payments

14.02.A Applications for Payments

14.02.A.1 At least 21 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Design Professional 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.

14.02.A.2 with each Application for Payment, Contractor shall submit written consent of the Surety for payment of the amount requested in the Application for Payment.

14.02.A.3 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.

14.02.A.4 SBE Goal Compliance

14.02.A.4.a In addition, with each Application for Payment, Contractor shall submit (in a format acceptable to the Owner) the required information demonstrating its compliance with the SBE goals for this Agreement.

14.02.A.5 Stored Materials and Equipment

14.02.A.5.a 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
14.02.A.6 Retainage

14.02.A.6.a The amount of retainage with respect to progress payments will be as stipulated below:

14.02.A.6.b Until the aggregate value of the duly certified and approved Applications for Payment equals fifty percent (50%) of the Contract Price (i.e. 50% completion), Owner will make payments in an amount equal to 90% of Work completed (i.e. Owner will retain 10% of each estimate as additional guarantee for complete performance of the Work), less the aggregate of payments previously made and less such deductions as Design Professional or Owner determines are appropriate to cover claims requiring a greater sum to be retained (as provided in Paragraph 14.02.C and elsewhere in the Contract Documents);

14.02.A.6.c Upon fifty percent (50%) completion, one-half of the amounts retained under the 10% retainage provision shall be paid to Contractor, provided Contractor is making satisfactory progress on the Work and there is no specific cause or claim requiring a greater amount to be retained. After fifty percent (50%) completion, Owner will retain five percent (5%) providing Contractor is making satisfactory progress, coupled with such deductions as Design Professional or Owner determines are appropriate to cover claims requiring a greater sum to be retained.

14.02.A.6.d Prior to reduction in or partial release of retainage, Contractor shall submit AIA Document G707A (Consent of Surety to Reduction in or Partial Release of Retainage) certifying the Surety agrees that such reduction in or partial release of retainage shall not relieve the Surety of any of its obligations under the Performance and Payment Bonds.

14.02.A.6.e If at any time Owner, with the advice of Design Professional, determines satisfactory progress is not being made, ten percent (10%) retainage shall be reinstated for all subsequent payments, in accordance with ARS, Title 34 Chapter 2.

14.02.A.6.f Except as qualified in Paragraph 14.04.A.6.C, upon final completion and acceptance of the Work on which separate final completion and acceptance and Contract Price are specified and upon compliance with all other terms and conditions of the Contract Documents, payment may be made in full, including retainage withheld, less such deductions as Design Professional may recommend or Owner may withhold to cover claims requiring a greater sum to be retained and liquidated damages.

14.02.A.6.g In lieu of retention, the Contractor may in accordance with ARS, Title 34, Chapter 2 provide as a substitute, an assignment of time certificates of deposit (CDs) from a bank licensed by Arizona, securities guaranteed by the United States, securities of the United States, the State of Arizona, Arizona counties, Arizona municipalities, Arizona school districts, or shares of savings and loan institutions authorized to transact business in Arizona.

14.02.A.6.h CDs assigned to the Owner must be maintained at the Owner's single servicing bank, in the form of time deposit receipt accounts. CDs shall be assigned exclusively for the benefit of the City of Phoenix pursuant to the Owner's form of escrow Agreement. Escrow Agreement forms may be obtained from the Finance Department.

14.02.A.6.i Where the Owner has accepted substitute securities as provided in Paragraph 14.02.A.6.g, any Subcontractor undertaking to perform any part of the Work is entitled to provide substitute securities to the Contractor on terms and conditions similar to those described in this Article, and this security is in lieu of any retention under the subcontract.

14.02.B Review of Applications

14.02.B.1 Design Professional will, within seven (7) days after receipt of each Application for Payment, either certify, approve and present the Application to Owner, or return the Application to Contractor indicating in writing Design Professional's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application. Fourteen (14) days after presentation of the Application for Payment to Owner, the amount recommended will, subject to the provisions of Paragraph 14.02.B.6 of the General Conditions, become due and when due will be paid by Owner to Contractor.

14.02.B.2 All payments will be available to the Contractor at the Finance Department, Accounts Division, Customer Service-Accounts Payable Section, on the fourteenth (14th) day, unless Contractor arranges with the Finance Department to mail payments. Mailed payments
shall be deemed paid on the date deposited in the mail as established by the U.S. Postal Service postmark. If payment is not made when due, simple interest, as provided in ARS Title 34 Chapter 2 as amended, shall be paid by Owner to Contractor (excluding any Fee to Contractor)

14.02.B.3 Design Professional's recommendation of any payment requested in an Application for Payment will constitute a representation by Design Professional to Owner, based on Design Professional's observations on the Site of the executed Work as an experienced and qualified design professional and on Design Professional's review of the Application for Payment and the accompanying data and schedules, that to the best of Design Professional's knowledge, information and belief:

14.02.B.3.a the Work has progressed to the point indicated;

14.02.B.3.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, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to any other qualifications stated in the recommendation); and

14.02.B.3.c the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Design Professional's responsibility to observe the Work.

14.02.B.3.d the Record Drawings have been redlined by the Contractor to the same limit as the finished Work claimed on the Application for Payment.

14.02.B.4 By recommending any such payment Design Professional will not thereby be deemed to have represented that:

14.02.B.4.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 Design Professional in the Contract Documents; or

14.02.B.4.b that 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.

14.02.B.5 Neither Design Professional's review of Contractor's Work for the purposes of recommending payments nor Design Professional's recommendation of any payment, including final payment, will impose responsibility on Design Professional:

14.02.B.5.a to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

14.02.B.5.b to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

14.02.B.6 Design Professional may refuse to recommend the whole or any part of any payment if, in Design Professional's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.1. Design Professional 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 Design Professional's opinion to protect Owner from loss because:

14.02.B.6.a the Work is defective, or completed Work has been damaged, requiring correction or replacement;

14.02.B.6.b the Contract Price has been reduced by Written Amendment or Change Order.

14.02.B.6.c Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or

14.02.B.6.d Design Professional has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

14.02.B.6.e the Record Drawings have not been redlined by the Contractor to the same limit as the finished Work claimed on the Application for Payment.

14.02.C Reduction in Payment

14.02.C.1 Owner may refuse to make payment of the full amount recommended by Design Professional because:

14.02.C.1.a claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
14.02.C.1.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;
14.02.C.1.c there are other items entitling Owner to a set off against the amount recommended; or
14.02.C.1.d Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.6.a through 14.02.B.6.c or Paragraph 15.02.A.
14.02.C.1.e Either the Contractor has failed to submit the SBE Utilization Report with any Application for Payment or has failed to meet the SBE utilization goals as established in the Agreement (Section 00500, Article 11).
14.02.C.1.f Owner may deduct from each progress payment and final payment an amount equal to Owner's estimate of the liquidated damages then due or that would become due based on Owner's estimate of late completion of the Work, provided Contractor fails to submit and implement a recovery schedule as detailed in the General Requirements.
14.02.C.2 If Owner refuses to make payment of the full amount recommended by Design Professional, Owner will give Contractor immediate written notice (with a copy to Design Professional) 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 corrects to Owner's satisfaction the reasons for such action.
14.02.C.3 If it is subsequently determined 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.

14.03 Contractor's Warranty of Title

14.03.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

14.04.A When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Design Professional in writing that the entire Work is substantially complete, in accordance with the General Requirements, (except for items specifically listed by Contractor as incomplete) and request that Design Professional issue a certificate of Substantial Completion.
14.04.B Within a reasonable time thereafter, Owner, Contractor and Design Professional shall make an inspection of the Work to determine the status of completion. If Design Professional does not consider the Work substantially complete, Design Professional will notify Contractor in writing giving the reasons therefor.
14.04.C If Design Professional considers the Work substantially complete, Design Professional 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 (typically referred to as a "punch list") to be completed or corrected before final payment. The punch list will be prepared and issued by the Design Professional. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Design Professional as to any provisions of the certificate or attached punch list. If, after considering such objections, Design Professional concludes that the Work is not substantially complete, Design Professional 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, Design Professional considers the Work substantially complete, Design Professional 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 Design Professional believes justified after consideration of any objections from Owner. The Contractor shall have seven days after receipt of the tentative certificate to prepare and submit to the Design Professional a punch list schedule showing orderly completion of punch list items occurring prior to final acceptance date.
14.04.D At the time of delivery of the tentative certificate of Substantial Completion, Design Professional 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 Design Professional in writing prior to Design Professional’s issuing the definitive certificate of Substantial Completion, Design Professional’s aforesaid recommendation will be binding on Owner and Contractor until final payment.

14.04.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 complete or correct items on the tentative list.

14.04.F The Owner and Design Professional have thirty (30) days from the date of substantial completion to add incorrect or incomplete items to the punch list. The Contractor is required to complete all of these items prior to final acceptance. After the expiration of the thirty (30) day period, the Owner may continue to add items to the punch list, but the Contractor must only endeavor to complete them by the final acceptance date. Any such items added after the 30-day period that is not completed prior to final acceptance must be completed during the warranty period.

14.05 Partial Utilization

14.05.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, Design Professional, 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.

14.05.A.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 will certify to Owner and Design Professional that such part of the Work is substantially complete and request Design Professional to issue a certificate of Substantial Completion for that part of the Work.

14.05.A.2 Contractor at any time may notify Owner and Design Professional in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Design Professional to issue a certificate of Substantial Completion for that part of the Work.

14.05.A.3 Within a reasonable time after either such request, Owner, Contractor, and Design Professional shall make an inspection of that part of the Work to determine its status of completion. If Design Professional does not consider that part of the Work to be substantially complete, Design Professional will notify Owner and Contractor in writing giving the reasons therefor. If Design Professional 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.

14.05.A.4 No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Article 5 regarding property insurance.

14.06 Final Inspection

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

14.07.A Upon written notice from Contractor that Contractor considers the entire Work, or a specified part of the Work for which final acceptance is specified in the Contract Documents, complete and ready for final payment, Design Professional will make a corresponding final inspection with Owner and Contractor, and will notify Contractor in writing of all instances of incomplete or defective Work revealed by the final inspection. Contractor shall immediately
undertake all necessary measures to correct the deficiencies.

14.07.B Contractor may apply for final payment and acceptance

14.07.B.1 after completing correction of the deficiencies to satisfaction of Design Professional and delivering all maintenance and operation instructions, warranties and guarantees, certificates of inspection, revised record documents (reflecting revisions made after Substantial Completion), required Bonds and all other required documents, and

14.07.B.2 after Design Professional has consented to review the Work for final acceptance.

14.07.C The final Application for Payment and acceptance shall enclose

14.07.C.1 evidence of insurance (including, but not limited to completed operations insurance) and an affidavit certifying that the insurance coverage will not be canceled, adversely changed or renewal refused except as provided under Article 5,

14.07.C.2 AIA Document G707 (Consent of Surety to Final Payment) certifying the Surety agrees that final payment shall not relive the Surety of any of its obligations under the Performance and Payments Bonds,

14.07.C.3 a "Contractor's Affidavit Regarding Settlement of Claims" (available from Owner) and complete and legally effective releases or waivers acceptable to Owner in the full amount of the Contract Price, or if any Subcontractor or Supplier refuses or fails to furnish such release or waiver, a Bond or other security acceptable to Owner to indemnify Owner against any payment claim, and

14.07.C.4 a list of all pending property damage and personal injury or death insurance claims arising out of or resulting from the Work, identifying the claimant and the nature of the claim.

14.07.D If based on Design Professional's observation of the Work, final inspection, and review of the final Application for Payment and acceptance,

14.07.D.1 Design Professional is satisfied that the Work, or a part of the Work for which separate final acceptance is specified in the Contract Documents, has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Design Professional will, within thirty (30) days after receipt of the final Application, furnish to Owner and Contractor the Design Professional's recommendation of final payment and acceptance.

14.07.D.2 If Design Professional is not satisfied, Design Professional will return that final Application for Payment to Contractor, indicating in writing the reasons for not recommending final payment and acceptance, in which case Contractor shall make the necessary corrections and resubmit the Application.

14.07.E Owner's Acceptance of Application:

14.07.E.1 If Owner concurs with Design Professional's recommendation of final payment and acceptance, Owner will, within fifteen (15) days, file a written notice of completion and acceptance of the Work, or separable part of the Work for which final acceptance is specified, and notify Contractor and Design Professional of Owner's acceptance. Within sixty (60) days of receipt of Design Professional's recommendation of final payment, Owner shall pay to Contractor the balance of the Contract Price, subject to any withholdings and those other provisions governing final payment specified in the Agreement.

14.07.E.2 If Owner does not concur with Design Professional's determination, Owner will return the Application to Contractor, through Design Professional, indicating in writing the reasons for refusing final payment and acceptance. Contractor shall promptly make the necessary corrections and resubmit the Application to Design Professional. Owner's written determination shall bind Contractor, unless Contractor delivers to Owner, through Design Professional, written notice of a Claim as provided in Paragraph 10.05, after receipt of that determination.

14.07.E.3 If recommended by Design Professional, Owner may, upon receipt of Contractor's final Application for Payment and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted, if final completion of the Work is significantly delayed through no fault of Contractor. If the balance to be held by Owner for Work not fully completed or corrected is less than the retainage on that Work, the affidavits specified in Paragraph 14.07.C and the release or waiver, or Bonds, shall be furnished as required and submitted by Contractor. Payment of the balance
due shall be made under the provisions for final payment, but shall not constitute a waiver of Claims.

14.07.F Owner shall pay with reasonable promptness any amounts deducted from the final payment, upon resolution of the Claims for which the amounts were withheld.

14.08 Waiver of Claims

14.08.A Final payment does not constitute a waiver by Owner of any rights relating to Contractor’s continuing obligations under the Contract Documents, nor does it constitute a waiver of any Claims by Owner against Contractor arising from unaudited payments, defective Work appearing after final inspection or failure by Contractor to comply with the Contract Documents or the terms of any special warranties or guarantees provided by the Contract Documents or by Laws or Regulations.

14.08.B Final payment constitutes a waiver of all Claims by Contractor against Owner other than those Claims previously filed in writing with Owner on a timely basis and still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 Owner May Suspend Work

15.01.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 Design Professional which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed.

15.01.B Contractor shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes an approved Claim therefor as provided in Paragraph 10.05, except that Contractor shall not be entitled to recover profit for suspensions of Work. No adjustment in Contract Price will be made for delays in Work which would have been deferred, stopped, slowed, suspended, interrupted or extended due to any other cause.

15.02 Owner May Terminate for Cause

15.02.A The occurrence of any one or more of the following events will justify termination for cause:

15.02.A.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);

15.02.A.2 Contractor’s disregard of Laws or Regulations of any public body having jurisdiction;

15.02.A.3 Contractor’s disregard of the authority of Design Professional;

15.02.A.4 Contractor’s violation in any substantial way of any provisions of the Contract Documents;

15.02.A.5 if the Contractor fails to meet the SBE utilization goals as set forth in the Agreement (Section 00500, Article 11).

15.02.B Unless superceded by the termination procedures of the performance bond obtained in accordance with Article 5, 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:

15.02.B.1 exclude Contractor from the Site, and take possession of the Work,

15.02.B.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

15.02.B.3 complete the Work as Owner may deem expedient.

15.02.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 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 Design Professional as to their reasonableness and, when so approved by Design Professional, 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.
15.02 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.

15.02 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.

**15.03 Owner May Terminate For Convenience**

15.03 A Upon seven days written notice to Contractor and Design Professional, 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):

15.03 A.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;

15.03 A.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;

15.03 A.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 other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

15.03 A.4 reasonable expenses directly attributable to termination.

15.03 A.5 If it is determined, after notice of termination of the services of Contractor for any of the causes listed in Paragraph 15.02 of the General Conditions that Contractor was not in default, the termination shall be deemed to have been for the convenience of Owner. In such event Contractor may recover payment in accordance with Paragraph 15.03 of the General Conditions.

15.03 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**

15.04 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) Design Professional 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 Design Professional, and provided Owner or Design Professional 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.

15.04 B In lieu of terminating the Contract and without prejudice to any other right or remedy, if Design Professional 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 Design Professional, 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.

**ARTICLE 16 - DISPUTE RESOLUTION**

16.01 Methods and Procedures

16.01 A Either Owner or Contractor may request mediation of any Claim submitted to Design Professional 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.
16.01.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.

16.01.C If the Claim is not resolved by mediation, Design Professional'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:

16.01.C.1 elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions, or

16.01.C.2 agrees with the other party to submit the Claim to another dispute resolution process, or

16.01.C.3 gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

16.02 Certification of Contractor Claims

16.02.A For all Contractor claims alleging an increase in Contract Price or Contract Time, Contractor shall submit an affidavit executed by an officer or partner in charge at Contractor's plant or location involved, or by a responsible senior officer or general or managing partner of Contractor, certifying that the claim is made in good faith; the amount claimed accurately reflects the adjustments in Contract Price or Contract Time for which Contractor believes Owner is liable; the claim covers all costs and delays to which Contractor is entitled from the Occurrence of the claimed event; and that supporting cost and pricing data are current, accurate, complete and represent Contractor's best knowledge and belief.

16.03 Venue: Service of Process

16.03.A Contractor consents and submits to jurisdiction and venue of, and will not commence any proceeding elsewhere than, the Superior Court of Arizona in and for Maricopa County only, regardless of residence or domicile, for any action at law or suit in equity arising out of or relating to the bidding, award, performance or completion of the Work; payment for Work performed; termination; or any other claim based on the Contract Documents. Contractor consents and submits to service of process at the address specified in the Agreement.

16.03.B Paragraph 16.03.A shall apply to all Subagreements and all agreements between Contractor and Contractor's sureties and insurers, altering that Paragraph only to identify properly the contracting parties.

ARTICLE 17 - MISCELLANEOUS

17.01 Giving Notice

17.01.A Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

17.01.A.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

17.01.A.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

17.02.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.

17.03 Cumulative Remedies

17.03.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

17.04.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

17.05.A This Contract is to be governed by the law of the State of Arizona.

17.06 Headings

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

17.07 Professional Fees and Court Costs Included:

17.07.A Whenever reference is made to "claims, costs, losses and damages," it shall include in each case, but not be limited to, all fees and charges of engineers, architects, attorneys and other professionals and all court or other dispute resolution costs.

---END OF SECTION 00700---
Add the following new paragraph to the General Conditions:

SC-1.01.A.19.a. The Design Professional's Consultant is identified as:

Dibble Engineering

Add the following new paragraphs to the General Conditions identifying the additional insured:

SC-2.01.B.1. Additional insured to be named in the insurance policies to be provided by the Contractor are identified:

SC-2.01.B.1.a. City of Phoenix

Add the following new paragraphs to the General Conditions regarding electronic data:

SC-3.08.A.1. The following electronic data may be relied upon in lieu of hard copies:

SC3.08.A.1.a. None

The following new paragraphs supplement Paragraph 4.02.A.1 in the General Conditions which identify the “reports of subsurface conditions” that the Owner has knowledge of pursuant to Paragraph 4.02.A.1.:

SC-4.02.A.1.a. None

The following new paragraphs supplement Paragraph 4.02.A.2 in the General Conditions which identify the “drawings of physical conditions” that the Owner has knowledge of pursuant to Paragraph 4.02.A.2.:

SC-4.02.A.2.a. None

The following new paragraphs supplement Paragraph 4.02.B. in the General Conditions, which identify the “technical data” that the Contractor may relay on pursuant to Paragraph 4.02.B:

SC-4.02.B.1.a. None

Add the following new Paragraphs following Paragraph 4.05.A.2.d in the General Conditions, which concerns information on Underground Facilities and as so amended Paragraphs 4.05.A thru 4.05.A.2.d, remain in effect.

SC-4.05.A.3. N/A

The following new paragraphs supplement Paragraph 4.08. in the General Conditions, which identify the “Hazardous Environmental Condition” that the Contractor may rely on pursuant to Paragraph 4.08.

SC-4.08.A.1. N/A

Add the following new paragraph following Paragraph 5.05.A.4. of the General Conditions:

SC-5.05.A.5 Contractor shall furnish only those specialty insurance coverages, which are checked below, with limits of liability no less than the amounts stated below:

- Contractors Pollution Liability $ 1,000,000
- Asbestos Abatement Liability $ 1,000,000
- Lead Abatement Liability $ 1,000,000

Amend the last sentence of Paragraph 5.05.C.1 of the General Conditions to read as follows:

“Such notice shall be sent directly to the Water Services Department’s Project Manager at the address indicated below via certified mail, return receipt requested:

City of Phoenix
200 West Washington St, 8th Floor
Phoenix, AZ 85003

00800-1
Amend the last sentence of Paragraph 5.05.E3. of the General Conditions to read as follows:

"All certificates required by this Contract shall be sent directly to the Water Services Department’s Project Manager at the address indicated below:

City of Phoenix
200 West Washington St, 8th Floor
Phoenix, AZ 85003

Amend Paragraph 6.02.C of the General Conditions to read as follows:

SC-6.02.C The combined premium time charges of Design Professional and Owner shall be defined as $150 per hour for each hour exceeding a 10 hour work day or a 50 hour work week.

Add a new paragraph immediately after Paragraph 6.09.A. of the General Conditions, which is to read as follows:

SC-6.09.A.1 Owner has secured or will secure the following permits, approvals and licenses and has paid or will pay any associated charges and fees:

SC-6.09.A.1.a. None
SC-6.09.A.1.b None

Add a new paragraphs immediately after Paragraph 6.13.C. of the General Conditions, which is to read as follows:

SC-6.13.C.1 Following are those Owner’s safety programs or requirements:

SC-6.13.C.1.a. Confined Space Entry

Replace Paragraph 7.02.B with the following:

"Other work being performed at the Site during this Project, consisting of, N/A shall be coordinated for the Owner by N/A"

Add the following paragraph after Paragraph 7.02.B of the General Conditions:

SC-7.02.C. Other contracts currently active or which may be active during the performance of the Work on this Project are identified below:

SC-7.02.C.1. N/A
SC-7.02.C.2. N/A
Add the following new paragraphs immediately after 9.03.A. of the General Conditions:

SC-9.03.A.1. N/A has been designated by the Owner to act as an additional Project representative of the Owner in addition to the Design Professional.

SC-9.03.A.2. Specific duties, in addition to those indicated in the Contract Documents, of the representative indicated in SC-9.03.A.1 are N/A.

--- END OF SECTION 00800---
CITY OF PHOENIX
WATER SERVICES DEPARTMENT

SMALL DIAMETER
SANITARY SEWER REHABILITATION PROJECT
FY 19/20

PROJECT NUMBER WS90500118

VOLUME 2 OF 2

TECHNICAL SPECIFICATIONS
2019

MAYOR
THELDA WILLIAMS

CITY COUNCIL

DISTRICT NO. 1 – THELDA WILLIAMS
DISTRICT NO. 2 – JIM WARING
DISTRICT NO. 3 – DEBRA STARK
DISTRICT NO. 4 – LAURA PASTOR

DISTRICT NO. 5 – BETTY GUARADO
DISTRICT NO. 6 – SAL DICICCIO
DISTRICT NO. 7 – MICHAEL NOWAKOWSKI
DISTRICT NO. 8 – CARLOS GARCIA

CITY MANAGEMENT

CITY MANAGER
CITY ENGINEER
WATER SERVICES DIRECTOR

ED ZUERCHER
EROC J. FROBERG, P.E.
KATHRYN SORENSEN
# Technical Specifications

## Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Subject</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DIVISION 1 – GENERAL REQUIREMENTS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01110-A</td>
<td>Summary of Work (SDSR)</td>
<td>01110-A-4</td>
</tr>
<tr>
<td>01113-A</td>
<td>Work Sequence (SDSR)</td>
<td>01113-A-4</td>
</tr>
<tr>
<td>01140-A</td>
<td>Work Restrictions (SDSR)</td>
<td>01140-A-2</td>
</tr>
<tr>
<td>01142-A</td>
<td>Permits and Easements (SDSR)</td>
<td>01142-A-2</td>
</tr>
<tr>
<td>01144-A</td>
<td>Public Awareness (SDSR)</td>
<td>01144-A-4</td>
</tr>
<tr>
<td>01271-A</td>
<td>Measurement and Payment (SDSR)</td>
<td>01271-A-4</td>
</tr>
<tr>
<td>01320-A</td>
<td>Progress Schedule (SDSR)</td>
<td>01320-A-2</td>
</tr>
<tr>
<td>01323-A</td>
<td>Construction Photographs (SDSR)</td>
<td>01323-A-2</td>
</tr>
<tr>
<td>01330-A</td>
<td>Submittals (SDSR)</td>
<td>01330-A-6</td>
</tr>
<tr>
<td>01331-A</td>
<td>Reference Forms (SDSR)</td>
<td>01331-A-8</td>
</tr>
<tr>
<td>01411-A</td>
<td>Health and Safety (SDSR)</td>
<td>01411-A-6</td>
</tr>
<tr>
<td>01412-A</td>
<td>Stormwater Pollution Prevention Plan and Permit (SDSR)</td>
<td>01412-A-2</td>
</tr>
<tr>
<td>01413-A</td>
<td>Contractor’s Hazardous Materials Management Program (SDSR)</td>
<td>01413-A-4</td>
</tr>
<tr>
<td>01415-A</td>
<td>Confined Space Entry Plan (SDSR)</td>
<td>01415-A-2</td>
</tr>
<tr>
<td>01417-A</td>
<td>Inspection and Testing (SDSR)</td>
<td>01417-A-2</td>
</tr>
<tr>
<td>01420-A</td>
<td>References (SDSR)</td>
<td>01420-A-4</td>
</tr>
<tr>
<td>01510-A</td>
<td>Temporary Construction Facilities (SDSR)</td>
<td>01510-A-2</td>
</tr>
<tr>
<td>01551-A</td>
<td>Maintenance and Protection of Traffic (SDSR)</td>
<td>01551-A-4</td>
</tr>
<tr>
<td>01570-A</td>
<td>Temporary Controls (SDSR)</td>
<td>01570-A-6</td>
</tr>
<tr>
<td>01721-A</td>
<td>Protection of the Work and Property (SDSR)</td>
<td>01721-A-2</td>
</tr>
<tr>
<td><strong>DIVISION 2 – SITE WORK</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02145-A</td>
<td>Diversion of Water or Sewage Flow and Dewatering (SDSR)</td>
<td>02145-A-4</td>
</tr>
<tr>
<td>02146-A</td>
<td>Sewer and Sewer Structure Cleaning (SDSR)</td>
<td>02146-A-4</td>
</tr>
<tr>
<td>02147-A</td>
<td>Remote CCTV Inspection of Existing and Rehabilitated Sewers (SDSR)</td>
<td>02147-A-6</td>
</tr>
<tr>
<td>02148-A</td>
<td>CIPP Lining of Existing Sewers (SDSR)</td>
<td>02148-A-20</td>
</tr>
</tbody>
</table>

**APPENDIX “A”**

List A – Sanitary Sewer Pipes to be Rehabilitated
CITY OF PHOENIX: Water Services Department
PROJECT NAME: Small Diameter Sanitary Sewer Rehabilitation – FY 19/20
PROJECT NUMBER: WS90500118

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SECTION 01110 – A  

SUMMARY OF WORK (SDSR)

PART 1 - GENERAL

1.1 SCOPE

A. The Contractor shall provide all materials, equipment, and labor necessary to rehabilitate sanitary sewer pipe utilizing cured-in-place (CIPP) technologies in pipe diameters 8-inch, 10-inch, 12-inch, and 15-inch.

B. Major work to be performed under this contract includes, but is not limited to the following:

1. Rehabilitate small diameter vitrified clay (VCP) sanitary sewer pipe within the City of Phoenix (Owner) sewer collection system.
   a) Segment List provides a list of potential sewer pipes which may be rehabilitated under this project. Quantities in the Segment List are not intended to match bid schedule quantities.
   b) Contractor shall generally proceed with rehabilitation of sewers in the order that they appear in the Segment List unless otherwise approved by Owner’s Representative.
   c) Owner may identify other sewer pipes for rehabilitation during the course of the project.
   d) Owner reserves the right to instruct Contractor of the order of rehabilitation of other sewer pipes, as well as those in the Segment List.

2. Provide all pumping, piping, power, and noise control including materials and labor as necessary, to divert flows around the rehabilitation work, and dewater the pipe to be rehabilitated.

3. Perform initial cleaning of sewer to remove all grease, scale, roots, debris, and foreign protrusions prior to CIPP lining.

4. Perform closed-circuit television (CCTV) investigation to confirm appropriate cleaning efforts and identify any pipe conditions that would require spot repairs.

5. Spot repair shall be performed to replace severely deteriorated, broken, or misaligned pipe, or pipe containing miscellaneous internal deposits that affect the internal geometry of the pipe that cannot be removed by means of high-pressure hydro-jetting. Provide all excavation, backfill and compaction, pipe and coupling,
and third-party testing, prior to CIPP installation.

6. Perform pre CIPP liner installation and post CIPP liner installation closed-circuit television (CCTV) condition documentation.

7. Install Cured-in-Place-Pipe (CIPP) lining for rehabilitation of sanitary sewer pipes.

8. Reinstate lateral service connections to re-establish sanitary sewer service to adjacent properties as directed by the Owner.

9. Provide all traffic control on streets and alleys during construction as necessary to perform all work including, but not limited to cleaning, pre and post rehabilitation closed-circuit television (CCTV), lining, spot repair and by-passing of sanitary sewer flows for sewer pipe rehabilitation. Traffic control plans and permits shall be submitted to and approved by the City of Phoenix Street Transportation Department prior to beginning of work.

10. Coordinate work activities with public events and special needs i.e. medical and emergency response.

11. Maintain access to private properties including sidewalks and driveways as necessary during the course of the work. Maintain sanitary sewer service to properties as necessary to prevent sewage backups into homes and businesses.

12. Restore the construction sites to pre-existing conditions.

13. Clean-Outs/Stubs: Replace clean-out/stub pipe and fittings to pre-existing geometry and location or relocate as directed by the Owner or Owner’s Representative. The Owner reserves the right to request the supply and installation of a new sanitary sewer manhole per City of Phoenix standards be installed in place of a clean-out/stub.

1.2 UTILITIES

A. The Contractor shall field locate and verify the horizontal and vertical location of all pipe and utilities prior to conducting any excavation work.

B. The Contractor is required to contact Arizona 811 at (602) 659-7500 at least two (2) working days prior to start of any excavation.

C. The Contractor shall locate and document the location of all sanitary sewer service laterals located within the pipe being rehabilitated prior to conducting lining activities.

D. The Contractor shall be responsible for field verifying volume of sanitary sewer flows
in collection pipes and individual service laterals, coordinate and install all necessary tapping connections, piping, and perform by-pass pumping of collection pipes and service lateral flows as necessary to maintain uninterrupted flow.

E. Maps of the City’s sanitary sewer collection system configuration by quarter section are available upon request from the City of Phoenix Water Services Department. It shall be the responsibility of the Contractor to coordinate, obtain and pay all fees associated with obtaining copies of these maps. The Contractor shall not solely rely upon the information contained in the mapping and shall field verify for accuracy.

1.3 FLOW CHARACTERISTICS

A. The project sanitary sewer collection system receives wastewater from residential, commercial, and industrial facilities within the City of Phoenix. The Contractor shall by-pass flows around the work described in the project as necessary to complete the work specified.

B. Flow measurement data is not available for the project area. The Contractor shall be responsible for any/all monitoring of flows as necessary to size the by-pass system to ensure against sanitary sewer overflows (SSO) of upstream sewers.

C. The Contractor shall be responsible for maintaining uninterrupted sanitary sewer services in laterals within the segment being lined and by-pass pump flows if necessary to ensure against detrimental surcharging of laterals and backup of raw sewage into residences and businesses.

** END OF SECTION **
CITY OF PHOENIX: Water Services Department
PROJECT NAME: Small Diameter Sanitary Sewer Rehabilitation – FY 19/20
PROJECT NUMBER: WS90500118

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SECTION 01113 – A

WORK SEQUENCE (SDSR)

PART 1 - GENERAL

1.1 CONTINUITY OF FACILITY OPERATIONS

A. Work under this Contract shall be planned, scheduled and performed so as to minimize disruption to the operation of existing facilities. The Contractor shall provide all equipment and facilities (including piping, pumps, noise control and standby power) necessary to maintain flow through and/or around existing facilities.

1.2 PROJECT COMPLETION

A. The project shall be completed within the contract time as outlined in the Agreement.

1.3 PUBLIC INFORMATION

A. Refer to Section 01320 – A, Progress Schedule (SDSR)

B. Refer to Section 01144 – A, Public Awareness (SDSR)

1.4 PROJECT CONSTRUCTION COORDINATION

A. At the Preconstruction Meeting, the Contractor shall designate a Representative who will be on the job and available for communication at all times for the duration of the construction contract. The Contractor’s Representative shall be available 24 hours a day by mobile telephone, home telephone, or other means acceptable to the Owner or Owner’s Representative. The representative shall be the contact person representing the Contractor, and shall be capable of giving direct field orders as the need arises. Official job communication shall be conducted between Contractor’s Representative and the Owner’s Representative.

B. The Contractor shall obtain written approval from the Owner’s Representative 72 hours in advance of any change in the Contractor’s daily work schedule. Work performed at times other than the approved schedule must first be approved by the Owner’s Representative.

C. The Contractor’s Representative shall conduct and attend a biweekly construction progress meeting. Location of the meeting shall be determined by the Owner’s Representative. The Contractor shall present and distribute copies of the Schedule at the meeting.
D. The Contractor shall have in attendance an authorized company representative and a field foreman responsible for coordination of work schedule. It shall be the responsibility of the Contractor to sequence work to resolve conflicts with adjacent construction and schedule work accordingly to minimize disruption. The Owner will not entertain Contractor claims for additional compensation arising out of construction delays caused by adjacent construction work. Owner may at its sole discretion grant an extension of contract time due to unforeseen delays caused by adjacent construction activity conflicts.

1.5 SCHEDULING AND SEQUENCING CONSTRAINTS

A. The Contractor shall rehabilitate pipes identified in Appendix “A”. Once construction activities commence within a quarter section, the Contractor shall continue uninterrupted within that quarter section until all pipes identified within that quarter section are completed unless variance is obtained in writing from the Owner.

B. No construction activities shall begin on-site until all required submittals are submitted to the Owners Representative and returned with a signed and dated approved stamp attached.

C. Traffic control shall remain in effect as dictated by the traffic control plan and permit until all work is completed and inspected. Contractor shall maintain access to all private properties within the project area on a 24-hour basis unless written approval is otherwise obtained from property owner(s) for reduced access. Copies of all written approvals shall be provided to the Owner’s Representative prior to work commencing. Refer to Section 01551 – A, Maintenance and Protection of Traffic (SDSR).

D. Bypassing sewage flow as required for rehabilitation of pipes is part of this contract. Refer to Section 02145 – A, Diversion of Water or Sewage Flow and Dewatering (SDSR) for the bypass pumping requirements and restrictions.

E. Initial cleaning of the pipe interior is required for all pipes scheduled to be rehabilitated. Time lapse shall be no greater than 30 calendar days and no less than 48 hours between initial cleaning and liner installation. Refer to Section 02146 – A, Sewer and Sewer Structure Cleaning (SDSR).

F. The Contractor shall provide CCTV records after each pipe is taken out of service, dewatered and cleaned for the Owner’s Representative to review said records collected by the Contractor of the pipe interior. The Contractor shall notify the Owner’s Representative at least 48 hours prior to completion of the cleaning and CCTV video operation. Refer to Section 02147 – A, Remote CCTV Inspection of Existing and Rehabilitated Sewers (SDSR).
G. The Contractor shall perform a detailed inspection of the work to confirm completion of all work items and conformance to the project specifications. Final inspection of the work will be carried out by the Owner’s Representative after receipt of the Contractor’s written request for final inspection.

H. After receipt of the Contractor’s written notice of work completion, the Owner’s Representative will perform a detailed inspection and will create a punch list of omissions and defects observed. Punch list items shall be promptly corrected by the Contractor. The Contractor shall then schedule a time for re-inspection by the Owner’s Representative upon satisfactory completion of the punch list items. All costs associated with re-inspection, including the Owner’s Representative’s time and re-inspection costs, shall be the responsibility of the Contractor.

1.6 CONTRACTOR WORK HOURS

Standard work hours for Monday thru Friday are 7:00am to 7:00pm (October 1st through April 30th) and 6:00am to 7:00pm (May 1st through September 30th).

The Contractor may be required to work outside their days and times to minimize disruption to area residents or businesses. For any night work, it shall be the responsibility of the Contractor to submit application, and coordinate to obtain a City of Phoenix “Night Work Approval and Notification” approval prior to working within 500 feet of occupied residence at night. The Contractor shall adjust his work schedule to accommodate residents or business operation at no additional cost to the Owner. The Contractor shall provide the Owner’s Representative with a minimum fourteen (14) day notice of anticipated work schedules. Work hours shall be presented at the progress meeting for approval by the Owner’s Representative.

Other work restrictions include the annual City of Phoenix Holidays, Right-of-Way construction moratorium issued by the Streets Department for shopping areas in the City and other special events.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

** END OF SECTION **
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SECTION 01140 – A

WORK RESTRICTIONS (SDSR)

PART 1 - GENERAL

1.1 OWNERS RESPONSIBILITIES

A. The City of Phoenix Wastewater Collections Department staff is responsible for operating the existing sewers and facilities throughout the execution of this Contract.

1.2 CONTRACTORS RESPONSIBILITIES

A. Except where the Contractor is bypassing flows, sewers and pipe will remain in operation throughout the performance of this Contract. The City of Phoenix Wastewater Collections Department staff is responsible for operating the existing sewers and facilities. All coordination between the City of Phoenix's operational personnel and the Contractor on all matters shall be through the Owner’s Representative unless otherwise approved.

1.3 USE AND OPERATION OF EXISTING FACILITIES

A. The Contractor shall not interfere with the operation of existing sewers and pipes, except to bypass flows as necessary to perform the work. The Contractor shall exercise every precaution to ensure that debris and material from its operation does not enter the sewer. Any debris or blockage entering into the sewer as a result of the Contractor’s work shall be immediately removed at the Contractor’s expense. Any damages caused by or as a result of the debris entering the sewer shall be the responsibility of the Contractor.

B. All costs, coordination, permits, and fees associated with the location of staging areas, material, equipment storage, and site trailer location (if applicable) shall be the responsibility of the Contractor. The Contractor shall submit copies of individual landowner agreements (if present) to the Owner. All disturbed areas shall comply with the dust control plan required by Maricopa County as specified in Section 01142 – A, Permits and Easements (SDSR).

1.4 TRAFFIC

A. The Contractor shall conform to Section 01551 – A, Maintenance and Protection of Traffic (SDSR).
1.5 DAMAGE TO EXISTING PROPERTY

A. Contractor shall be responsible for any damage to existing structures, piping, work, materials, or equipment because of its operations, and shall repair or replace any damaged structures, piping, work, materials or equipment to the satisfaction of, and at no additional cost to the Owner.

B. Contractor shall protect all existing structures and property from damage.

C. Contractor shall be responsible for all damage to streets, roads, curbs, sidewalks, ditches, embankments, landscaping, or other public or private property, which may be caused by transporting equipment, materials, or workers to or from the work. Contractor shall make satisfactory and acceptable arrangements with the agency having jurisdiction over the damaged property concerning its repair or replacement and/or as specified in these Specifications at no additional cost to the Owner.

D. Contractor shall be responsible for any and all damage to private property as caused by the Contractor’s operations including but not limited to sewage backups. Damage to private property shall be repaired by the Contractor at no additional cost to the Owner.

E. Contractor shall be responsible to identify, locate and control all contributory flows, either pipeline or lateral, that may detrimentally impact proper CIPP liner installation.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

** END OF SECTION **
SECTION 01142 – A

PERMITS AND EASEMENTS (SDSR)

PART 1 - GENERAL

1.1 EASEMENTS

   A. All sewers and access manholes are located in the City of Phoenix right-of-way or utility easements.

1.2 PERMITS TO BE OBTAINED BY THE CONTRACTOR

   A. Contractor shall obtain any additional permits and access agreements required by the work and shall pay all costs thereof, including agency inspections. The Contractor shall comply with all applicable terms and conditions therein and provide copies to the Owner’s Representative before working in areas covered by those permits. The following permits shall be obtained by the Contractor if applicable to the work:

      1. Hauling Permit,
      2. Maricopa County Earthmoving/Dust Control Permit,
      3. Maricopa County Right-of-Way Permit,
      5. Storm Water Pollution Prevention Plan (SWPPP),
      6. City of Phoenix After Hours Work Permit (if applicable),
      7. 2007 Traffic Barricade Manual, Chapter 2 – Temporary Restrictions and Closure System (TRACS) Permit,
      8. Confined Space Entry Permit (if applicable).

1.3 POSTING

   Permits shall be posted (or available for review) at the site of the work at all times work is commencing.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

** END OF SECTION **
(The remainder of this page was left blank intentionally.)
SECTION 01144 – A

PUBLIC AWARENESS (SDSR)

PART 1 - GENERAL

1.1 DESCRIPTION

The work under this item consists of informing adjacent property owners regarding the impact and schedule of construction work, attendance at public information meeting(s), responding to on-site public inquiries along with distribution of public information door hanger materials to adjacent property owners as needed, and coordination with the public information firm hired by the Owner or the Owner’s Representative.

The Owner or the Owner’s Representative will contract with a public information firm to develop all materials that are approved (as per COP - Public Outreach and Communication Guidelines Vol. 2013) for distribution to the public. The Contractor shall be responsible to develop the Schedule outlining the start date and duration of work that will be distributed to the public. The Construction Notice will be mailed to area residents by the public information firm.

1.2 SUBMITTALS

The Contractor shall submit to the Owner’s Representative per Section 01330 - A – Submittals (SDSR) for approval:

1. Schedule outlining construction start date and duration of construction a minimum of 30 days prior to on-site construction activities commencing.

2. Letter containing the name and contact phone number of the Contractor’s on-site Representative and stating that this person is duly authorized to act in behalf of the Contractor during public relation activities and/or construction problem resolution.

1.3 CONSTRUCTION NOTICES AND DOOR HANGERS

A. The Owner’s public notification firm shall notify all properties potentially affected by construction activities by distributing a project notification flyer.

B. The Owner’s public notification firm shall provide the Contractor approved copies of door hangers for 72-hours and 24-hours notices (Format: English and Spanish). The Contractor shall be responsible for distributing the 72-hours and 24-hours notices to individual residences at these intervals prior to work beginning in any work area.
C. The Contractor shall distribute a cancel/reschedule door hanger if the work must be stopped and a 24-hour notice has already been distributed. The notification process must begin again with the 72- and 24-hour notices with the reschedule notice.

1.4 NOTICE OF SERVICE INTERRUPTION

The Contractor shall notify the Owner, Owner’s Representative, and property owners whose sewer service will be disrupted due to the rehabilitation operations or potential impact from construction activities. Property owners shall be NOTIFIED IN WRITING no less than 72- hours prior to service interruption.

1.5 24-HOUR TELEPHONE HOTLINE

A. The Owner’s public notification firm shall provide a hotline telephone service to reply to resident construction concerns, damage claims, resident complaints etc. The Contractor shall be responsible for coordination with the public notification firm to obtain messages and respond accordingly. The Contractor shall provide written response back to the public notification firm as to the action undertaken for the resolution of the hotline complaint or concern.

B. The Contractor shall immediately address emergency conditions or issue and notify Owner’s Representative and public notification firm within one (1) hour.

C. A log of telephone and/or on-site contacts of residential complaints shall be maintained by the Contractor. The Contractor shall immediately communicate to the Owner’s Representative any public issues concerning damage to private property, health concerns, nuisances and general complaints. A Log shall contain at the minimum the following:

- Date of Communication
- Time of Communication
- Name of Person Receiving the Complaint
- Contact Name
- Contact Address
- Contact Return Telephone Number
- Description of Complaint or Concern
- Description of Discussions
- Description of Proposed Resolution

D. Log shall be submitted to Owner’s Representative within 24 hours of each new entry. Summary of all telephone contact shall be submitted to the Owner’s Representative at the next project status meeting.
1.6 WORK IN EASEMENTS

A. Work may take place in right-of-way of streets and alleys, or in easements. Access and working space may be limited in easements. Careful attention to access and private property protection is required in easements.

B. Contractor shall attempt to contact the property owner before entering an easement to inform the property owner of the details of the work.

C. Contractor shall take surface feature pre-construction videos of easement areas or areas potentially impacted by construction activities according to Section 01323 – A, Construction Photographs (SDSR) before beginning work. The purpose of these videos is to document existing surface features and conditions prior to bringing any equipment into the area or performing any work.

1.7 ON-SITE SUPERINTENDENT

The Contractor shall have a Representative familiar with the work on-site during project work hours and shall be available to answer questions received from the public or assist the public with any access needs.

PART 2 - PRODUCTS

2.1 DOOR HANGERS

Contractor shall distribute public notification door hangers as necessary to inform the general public of construction activities. Only Owner approved door hangers shall be distributed to the public. The Owner’s Representative shall provide sufficient copies to the Contractor for his use.

PART 3 - EXECUTION (NOT USED)

** END OF SECTION **
SECTION 01271 – A

MEASUREMENT AND PAYMENT (SDSR)

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Measurement and payment for Work performed shall be in accordance with the unit price, unless work is defined as an allowance item.

1.2 AUTHORITY

A. The Owner’s Representative will take all measurements and compute quantities accordingly.

B. The Contractor shall provide assistance by providing necessary equipment, workers, and survey personnel as required.

1.3 UNIT QUANTITIES SPECIFIED

A. Quantities and measurements indicated are for bidding and contract purposes only. Quantities and measurements supplied or placed in the Work and verified by the Owner’s Representative shall determine payment.

B. If the actual Work requires more or fewer quantities than those quantities indicated, the Contractor shall provide the required quantities at the unit sum/prices contracted.

1.4 MEASUREMENT OF QUANTITIES

A. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.

B. Measurement by Area: Measured by square dimension using mean length and width or radius.

C. Thickness Measurement: Measured perpendicular to surface of liner or coating.

D. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.

E. Lump Sum: Measured on a percent of complete basis.
1.5 PAYMENT

A. Payment Includes: Full compensation for all required labor, products, tools, equipment, transportation, application or installation of an item of the Work; overhead and profit, insurance, bonding, taxes, and all incidentals necessary to complete the construction.

B. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the Owner’s Representative multiplied by the unit sum/price for Work which is incorporated in or made necessary by the Work.

C. Payment for allowance items will be made on approved invoices with no additional markup by the Contractor.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

Items 1 thru 4 – INITIAL CLEANING and CCTV OF PIPELINES

This item shall include full compensation for all work to hydro-blast clean existing 8-inch, 10-inch, 12-inch, and 15-inch diameter sanitary sewer pipelines as specified in these specifications. Work shall include, but not be limited to: initial cleaning of pipes to be rehabilitated, removal and disposal of pipe obstructions, along with removal and legal off-site disposal of sediments and debris according to all state and federal regulations. This item also includes CCTV inspection for pipe condition assessment to identify pipes that may require spot repair along with all costs associated with development and coordination of traffic control plans according to regulatory agency requirements, and all labor, materials, and equipment used for traffic control according to the approved plan. This item also includes sewage flow control, and all necessary safety and support systems, miscellaneous labor and materials required to perform the work. Payment shall be made on a LINEAR FOOT basis of sewer pipe (measured from center of manhole to center of manhole) cleaned and CCTV inspection according to the individual sewer pipe diameters.

Items 5 thru 8 - REHABILITATE PIPELINE (CIPP)

This item shall include full compensation for all work to rehabilitate 8-inch, 10-inch, 12-inch, and 15-inch diameter sanitary sewer pipe with cured-in-place-pipe method including all labor, materials, and required equipment. This item includes all labor and materials for CIPP liner installation along with setup, maintenance and removal of bypass pumping and dewatering equipment, noise suppression, plugging of sewers, identification and control of nuisance/detrimental lateral flows, removal and replacement of cleanouts, public notification door hanger printing and distribution, develop traffic control plans according to regulatory agency requirements, develop storm water pollution prevention plan, and all labor, materials, equipment
and coordination of traffic control according to the approved plan, incidental materials and labor to complete the rehabilitation. Cost for cleanouts that are removed, replaced or adjusted as a consequence of selected lining method shall be considered incidental to the cost per foot of linings. This item also includes re-cleaning of pipes to be rehabilitated as recommended by CIPP liner manufacturer requirements, pre-lining CCTV of pipe (after cleaning), and post CCTV after liner installation and service lateral reinstatement. CIPP liner shall be furnished, installed, sampled and tested, and shall include all required mobilization and demobilization and any incidentals required to complete work.

This work will be measured for payment by the Owner’s Representative after installation of the liner is accepted in-place and complete. Measurement for length will be along the centerline of the pipe as measured from center of manhole to center of manhole. No proportional payment shall be made for liner on-site, but not yet installed. Payment shall be made on a LINEAR FOOT basis of sewer pipe lining installed and accepted in place according to the individual pipe diameters.

Segments shall not be considered for payment until the following CIPP accompanying data has been submitted to the Owners Representative: CCTV cleaning/assessment reports, bill of ladings, cure logs, CCTV of pre and post videos, copy of chain of custody letters and acceptable independent laboratory test result data.

**Item 9 - REINSTATE SEWER SERVICE LATERALS**

This item shall include full compensation for all work to reinstate sanitary sewer service laterals into the pipe, regardless of diameter, including all labor, materials, and required equipment. This item includes all labor and materials to remove liner material covering the sanitary service lateral connection and brush smooth the opening by the use of robotically controlled equipment to re-establish the connection between the service lateral pipe and the mainline pipe to not less than 100% percent of its original opening area. This item shall include all required mobilization and demobilization of crews and equipment, and any incidentals required to complete the work.

Service lateral reinstatement will be measured for payment by the Owner’s Representative after reinstatement of the service lateral accepted in-place and complete as determined from post-CCTV video documentation records. Payment shall be made per EACH sewer lateral reinstated regardless of lateral diameter.

**Item 10 - ALLOWANCE ITEM - MISCELLANEOUS CONSTRUCTION**

Items to be included under this pay item will be at the sole discretion of the Owner. Scope of work and payment shall be made at a negotiated price prior to authorization to start work. Any work performed without prior authorization shall be at the Contactor’s expense. Items which may be included but not limited to:

Sanitary Sewer Pipe Spot Repairs
Stub Replacement
Manhole Rehabilitation
New Manhole Installation
Installation of Lateral Seals
Odor Control
Traffic Control on Major Streets
Variable Message Boards (as required by the City of Phoenix Traffic Barricade Manual at all Major Street intersections)
Off Duty Police Officers
Third Party Testing

PART 3 - EXECUTION (NOT USED)

** END OF SECTION **
PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies requirements and procedures for the Contractor in preparing Schedules. The purpose of the Schedule shall be to ensure adequate planning and execution of the work by the Contractor, to establish the standard against which satisfactory completion of the project shall be judged, to assist the Owner or Owner’s Representative in monitoring progress and for the assessment of the impact of change orders on the Schedule.

1.2 SUBMITTAL PROCEDURES

A. The Owner will provide the Contractor with list of sanitary sewer pipes to be rehabilitated. The Contractor shall submit a Schedule to the Owner or Owner’s Representative within ten (10) calendar days of receiving Notice to Proceed with work identifying the duration of mobilization, anticipated time when work is to be performed, cleaning, pre-video, rehabilitation duration and date of project completion. Schedule shall be transmitted to the Owner or Owner’s Representative per Section 01330 – A, Submittals (SDSR).

PART 2 - PRODUCTS

2.1 PROGRESS SCHEDULES

A. Contractor shall provide a Schedule to the Owner and/or Owner’s Representative. Schedule shall be updated weekly with anticipated pipes to be rehabilitated. Schedule shall also list pipes rehabilitated to date.

B. Schedule shall be prepared on computer software (MS Project) that facilitates schedule updates and e-mailing.

C. Special considerations, coordination requirements, etc., as encountered for certain pipes shall be noted on schedule.

D. Time for completion for each separate project shall be shown on the Schedule.

E. The schedule duration of each activity shall be based on the work being performed
during the normal work week with allowances made for legal holidays. The Schedule shall include a critical path for each separate project.

F. Dates imposed on the Schedule by the Contractor shall not be binding on the Owner or Owner’s Representative.

G. Failure to include elements of work required for the performance of this Project shall not excuse the Contractor from completing the work as described in the Construction Documents.

H. Provide a list of the holidays and non-work days applicable to the schedule.

I. Provide a Schedule and Narrative Summary stating project status so the Owner or Owner’s Representative may use them as a basis for determining the Contractor’s compliance with the Technical Specification requirements regarding progress payments, contract time extensions, change order prices and impacts, and the overall progress of the work. Failure of the Contractor to comply with the requirements of this Section may delay the review and acceptance of the progress payment requests.

PART 3 - EXECUTION

3.1 GENERAL

A. The Contractor and the Contractor’s Field Superintendent shall attend regularly scheduled project meetings with the Owner or Owner’s Representative and others invited by the Owner or Owner’s Representative.

3.2 UPDATES

A. Requests for extensions in time resulting from changes issued by the Owner shall be accompanied by a Narrative Report explaining the impacts and costs associated with the extension.

B. If actual progress on the critical path items is observed to deviate from the Schedule by one (1) week behind, the Contractor shall update and submit a revised (updated) Schedule. In the case of the work being behind Schedule, the Contractor shall submit, along with the revised Schedule, a written plan for completing the work within the milestone and contract times.

** END OF SECTION **
SECTION 01323 – A

CONSTRUCTION PHOTOGRAPHS (SDSR)

PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies photographs and video recordings to be taken by the Contractor before and after CIPP liner installation for sewer manholes located in easements. These photographs and recordings shall document the site condition prior to construction and again following the completion of construction activities.

1.2 PAYMENT

Contractor shall pay costs for specified photography, video recording and prints. Parties requiring additional photography or prints will pay photographer directly.

1.3 SUBMITTALS

Contractor shall submit the following information for review per Section 01330 – A, Submittals (SDSR) at the Preconstruction Conference:

1. An example of his work consisting of one video recording of site examination and recording with audio commentary.

2. An example of photographs used for site examination.

PART 2 - PRODUCTS

2.1 GENERAL

A. The photographs and color audio-video recordings are intended for use as indisputable evidence in ascertaining the extent of any damage which may occur as a result of the Contractor's operations and are for the protection of the Contractor and the Owner, and will be a means of determining whether and to what extent damage, resulting from the Contractor's operations, occurred during the Contract work.

2.2 PHOTOGRAPHS

Photographs shall be digital format stored on digital video disk (DVD) media and shall indicate on the front of each print the date, name of work, and location where the
A photograph was taken. One (1) DVD shall be delivered to the Owner’s Representative.

Contractor shall submit photographs in jpeg format only.

2.3 VIDEO RECORDINGS

Video recordings shall be stored on digital video disk (DVD) media and shall indicate on the case and the box the date, name of contract, and the location where the video was recorded. The recordings should contain an audio track, which narrates the progression of the video recording through the site.

Contractor shall submit video data in mpeg format only.

PART 3 - EXECUTION

3.1 VIDEO / DVD

A. Contractor shall perform video recording of all areas where the Contractor has construction activities, including all staging, storing, working, parking and excavation areas. Easements and areas outside of paved roadways are of particular interest.

B. After completion of construction and restoration, video recording shall be taken from the same points in the same direction as the preconstruction examination.

3.2 CONSTRUCTION PHOTOGRAPHY

Contractor shall obtain photographs and provide Owner’s Representative copies of area of special interest, unique features and/or special conditions identified during construction (i.e. usually dealing with construction that occurs in easements and/or on or near private property). The Contractor shall provide additional photographs of these unique features or upon the request of the Owner or Owner’s Representative.

** END OF SECTION **
PART 1 - GENERAL

1.1 GENERAL

Submittals covered by these requirements include manufacturers' information, shop drawings, test procedures, test results, samples, requests for substitutions, and miscellaneous work-related submittals. The Contractor shall furnish all specifications, descriptive data, certificates, samples, tests, methods, schedules, and manufacturer's installation and other instructions as specifically required in the contract documents to demonstrate fully that the materials to be furnished and the methods of work comply with the provisions and intent of the contract documents.

1.2 CONTRACTOR'S RESPONSIBILITIES

The Contractor shall be responsible for the accuracy and completeness of the information contained in each submittal and shall assure that the material, equipment or method of work shall be as described in the submittal. The Contractor shall verify that all features of all products conform to the specified requirements. Submittal documents shall be clearly edited to indicate only those items which are being submitted for review. All extraneous materials shall be crossed out or otherwise obliterated. The Contractor shall ensure that there is no conflict with other submittals and notify the Owner’s Representative in each case where his submittal may affect the work of another Contractor or the Owner. The Contractor shall coordinate submittals among his subcontractors and suppliers.

The Contractor shall coordinate submittals so that work will not be delayed. The Contractor shall coordinate and schedule different categories of submittals, so that one will not be delayed for lack of coordination with another. No extension of time will be allowed because of failure to properly schedule submittals. The Contractor shall not proceed with work relating to a submittal until the submittal process is complete. This requires that submittals for review and comment shall be returned to the Contractor stamped "No Exceptions Taken" or "Make Corrections Noted."

The Contractor shall certify on each submittal document that he has reviewed the submittal, verified field conditions, and complied with the contract documents.

The Contractor may authorize in writing a material or equipment supplier to deal directly with the Owner’s Representative or with the Owner with regard to a submittal. These dealings shall be limited to contract interpretations to clarify and expedite the work.
1.3 CATEGORIES OF SUBMITTALS

A. GENERAL

Submittals fall into two general categories; submittals for review and comment, and submittals, which are primarily for information only. Submittals, which are for information only, are typically specified in the Part 2 - PRODUCTS of the individual specification section.

At the beginning of work the Owner’s Representative will furnish the Contractor with a list of those submittals specified in the contract documents. The lists to be provided include:

1) Submittals for review and comment;
2) Product Data - for information only.

B. SUBMITTALS FOR REVIEW AND COMMENT

All submittals except where specified to be submitted as product data for information only shall be submitted by the Contractor to the Owner’s Representative for review and comment.

C. SUBMITTALS (PRODUCT DATA) FOR INFORMATION ONLY

Where specified, the Contractor shall furnish submittals (product data) to the Owner’s Representative for Information only.

1.4 TRANSMITTAL PROCEDURE

A. GENERAL

Unless otherwise specified, submittals regarding material and equipment shall be accompanied by Section 01331-A, Reference Forms FORM 01331-A. A separate form shall be used for each specific item, class of material, and items specified in separate, discrete sections, for which the submittal is required. Submittals for various items shall be made with a single form when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates checking or review of the group or package as a whole.

A unique number, sequentially assigned, shall be noted on the transmittal form accompanying each item submitted. Original submittal numbers shall have the following format: "XX"; where "XX" is the sequential number as identified in the Submittal list provided. Re-submittals shall have the following format: "XX-Y";
where "XX" is the originally assigned submittal number and "Y" is a sequential letter assigned for re-submittals, i.e., A, B, or C being the 1st, 2nd, and 3rd re-submittals, respectively. Submittal 25B, for example, is the second re-submittal of submittal 25.

B. CCTV SUBMITTAL SCHEDULE

The Contractor shall submit

1. Cleaning and assessment CCTV of a segment a maximum of 30 days and a minimum of 72 hours prior to the scheduled lining of the segment.

2. Pre-lining CCTV of a segment within 24 hours from the time of liner installation.

3. Post CCTV of a segment within 10 working days following the date of liner installation.

C. DEVIATION FROM CONTRACT

If the Contractor proposes to provide material, equipment, or method of work, which deviate from the contract documents, he shall indicate so under "deviations" on the transmittal form accompanying the submittal copies.

D. SUBMITTAL COMPLETENESS

Submittals which do not have all the information required to be submitted, including deviations, are not acceptable and will be returned without review. The Contractor will be charged an additional cost if a pay application requires three or more reviews. (See section: 1.7 THIRD AND SUBSEQUENT SUBMITTALS)

1.5 REVIEW PROCEDURE

A. GENERAL

Submittals are specified for those features and characteristics of materials, and methods of operation, which can be selected, based on the Contractor's judgment of their conformance to the specified requirements. Other features and characteristics are specified in a manner, which enables the Contractor to determine acceptable options without submittals. The review procedure is based on the Contractor's guarantee that all features and characteristics not requiring submittals conform as specified. Review shall not extend to means, methods, techniques, sequences or procedures of construction, or to verifying quantities, dimensions, weights or gages, or fabrication processes (except where specifically indicated or required by the contract documents) or to safety precautions or programs incident thereto. Review of a separate item, as such, will not indicate approval of the assembly in which the item
functions.

When the contract documents require a submittal, the Contractor shall submit the specified information as follows:

1. All submittals shall be submitted electronically via email or external hard drive in PDF format for review and comment.

2. All Product Data shall be submitted electronically via email or external hard drive in PDF format.

B. SUBMITTALS FOR REVIEW AND COMMENT

Unless otherwise specified, within twenty-one (21) calendar days after receipt of a submittal for review and comment, the Owner’s Representative shall review the submittal and return one copy of the electronically marked-up original in PDF format. Shop drawing submittals that require markups shall be marked up in red by the Owner’s Representative. The Owner’s Representative will retain the original.

The returned submittal shall indicate one of the following actions:

1. If the review indicates that the material, equipment or work method complies with the contract documents, submittal copies will be marked "NO EXCEPTIONS TAKEN." In this event, the Contractor may begin to implement the work method or incorporate the material or equipment covered by the submittal.

2. If the review indicates limited corrections are required, copies will be marked "MAKE CORRECTIONS NOTED." The Contractor may begin implementing the work method or incorporating the material and equipment covered by the submittal in accordance with the noted corrections. Where submittal information will be incorporated in O&M data, a corrected copy shall be provided.

3. If the review reveals that the submittal is insufficient or contains incorrect data, copies will be marked "AMEND AND RESUBMIT." Except at his own risk, the Contractor shall not undertake work covered by this submittal until it has been revised, resubmitted and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."

4. If the review indicates that the material or work method does not comply with the contract documents, copies of the submittal will be marked "REJECTED - SEE REMARKS." Submittals with deviations, which have not been identified, clearly may be rejected. Except at his own risk, the Contractor shall not undertake the work covered by such submittals until a new submittal is made and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS..."
C. SUBMITTALS (PRODUCT DATA) FOR INFORMATION ONLY:

Such information is not subject to submittal review procedures and shall be provided as part of the work under this contract and its acceptability determined under normal inspection procedures.

1.6 EFFECT OF REVIEW OF CONTRACTOR'S SUBMITTALS

Review methods of work or information regarding materials the Contractor proposes to provide, shall not relieve the Contractor of his responsibility for errors therein and shall not be regarded as an assumption of risks or liability by the Owner’s Representative or the Owner, or by any officer or employee thereof, and the Contractor shall have no claim under the contract on account of the failure, or partial failure, of the method of work, material, or equipment so reviewed. A mark of "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED" shall mean that the Owner has no objection to the Contractor, upon his own responsibility, using the plan or method of work proposed, or providing the materials proposed.

1.7 THIRD AND SUBSEQUENT SUBMITTALS

The cost for third and subsequent submittals shall be borne by the Contractor. The cost of reviews for third and subsequent reviews shall be at a rate of $300 per review and shall be charged to the Contractor as a reduction in Contractor’s pay request.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

** END OF SECTION **
(The remainder of this page was left blank intentionally.)
SECTION 01331 – A

REFERENCE FORMS (SDSR)

PART 1 - GENERAL

1.1 REQUIRED FORMS

The forms listed below and included in this section are referenced from other sections of the contract documents:

Form No. Title
01331-A Submittal Transmittal
01331-B Request for Information
01331-C Confidential Spill Reporting
01331-D Chain of Custody

1.2 SCOPE

The Contractor shall be responsible for the documentation forms for tests and evaluations required of the contract that do not have specific forms identified. Contractor generated forms shall follow the format established on Form 01331-A Submittal Transmittal contained herein.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)
Submittal Description: ____________________________ Submittal No: ____________________________
Spec Section: ____________________________

<table>
<thead>
<tr>
<th>OWNER: CITY OF PHOENIX</th>
<th>Routing</th>
<th>Sent</th>
<th>Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROJECT:</td>
<td>Contractor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONTRACTOR:</td>
<td>Engineer</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contractor</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

We are sending you ☐ Attached ☐ Under separate cover via ____________________________
☐ Submittals for review and comment
☐ Product data for information only

Remarks: ____________________________

<table>
<thead>
<tr>
<th>Item</th>
<th>Copies</th>
<th>Date</th>
<th>Section No.</th>
<th>Description</th>
<th>Review action &quot;</th>
<th>Reviewer initials</th>
<th>Review comments attached</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
</tr>
</tbody>
</table>

Note: NET = No exceptions taken; MCN = Make corrections noted; A&R = Amend and resubmit; R = Rejected
Attach additional sheets if necessary.

Contractor: Certify either A or B:

☐ A. We have verified that the material or equipment contained in this submittal meets all the requirements, including coordination with all related work specified (no exceptions).

☐ B. We have verified that the material or equipment contained in this submittal meets all the requirements specified except for the attached deviations.

No. Deviation

__________________________________________
__________________________________________
__________________________________________
__________________________________________

Certified by: ____________________________
Contractor's Signature
CITY OF PHOENIX: Water Services Department
PROJECT NAME: Small Diameter Sanitary Sewer Rehabilitation – FY 19/20
PROJECT NUMBER: WS90500118

FORM 01331-B REQUEST FOR INFORMATION

OWNER: CITY OF PHOENIX
PROJECT: 
CONTRACTOR: 
RFI TITLE: 
REFERENCES: DRAWING NO: LOCATION: SPEC. SECTION: PAGE: 
OTHERS: 

The following information is requested as described below or in the attachments:


By: ___________________________ Date: ___________________________

The following information is provided as described below or in the attachments:


By: ___________________________ Date: ___________________________
INSTRUCTIONS: The Contractor shall ensure that appropriate on-site personnel complete this form. The form shall be completed immediately upon discovery of a sanitary sewer spill or release by the individual who first made the discovery.

First at the Scene (name):

1. Facility name and address/location/intersection (or major cross streets):

2. Is/was there a fire or explosion or other release (except for sewage release) outside the facility?
   - Yes ☐ No ☐
   If yes, immediately contact the Fire Department (911) for assistance, initiate appropriate facility response procedures, and then continue with this form.

3. Personal injuries and extent, if any:

4. Date and time of initial call or complaint:____________________________________

5. Date and time of spill found or confirmed:____________________________________

6. Date spill reporting completed:_____________________________________________

7. Date and time spill occurred or started, if known:______________________________

8. What was spilled? Describe completely. List chemical names/wastewater if known.

9. How much was spilled? Use units such as gallons or pounds, etc._______________

10. Where and how did the spill occur? Include a description of the container or vessel from which the spill occurred. Attach diagram or map, if available.
11. Where did the spilled material go? Check all that apply.

- [ ] drywell
- [ ] dry wash
- [ ] canal
- [ ] riverbed
- [ ] private property
- [ ] retention basin
- [ ] sanitary sewer
- [ ] secondary containment
- [ ] storm drain
- [ ] city street
- [ ] Air (vapors or odors)
- [ ] other (specify below)

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

12. How far did the spill travel? Describe the path the spill took to its final destination.

13. Was the spill stopped or contained? Describe how and by whom.

14. How long did the spill last? ______________________________________________________________________

15. Who found the spill? Use the back of this form if necessary.

   Name_________________ Title_____________________ Phone________________

   a.____________________________________________________________________

   b.____________________________________________________________________

16. Who was notified of the spill? List names and identify how notification was made (phone call, fax, etc. Use the back of this form if necessary).
<table>
<thead>
<tr>
<th>Name</th>
<th>Department/Division/Agency</th>
<th>Date/Time Notified</th>
<th>Method of Notification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Printed name and signature of person who completed this form:

Printed Name ______________________ Title ________________ Phone __________

Signature ________________________ Date ________________
<table>
<thead>
<tr>
<th>Pipe Segment No.</th>
<th>Date Sample Taken:</th>
<th>Pipe Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Liner Design Thickness:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Resin Type:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Downstream Manhole No.</td>
</tr>
</tbody>
</table>

** END OF SECTION **
SECTION 01411 – A

HEALTH AND SAFETY (SDSR)

PART 1 - GENERAL

1.1 HEALTH AND SAFETY REGULATIONS

A. The Contractor shall exercise precaution at all times for the protection of persons (including employees) and property. The Contractor shall comply with the provisions of all applicable laws, pertaining to such protection including all Federal, State and Local occupational safety and health acts, codes, standards and regulations promulgated thereunder. Contractor shall have copies of, but not limited to, confined space entry permit on-site and available for review any time work activities are commencing.

B. Contractor shall comply with the provisions of the Federal Occupational Safety and Health Act, as amended.

C. The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of the employees as may be necessary to comply with the requirements and regulations of the Arizona State Department of Health and/or as specified by the Maricopa County Health Department, Sanitary Code.

D. The Contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions, on his own responsibility reasonably necessary to protect the life and the health of employees on the job, the safety of the public, and to protect property in connection with the performance of the work covered by this contract.

1.2 SPECIAL CONSIDERATIONS

A. GENERAL

This section describes certain minimum precautions the Contractor shall consider in developing its health and safety program. It supplements the regulatory requirements of Paragraph 1.1 and the requirements of the General Conditions. Sewers and appurtenant structures are considered confined spaces and are subject to federal, state and local regulations governing confined space entry and safety procedures.

B. INFECTIOUS DISEASES:

Contractor should anticipate that a wide spectrum of disease-producing organisms will be present in the sewer. In addition to the requirements set forth in the
regulations described in Paragraph 1.1 above, the Contractor shall provide the following as a minimum:

1. Instruction in appropriate disease-prevention mechanisms and personal sanitation practices for all workers and supervisors.

2. A preventative inoculation program (tetanus/diphtheria, hepatitis, etc.) to all workers and supervisors.

3. Clothing to protect against infection, including rubber boots with full sole and heel steel insert-liners, safety glasses or goggles, and gloves to all workers and supervisors.

**C. DANGEROUS GASES AND OXYGEN DEFICIENCY:**

The sewer pipe, sewer access manholes and junction structures are confined spaces, which mean they have a limited means of egress and are subject to the accumulation of dangerous gases or oxygen deficiency. Volatile petroleum products and common household hazardous materials may be present within the sewer. Explosive gases, such as methane generated from decomposing organic material, may be accumulated. Toxic gases, such as hydrogen sulfide, may be present in life-threatening concentrations. Significant oxygen depletion may occur. In addition, construction procedures may require combustion engine machinery to be located in or near the work site. Therefore, gaseous combustion by-products, such as carbon monoxide, may be present.

CIPP liner utilizing styrene-based resins release odors that may cause irritation to the respiratory system. This odor could be released during liner installation to areas adjacent to access manholes and connecting pipe system. Styrene levels shall not exceed regulated permissible exposure limits (PEL) as per OSHA 29 CFR 1910.1000 Table Z-2.

In addition to the requirements set forth in the regulations described in Paragraph 1.1 above, the Contractor shall provide the following:

1. Portable atmospheric monitors that measure levels of oxygen, explosive gas (methane), carbon monoxide, and toxic gas (hydrogen sulfide). Monitors shall be properly calibrated and carefully maintained throughout the construction period. Monitors shall be used continuously while personnel are in the sewer.

2. Provide third party air monitoring equipment and technician as directed to conduct tests to confirm and record styrene concentrations are maintained below acceptable levels.
3. Provide a styrene odor and steam control plan for steam cured liner installation.

D. TOXIC CHEMICALS:

Toxic chemicals may be part of the construction process. The Contractor shall abide by all handling procedures recommended by the manufacturer when dealing with toxic chemicals.

E. ASBESTOS-CEMENT PIPE:

The Contractor shall abide by all asbestos-cement handling procedures as required by all local, state and federal regulatory agencies.

1.3 SUBMITTALS

Contractor shall submit Health and Safety Plan according to Specification Section 01300 – Submittals.

PART 2 - PRODUCTS

2.1 SAFETY AND HEALTH PLAN

A. GENERAL

The Contractor shall develop and maintain for the duration of the Contract three copies of a health and safety plan that will effectively incorporate and implement all required health and safety precautions. At least one copy shall be located on the Contractor's work site.

B. COMPLIANCE

The Contractor shall appoint an on-site employee who is qualified, trained and authorized to supervise and enforce compliance with the health and safety plan. The Contractor is responsible for ensuring that necessary gas monitoring, protective clothing, and other supplies and equipment as specified are available to implement this plan.

C. REVISIONS

In the event that regulatory agencies or jurisdictions determine the Health and Safety Plan to be inadequate to protect employees and the public:

1. The Contractor shall stop the work in progress until adequate safety measures are
implemented.

2. The Contractor shall modify the plan to meet the requirements of said regulatory agencies, jurisdictions, and the Owner.

3. The Contractor shall provide the Owner and Owner’s Representative with the revisions to the plan within two (2) days of the notice of deficiency.

D. MINIMUM CONSIDERATIONS

The Health and Safety Plan shall, as a minimum, include the following considerations:

1. Objective.

2. Key personnel and responsibilities.

3. Hazard analysis of the work activities and environment.

4. Training requirements, including authorized personnel and qualifications for work in confined spaces.

5. Personal protective equipment.

6. Confined Space Entry Plan, Refer to Section 01415 – A, Confined Space Entry Plan (SDSR)

7. Site control measures including styrene odor and steam control plan

8. Work practices, decontamination procedures, and work limitations.

9. Emergency procedures, including sewer evacuation plan, location of first aid, fire extinguishers, eyewash, drinking water, map showing route to nearest medical facility, list of key personnel who are currently certified in first aid/CPR.

10. Job site cleanup, and spill containment and cleanup procedures.

11. Telephone numbers:
   a. 24-hour number to contact Contractor's Representative.
   b. Emergency services.
   c. Owner
   d. Owner’s Representative.

12. Documentation (training, injury or illness, respirator-fit tests, hazards notification
log, etc.).

PART 3 - EXECUTION (NOT USED)

** END OF SECTION **
(The remainder of this page was left blank intentionally.)
SECTION 01412 – A

STORMWATER POLLUTION PREVENTION PLAN AND PERMIT (SDSR)

PART 1 - GENERAL

1.1 DESCRIPTION

A. Comply with the terms and conditions of the Arizona Pollutant Discharge Elimination System (AZPDES) requirements under the Arizona Department of Environmental Quality (ADEQ) General Permit. Under provisions of that permit, CONTRACTOR is designated as permittee and responsible for providing necessary material and for taking appropriate measures to minimize pollutants in stormwater runoff from the Project. Obtain a DeMinimus Discharge Permit from ADEQ for any discharge that is to Waters of the U.S., and comply with the requirements of the permit.

B. The Contract Price shall include all material, labor and other permits and incidental costs related to:

1. Preparing, updating and revising the Stormwater Construction Pollution Prevention Plan (SWPPP).
2. Installing and maintaining all structural and non-structural items chosen by CONTRACTOR to comply with the construction SWPPP.
3. Clean-up and disposal costs associated with clean-up and repair following storm events or CONTRACTOR caused spills on the Project.
4. Implementing and maintaining Best Management Practices to comply with the OWNER’S stormwater code.
5. Preparing the Notice of Intent and Notice of Termination shall be covered by the AZPDES General Permit for Arizona.
6. Obtain and comply with DeMinimus Permit, if such permit is required.

C. All necessary SWPPP controls and practices must be implemented prior to commencement of any construction, excavation or backfill activity.

1.2 SUBMITTALS

A. Submit, at least two days prior to the initial start of construction on the project; completed and signed Notice of Intent forms to the State of Arizona at the following addresses:
1. Stormwater Program – Water Permits Section / NOI  
   Arizona Department of Environmental Quality  
   1110 West Washington, 5415B-3  
   Phoenix, AZ 85007

B. Submit to the OWNER, no later than one (1) day before submitting to the State agency the following:

1. Notice of Intent (NOI) to be covered by the AZPDES General Permit for Arizona, including certifications of signature.

2. SWPPP for the Project, including certification of signature. Stormwater Plan shall include CONTRACTOR’S proposed temporary means for stormwater control during all phases of construction and include stormwater pumping/retention plans. This submittal shall be coordinated with CONTRACTOR’S Excavation Plan submittal.

3. A manual has been prepared by the Maricopa County Flood Control District to aid in CONTRACTOR’S preparation of the SWPPP. This manual, "Drainage Design Manual for Maricopa County Arizona, Volume III, Erosion Control" is available at the Flood Control District Office, 2801 West Durango Street, Phoenix, Arizona. The complete Construction General Permit is in the December 8, 1999, Federal Register available at local libraries and is also available from the ADEQ website at: www.adeq.state.az.us/environ/water/permits/download/constgp.pdf.

C. Submit to the OWNER, as part of the Construction SWPPP a construction site inspection report that includes the following:

1. Inspection scope.  
2. Inspector qualifications.  
3. Observations of SWPPP non-compliance and corrective steps taken.  
4. Certificate of Compliance with SWPPP and the AZPDES General Permit for Stormwater Discharge in the event of no incidents. Reports shall be submitted each quarter, at a minimum, throughout the Contract duration.

D. Submit to the OWNER, upon project completion the Notice of Termination (NOT) of coverage under AZPDES General Permit.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

** END OF SECTION **
SECTION 01413 – A

CONTRACTOR’S HAZARDOUS MATERIALS MANAGEMENT PROGRAM (SDSR)

PART 1 - GENERAL

1.1 DESCRIPTION

A. Comply with all Federal, State, and local Laws and Regulations related to environmental protection and environmental safety including, but not limited, to the following:

2. Title 40 Code of Federal Regulations, Environmental Protections.
4. State Occupational Safety and Health Administration (OSHA).
5. Arizona Department of Environmental Quality (ADEQ).
6. Arizona Department of Water Resources (ADWR).
7. Maricopa County Air Pollution Control Regulations.

B. In order to ensure the Owner that Contractor is complying with the intent of the regulations stated in Paragraph 1.1.A, above, as they relate to the on-site use of hazardous materials, hazardous wastes and other substances similarly defined in those regulations, develop and maintain a Contractor’s Hazardous Materials Management Program that includes as a minimum, but is not limited to the requirements specified herein. The interests of the Owner are that accidental spills, site contamination, and injury of personnel on the site are avoided. Owner will not enforce suspected violations of the rules and regulations referenced in Paragraph 1.1.A, above, however the Owner will notify Contractor of suspected violations. If in the opinion of the Owner, Contractor fails to address the suspected violations in a timely and appropriate manner, Owner will notify Federal, State, or local regulatory agencies, report the suspected violations to them, and request that they inspect Contractor’s operations. Any fines that may be levied against Owner for violations committed on the site by Contractor, as well as any costs to Owner associated with cleanup of materials, shall be reimbursed immediately by Contractor. All documents required by the program shall be made available to the Owner’s Environmental Representative immediately, upon request.

C. Responsibility for any hazardous waste, as defined in any of the above listed regulations, and those generated by the Contractor, belongs to Contractor. If Contractor is going to generate, or has generated, a substance that qualifies as a hazardous waste, must obtain an EPA identification number, listing Contractor’s name and construction site address as the generator of the hazardous waste.
Responsibility for the identification, analysis, profiling, transport and disposal of hazardous wastes generated, belongs to Contractor. The identification number can be obtained from the Arizona Department of Environmental Quality (ADEQ). This number shall be provided to the Owner’s Representative within five (5) days after the Notice to Proceed, or before any hazardous materials are brought onto the site.

1.2 HAZARDOUS MATERIALS PROGRAM REQUIREMENTS

A. Within the regulations listed in Paragraph 1.1.A, above, terms such as hazardous material, hazardous wastes, and similar terms have varying definitions. To dispel confusion regarding what materials fall under the Program Requirements and for the purposes of this Article, Hazardous Material is defined as “any material, whether solid, semi-solid, liquid, or gas, which, if not stored or used properly, may cause harm or injury to persons through inhalation, ingestion, absorption or injection, or which may negatively impact the environment through the use or discharge of the material on the ground, in the water (including groundwater), or to the air.”

B. All chemicals brought onto the site must be approved by Owner. Prior to bringing any chemical on site, request approval from Owner’s Environmental Representative for each chemical Contractor proposes to bring on site. At the time of request, Owner’s Environmental Representative may request and receive from Contractor, specific information associated with each chemical. The specific information may include, but is not limited to, SDS, manufacture, vendor, container size(s), number of containers, minimum and maximum volume of material intended to be stored on site, as well a description to the process or procedures in which any requested chemical is to be used. Owner, within five (5) working day from receipt of the specific chemical information, will inform Contractor as to whether the chemical has been approved for use on site.

C. Maintain on site two notebooks containing (1) a chemical inventory, and (2) current (dated within the past two years) Safety Data Sheets for all materials being used on site, whether or not they are defined as a Hazardous Material in Paragraph 1.2.A, above. One notebook shall be kept in Contractor’s on-site office and the other shall be kept in a location specified by the Owner’s Environmental Representative. These notebooks must be kept up-to-date as materials are brought onto and removed from the site. Copies of SDS sheets for chemicals removed from the site shall be provided to the Owner’s Environmental Representative.

D. Develop an emergency/spill response plan, for each hazardous material or class/group of materials. As a minimum, the response plan must address the following:

1. Provide a description of equipment on site available to contain or respond to an emergency/spill of the material.
2. Notification procedures.
3. Response coordination procedures between Contractor, Owner, and Owner’s Representative.
4. Provide a Site Plan showing the location of stored hazardous materials and location of spill containment/response equipment.
5. Provide a description of the hazardous material handling and spill response training provided to Contractor’s employees.

E. In accordance with applicable Laws and Regulations, properly and safely store all hazardous materials, which shall include as a minimum, the following:

1. Have a designated storage site for hazardous materials that includes secondary containment. The site must include barriers to prevent vehicles from colliding with the storage containers and offer protection from environmental factors such as weather.
2. Provide signage in accordance with applicable Laws and Regulations, clearly identifying the hazardous materials storage site.
3. All hazardous materials containers must bear the applicable Hazard Diamonds.

F. Properly label all containers of consumable materials, whether or not they are classified as Hazardous Materials under this Section. The name of Contractor or subcontractor shall be stenciled on any container containing a hazardous material and on any container over five-gallon capacity containing a non-hazardous material. Any container must have a label clearly identifying the contents. If any such unlabeled containers are discovered on the site, the Owner’s Environmental Representative will notify Contractor. Responsibility to remove such containers belongs to Contractor. Containers will be properly labeled or removed from the site within one (1) hour. Any containers that are filled from larger containers must also be properly labeled.

G. Owner encourages storage of hazardous materials off site until the materials are needed on site.

H. Provide all documentation required herein available immediately upon request of Owner’s Environmental Representative. Contractor’s Safety Representative will meet at least monthly with Owner’s Environmental Representative to review Contractor’s Hazardous Materials Management Program documents, procedures, and inspect the storage site and job site to ensure the requirements specified herein are being complied with. Also, provide Owner’s Environmental Representative and the Owner’s Representative with copies of all permits obtained from environmental regulatory agencies.

I. Provide documentation to Owner’s Representative and Owner’s Environmental Representative that Contractor, subcontractors, or others hired by Contractor making deliveries of hazardous Materials (as defined in Title 49 CFR) to the site are in compliance with Title 49 CFR 172.800 – 172.804, which requires each person who...
offers for transportation in commerce or transports in commerce one or more of the following hazardous materials, as defined by Title 49 CFR, must develop and adhere to a security plan for hazardous materials that conforms to the requirements of this subpart.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

** END OF SECTION **
SECTION 01415 – A

CONFINED SPACE ENTRY PLAN (SDSR)

PART 1 - GENERAL

1.1 DESCRIPTION

A. Owner has determined that portions of the Work site may constitute “confined spaces” as defined in 29 CFR §1926.21(b) (2) and 1910.146. Accordingly, incorporate into its Safety Plan for the Work site appropriate measures to protect the health and safety of all persons on the Work site or who may be affected by the Work, including, without limitation thereby, employees and representatives of the Contractor, any subcontractor, Owner, or Owner’s Representative while they are present and engaged in the performance of their duties on the Work site.

B. The Contractor shall comply with all local, State and Federal rules and regulations related to the protection of persons working or entering into confined spaces including, but not limited to the following:

1. 29 United States Code §654.
4. City of Phoenix, Confined Space Program

C. To assure Owner that Contractor is complying with the intent of the regulations stated in Paragraph 1.1.A, above, as they relate to the protection of all persons on the Work site, Contractor’s Safety Plan, at a minimum, shall respond to the following requirements as they relate to Work in confined spaces:

1. Conducting a Site-specific hazard assessment to identify confined spaces that should be characterized as “Permit Required Confined Spaces” within the meaning of 29 CFR §1926.21 (b) (6) (i) and 29 CFR §1910.146.

2. Adopting as an element of its Safety Plan appropriate requirements for safeguarding access to “Permit Required Confined Spaces”.

3. Providing training, personal protective or safety equipment and personnel as needed to perform the Safety Plan’s requirements for “Permit Required Confined Spaces.”
4. Performing all record-keeping required for “Permit Required Confined Spaces”, including the required permits and confined space data sheets located in Specification Section 01331 - Reference Forms.

1.2 CONFINED SPACES SAFETY PLAN REQUIREMENTS

A. For purposes of the Safety Plan requirements listed in Article 1.1, above, “confined spaces” are those areas on or about the Work site that fall within OSHA’s definition as “any space having limited means of egress, which is subject to the accumulation of toxic or flammable contaminants or has an oxygen deficient atmosphere. Confined or enclosed spaces include, but are not limited to, storage tanks, process vessels, bins, boilers, ventilation or exhaust ducts, sewers, underground utility vaults, tunnels, pipelines, and open top spaces more than four feet in depth such as pits, tubs, vaults, and vessels.”

B. Ensure that those persons who are required to enter a confined space are trained according to OSHA requirements set forth in 29 CFR §1926.21 (b)(6)(i).

C. If the confined space is a “Permit Required Confined Space”, then comply with the standards set forth in 29 CFR §1910.146. and the City of Phoenix, Confined Space Program.

D. “Permit Required Confined Space” means a confined space that has one or more of the following characteristics:

1. Contains or has the potential to contain a hazardous atmosphere.
2. Contains a material that has the potential for engulfing an entrant.
3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or floors, or by a floor that slopes downward and tapers to a smaller cross-section.
4. Contains any other recognized serious safety or health hazard.

1.3 SUBMITTALS

A. Prepare and submit a site-specific Confined Space Entry Plan as a portion of the Contractor’s site-specific Health and Safety Plan.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

** END OF SECTION **
PART 1 - GENERAL

1.01 INSPECTION AND TESTING OF MATERIALS

All workmanship and materials shall be subject to inspection by the Owner’s Representative, who may select samples of materials in such a number and quantities as the Owner’s Representative may deem necessary to determine their qualities, as herein specified. The Owner’s Representative will accept or reject the materials in accordance with the results of such trials or from test results submitted from an independent testing laboratory. All rejected materials shall be promptly replaced to the satisfaction of the Owner’s Representative. The Contractor shall assist the Owner’s Representative by providing access to the location where the work is in progress. The Contractor shall replace rejected work and materials and bear all costs for doing so.

Non-rejection or non-inspection of materials does not constitute acceptance by the Owner or Owner’s Representative.

Owner’s Representative inspection will be provided on an 8-hour per day, 5-day per week basis, excluding weekends and holidays. The Contractor shall not schedule any overtime work which requires inspection, survey or material testing without written permission from the Owner’s Representative two (2) working days before the proposed overtime work. The Owner reserves the right to deny the requested overtime. If an overtime request is denied, the Owner may extend the contract time at no additional cost to the Owner.

1.02 REFERENCES

Refer to Section 02148 – A, CIPP Lining of Existing Sewers (SDSR)

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

** END OF SECTION **
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PART 1 - GENERAL

1.1 ABBREVIATIONS

Wherever used in the Contract Documents, the following abbreviations will have the meanings listed:

AAC  Arizona Administrative Code  
    1700 West Washington, 7th Floor  
    Phoenix, AZ  85007-2808

AASHTO  American Association of State Highway and Transportation Officials  
        444 North Capitol Street, N.W., Suite 225  
        Washington, D.C. 20001

ACI  American Concrete Institute  
    Post Office Box 19150  
    Detroit, MI

ADEQ  Arizona Department of Environmental Quality  
    3033 North Central Avenue  
    Phoenix, AZ 85012

ADOT  Arizona Department of Transportation  
    206 South 17th Avenue  
    Phoenix, AZ  85004

ADWR  Arizona Department of Water Resources  
    500 North Third Street  
    Phoenix, AZ 85004

AEIC  Association of Edison Illuminating Companies  
    51 East 42nd Street  
    New York, NY 10017

AISC  American Institute of Steel Construction, Inc.  
    One East Wacker Drive, Suite 3100  
    Chicago, IL 60601-2001
AISI  American Iron and Steel Institute
  1101 17th Street, N.W., suite 1300
  Washington, D.C. 20036-4700

ANSI  American National Standards Institute, Inc.
  1430 Broadway
  New York, NY 10018

API   American Petroleum Institute
  1001 K Street, N.W.
  Washington, D.C. 20006

ASCE  American Society of Civil Engineers
  345 East 47th Street
  New York, NY 10017

ASCII American Standard Code for Information Interchange
  United States of America Standards Institute
  10 East 40th Street
  New York, NY 10016

ASTM American Society for Testing and Materials
  1916 Race Street
  Philadelphia, PA 19103

AWS  American Welding Society
  550 N.W. LeJeune Road
  Miami, FL 33135

AWWA American Water Works Association
  6666 West Quincy Avenue
  Denver, CO 80235

BOCA Building Officials and Code Administrators
  7926 Halstead
  Homewood, IL 60430

CFR  Code of Federal Regulations
  Superintendent of Documents
  Government Printing Office
  Washington, D.C. 20402
CMAA  Crane Manufacturers Association of America, Inc.  
(Formerly called: Overhead Electrical Crane Institute) (OECI)  
326 Freeport Road  
Pittsburgh, PA 15238

CRSI  Concrete Reinforcing Steel Institute  
180 North La Salle Street  
Chicago, IL 60601

EEI  Edison Electric Institute  
90 Park Avenue  
New York, NY 10016

FEDSPEC  Federal Specifications  
General Services Administration  
Specification and Consumer Information Distribution Branch  
Washington Navy Yard, Building 197  
Washington, DC 20407

FEDSTDS  Federal Standards  
(see FEDSPECS)

IES  Illuminating Engineering Society  
c/o United Engineering Center  
345 East 47th Street  
New York, NY 10017

MAG  Maricopa Association of Governments  
1820 West Washington Avenue  
Phoenix, AZ 85007

NACE  National Association of Corrosion Engineers  
P.O. Box 986  
Katy, TX 77450

NASSCO  National Association of Sanitary Service Companies  
1314 Bedford Ave., Suite 201  
Baltimore, MD 21208

NFPA  National Fire Protection Association  
Batterymarch Park  
Quincy, Maine 02269
NPDES
National Pollution Discharge Elimination System
Environmental Protection Agency, Region 9
75 Hawthorne Street,
San Francisco, CA

OSHA
Occupational Safety and Health Act
U.S. Department of Labor
Occupational and Health Administration
San Francisco Regional Office
450 Golden Gate Avenue, Box 36017
San Francisco, CA 94102

SWPPP
Storm water Pollution Prevention Plan
Environmental Protection Agency, Region 9
75 Hawthorne Street,
San Francisco, CA

UBC
Uniform Building Code
Published by ICBO

UL
Underwriters Laboratories Inc.
207 East Ohio Street
Chicago, IL 60611

WABO
Welding Association of Building Officers
Post Office Box 7310
Olympia, WA 98507

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

** END OF SECTION **
SECTION 01510 – A
TEMPORARY CONSTRUCTION FACILITIES (SDSR)

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies the facilities, utilities, and security the Contractor is required to furnish and maintain during construction.

B. Copies of the specifications and other Contract Documents shall be kept at the work site and available for use at all times.

PART 2 - PRODUCTS

2.1 POWER

The Contractor will use battery, pneumatic, or hydraulic power for all in-sewer work. This limitation is not necessary for work on the surface or in sewer illumination.

2.2 LIGHTING AND ILLUMINATION

As necessary, the Contractor shall provide low voltage lighting and illumination in the sewer, in accordance with the guidelines published in Practice for Industrial Lighting, ANSI/IES RP7-1983. Lighting used by the Contractor on the surface shall be placed to avoid nuisance to traffic or local residences.

2.3 TELEPHONE

The Contractor shall provide telephone service for its own use and shall be manned by the Contractor or Contractor’s Representative 24 hours per day. The Contractor or Contractor’s Representative manning the telephone service shall be fluent in written and verbal English. Cellular telephone service is acceptable as a substitute for telephone service. These telephone and labor costs shall be paid by the Contractor.

2.4 WATER

All water for testing, flushing, cleaning and construction shall be furnished and paid for by the Contractor. Water may be available upon request to the Owner by connecting to the Owner’s water distribution system at a point approved by the Owner with backflow and metering devices installed according to Owner requirements. Authorization to
receive water may be rescinded by the Owner upon written notice to the Contractor at any time and for any reasons.

The Owner shall charge the Contractor for water used in performing the above functions in accordance with the Owner’s established rate schedule. An approved backflow prevention devise, meeting the requirements of ANSI A40.6, latest revision, shall be installed in each and every connection to the Owner’s water supply. The Contractor shall be required to meter all water used.

2.5 DISPOSAL SITE

The Contractor shall make provisions for a legal, off-site debris disposal site. The Contractor shall be responsible to obtain and submit to the Owner’s Representative a written letter of acceptance, signed by an authorized representative of the agency and/or authorized party accepting debris. Disposal of debris shall not occur until Owner’s Representative has reviewed and accepted the disposal site.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

** END OF SECTION **
SECTION 01551 – A

MAINTENANCE AND PROTECTION OF TRAFFIC (SDSR)

PART 1 - GENERAL

1.1 DESCRIPTION

Traffic control during construction shall be provided in accordance with the requirements of the City of Phoenix Supplements to the MAG Uniform Standard Specifications Section 401, Traffic Control.

1.2 TRAFFIC REGULATIONS

A. Traffic Control Plan must be submitted for review and approval by the City of Phoenix Street Transportation Department for all major thoroughfares including collector streets in the City of Phoenix impacted by construction operations.

B. All traffic and/or traffic control devices on this project shall be provided, maintained and/or controlled as specified in the City of Phoenix Traffic Barricade Manual, 2007 or latest revision and amendments.

C. Permission to restrict City streets, sidewalks and alleys (street closure permits) shall be requested as specified in Chapter 2 of the Traffic Barricade Manual, 2007 or latest revision and amendments.

D. Unless otherwise provided for in the following “Special Traffic Regulations”, all traffic on this project shall be regulated as specified in Traffic Barricade Manual, 2007.

E. No deviation to the “Special Traffic Regulations” will be allowed or implemented unless submitted to the Owner for review and approval two (2) weeks prior to proposed work.

F. Contractor shall follow City of Phoenix Right-of-Way Management Program: City Code Article XV, approved April 2004, to promote, preserve, and protect the health, safety, and welfare of the citizens of Phoenix in public ROW.

1.3 TRAFFIC CONTROL / ACCESS

A. Contractor shall be responsible to present traffic control plans at the weekly project progress meeting for review as outlined in Section 01113 – A, Work Sequence (SDSR), paragraph 1.4 C. Uninterrupted access to commercial businesses and residences shall be maintained at all times. Contractor shall be responsible to adjust
work schedule to minimize disruption to normal operation of businesses.

B. The Contractor shall be responsible to coordinate traffic control plans and inform the project’s public relations sub-consultant of any potential impacts to commercial businesses or residents per Section 01144 – A, Public Awareness (SDSR). Contractor shall adjust work activities and schedules to minimize disruptions. The Owner and Owner’s Representative reserve the right to request the Contractor move his operations or modify work plans and schedules to minimize disruptions to commercial business or residents at no additional cost to the Owner.

1.4 TRAFFIC CONTROL PLAN DISTRIBUTION

A. Copy of approved traffic control plan and permit shall be submitted to the Owner Representative prior to start of work.

B. Copy of approved traffic control plan and permit shall be on-site and available for review at all times work activities are commencing. Failure to have approved Traffic Control Plan on-site while work is commencing will be grounds for rejection and non-payment of work being performed.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

A. All streets, traffic ways, and sidewalks shall be kept open in a safe manner for the passage of traffic and pedestrians during the construction period unless otherwise approved by the Owner.

B. When required to cross, obstruct or close a street, traffic way, or sidewalk for a short duration that is authorized by the Owner, the Contractor shall provide and maintain suitable bridges, detours or other approved temporary means for the accommodation of vehicular and pedestrian traffic. Closings shall be for the shortest time practical, and passage shall be restored immediately after completion of construction.

C. The Contractor shall give the Owner’s Representative 24 hours advance notice of his proposed operations within any public rights-of-way and temporary roadway closings. All proposed roadway closings shall be submitted in Traffic Control Plan and approved prior to commencement of operations.

D. The Contractor shall provide signs, signals, barricades, flares, lights and all other equipment, service and personnel required to regulate and protect all traffic, and warn of hazards in accordance with MAG specifications. All such work shall conform to requirements of the Owner or authority having jurisdiction. Remove temporary equipment and facilities when no longer required and restore grounds to original
condition.

E. As specified in Section 01551 – A, Maintenance and Protection of Traffic (SDSR), the Contractor shall develop a traffic control plan, obtain a permit, and install all devices to implement the approved traffic control around all work as part of the contract.

F. Qualified and suitably equipped flaggers shall be used to assist all construction equipment and vehicles access to and from the construction site.

** END OF SECTION **
CITY OF PHOENIX: Water Services Department
PROJECT NAME: Small Diameter Sanitary Sewer Rehabilitation – FY 19/20
PROJECT NUMBER: WS90500118

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PART 1 - GENERAL

1.1 DESCRIPTION

Provide and maintain methods, equipment, and temporary construction, as necessary to provide controls over environmental conditions at the construction site and adjacent areas. Remove physical evidence of temporary facilities at completion of the work.

1.2 TRANSPORTATION ROUTES

The Contractor shall select the transportation routes for hauling materials, equipment, or imported products based on the existing condition of the pipe and impacts on local traffic. Because there will be many different sewer lining sites with varying access routes, the transportation routes shall be documented in a traffic control plan on a case by case basis.

1.3 TRAFFIC CONTROL

A. All streets, traffic ways, and sidewalks shall be kept open in a safe manner for the passage of traffic and pedestrians during the construction period per Section 01551 – A, Maintenance and Protection of Traffic (SDSR).

1.4 SEWAGE SPILL CONTROL

A. A spill is defined as any release of raw sewage, planned or unplanned. Raw sewage releases shall not be allowed to occur and are not permitted. The Contractor shall be responsible for all consequences and damages caused by the release, overflow, backup, or spill due to the Contractor's work activities.

B. The Contractor shall give both verbal and written notification to the Owner’s Representative and the Owner immediately in the event of any sewage release, overflow, backup, or spill.

C. The Contractor shall have a written storm water pollution prevention plan as indicted in Section 01412 – A, Stormwater Pollution Prevention Plan and Permit (SDSR).

1.5 EMERGENCY SPILL RESPONSE PLAN

A. The Contractor shall be responsible to develop and follow an emergency spill response plan. The plan shall be communicated to all personnel so if an emergency
should occur, it can be handled in the safest and most efficient manner possible.

B. The primary responsibility for all Contractor personnel is to respond to sewer spills as quickly as possible.

C. An emergency telephone list is part of this procedure and will be kept up-to-date at all times.

D. Follow Standard Procedure List

E. Fill out attached Confidential Spill Reporting Form. Refer to Section 01331 – A, Reference Forms (SDSR).

F. The Contractor shall develop an Emergency Spill Response Phone List. Submit the list according to Section 01330 - A, Submittals (SDSR).

1.6 RELEASE OF HOT WATER

A. Contractor shall not release heated water into the sanitary sewer system directly upstream of any wastewater reclamation facility. Contractor shall be responsible to obtain written authorization from the facility operator receiving the waste stream. Authorization, if given, shall state the maximum discharge temperature of the water. Contractor shall submit Authorization to Release letter to the City according to Technical Specification Section 01330 – A, Submittals (SDSR).

B. Contractor shall be responsible to cool process water to a temperature below levels required by the facility operator or find alternative hot water disposal methods and/or location at no additional cost to the City.

C. Contractor shall be responsible for and pay all damages caused by an unauthorized release of heated water into the headworks of the treatment facility.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 SITE MAINTENANCE

A. The Contractor shall keep the work site, staging areas, storage and parking area, and Contractor's facilities clean and free from rubbish and debris. Materials and equipment shall be promptly removed from the site when they are no longer necessary. Upon completion of the work and before final acceptance, the work site
shall be cleared of equipment, unused materials, and rubbish to present a clean and neat appearance in conformance with the preconstruction condition of the site. Refer to each section for further requirements.

B. Contractor shall not store equipment or materials anywhere other than locations approved by the Owner. Property surrounding the work site shall be completely free of all debris and rubbish at all times.

3.2 CLEAN-UP

A. Waste material of any kind will not be permitted to remain on the site of the work or on adjacent streets. Immediately, upon such materials becoming unfit for use in the work, they shall be collected, carried off the site and disposed of by the Contractor. The Contractor shall be responsible for obtaining necessary permits or approval for the Contractor's disposal site.

B. The Contractor shall keep all buildings and areas occupied by the Contractor clear of all refuse, rubbish and debris that may accumulate from any source and shall keep them in a neat condition to the satisfaction of the Owner or Owner’s Representative.

C. In the event that waste material, refuse, debris and/or rubbish are not so removed from the work area by the Contractor, the Owner reserves the right to have the waste material, refuse, debris and/or rubbish removed and the expense of the removal and disposal charged to the Contractor.

D. Paints, solvents, and other construction materials shall be handled with care to prevent entry of contaminants into storm drains, surface waters, or soils.

3.3 BARRIERS

A barrier shall be provided around all unattended excavations and open structures. The barrier shall enclose the area and prevent unauthorized access.

3.4 STREET CLEANING

A. The Contractor shall be responsible for preventing dirt, dust, and sediments from escaping from trucks departing the project site, by covering dusty loads, washing truck tires before leaving the site, or other reasonable methods.

B. When working trucks and/or other equipment on paved streets and roadways, the Contractor will be required to clean said streets as soon as possible, but no later than at the conclusion of each day's operations or 24-hour period and at such interim periods as required by the Owner’s Representative.
C. All streets in the construction area used by Contractor's trucks or any other equipment hauling material to and from the area, whether within the Contract limits or adjacent thereto, shall be kept clean by the Contractor and shall be continuously serviced by the Contractor's use of water trucks to control dust.

D. Cleaning and dust control shall be as specified in MAG Section 104.1.4 and shall be at the Contractor's expense.

E. Any violation of the requirements shall be sufficient grounds for the Owner’s Representative to order the streets in question cleaned by others and the cost to be paid by the Contractor.

F. No solid materials or soils may be flushed into storm drains or in the sewers or wastewater facilities.

G. Contractor shall use a power pick-up broom with watered dust suppression system, as part of the dust control effort.

3.5 AIR POLLUTION CONTROL

A. The Contractor shall not discharge smoke, dust, and other contaminants into the atmosphere that violate the regulations of any legally constituted authority. The Contractor shall maintain construction vehicles and equipment in good repair. Equipment exhaust emissions that are determined to be excessive by the Authority or Owner’s Representative shall cause the equipment to be repaired or replaced.

B. The Contractor shall also minimize dust nuisance by cleaning, sweeping, and sprinkling with water, or other means. The use of water, in amounts, which result in mud on public streets, is not acceptable as a substitute for sweeping or other methods. Equipment for this operation shall be on the job site or available at all times.

3.6 ODOR

The Contractor shall employ methods and procedures that mitigate the generation and discharge of objectionable odors to the surface environment at all times.

3.7 NOISE CONTROL

A. The Contractor shall perform all work in compliance with OSHA standards and in no case will noise levels be permitted which would interfere with the work of the Owner or others. Noise levels shall be in accordance with City of Phoenix noise ordinance.

B. If pumping operations occur after regular work hours as stated in the General Conditions 6.02.B.1. The Contractor shall utilize sound attenuated bypass pumps with
a maximum decibel rating of 70 db @ 50 feet.

C. Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without said muffler.

D. Noisy portable equipment, such as generators or compressors, shall be located as far away from sensitive noise receptor areas as practicable. Sensitive noise receptors are defined as occupied buildings with windows or doors facing the site. Noise barriers shall be constructed around noisy stationary construction equipment such as compressors or generators that have to be utilized at locations near (within 100 feet of) sensitive noise receptors as defined above.

E. Idling equipment not actively utilized for extended periods of time shall be shut off.

3.8 TREE AND PLANT PROTECTION

A. If a tree or any landscaped vegetation is damaged or destroyed by construction, or any action of the Contractor, the Contractor shall replace the damaged tree or plant with a healthy one of the same species. The replacement tree or plant shall be of the same size as the damaged tree or plant and will be placed at the existing grade. The Contractor shall bear all expenses required to establish the replacement tree or plant. The replacement tree or plant shall be guaranteed healthy for 1 year after the end of construction date. The Contractor shall be responsible for any tree or plant that the Contractor had replaced that is deemed unhealthy during that year.

B. All landscaped areas and other surface improvements which are damaged by actions of the Contractor shall be restored to their original condition at the Contractor's expense.

3.9 SURFACE WATER CONTROL

A. The Contractor shall conform to the regulations and requirements of legally authorized surface water management agencies. The Contractor is responsible to provide and maintain any temporary pumping, drainage structures, or other means to manage or control nuisance surface water as indicated in Section 01412 – A, Stormwater Pollution Prevention Plan and Permit (SDSR).

B. The Contractor shall be responsible for keeping any open excavations and other areas free from water as required to permit continuous progress of, or to prevent damage to, its own work or work of others. The Contractor shall cover exposed excavated areas and spoil piles when runoff from rain is or would be likely to cause turbid waters to enter local waterways. The Contractor shall suspend work in the rain if such work
cannot be performed without causing turbid runoff.

3.10 STORM SEWER

Contractor shall not discharge any wastewater, potable water used for testing, or cleaning, or any chemical or waste materials from the construction operation into the storm sewer system.

3.11 SANITARY SEWER

Contractor shall not dispose of chemical or any waste materials from the construction operations into the sanitary sewer system.

** END OF SECTION **
SECTION 01721 – A

PROTECTION OF THE WORK AND PROPERTY (SDSR)

PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies restoration of improvements for the Contractor's work area, staging area, storage area, and parking area.

1.2 STRUCTURES

The Contractor shall remove such existing structures as may be necessary for the performance of the work and shall rebuild the structures thus removed, with the specified requirements, in as good a condition as found. The Contractor shall also repair existing structures that are damaged as a result of the work under this Contract at no additional cost to the Owner.

1.3 ROADS AND STREETS

Unless otherwise specified, roads and streets in which the surface is removed, broken, or damaged, or in which the ground has caved or settled during or as a result of the work under this Contract, shall be resurfaced and brought to the original grade and section. Roadways used by the Contractor shall be cleaned and repaired. Before resurfacing material is placed, edges of pavements shall be saw cut and trimmed back far enough to provide clean, solid, vertical faces, and shall be free of loose material. Streets, sidewalks, and other City, County or State owned facilities impacted by construction activities shall be replaced or repaired in accordance with current City of Phoenix and MAG requirements.

1.4 CULTIVATED AREAS AND OTHER SURFACE IMPROVEMENTS

A. Cultivated or planted areas, other unpaved areas, and other surface improvements which are damaged by actions of the Contractor shall be restored to their original condition at no additional cost to the Owner. The Contractor shall videotape record the entire areas to be used as the work area, staging area, storage area, and parking area as specified in Section 01323 – A, Construction Photographs (SDSR). The copies of the videotapes shall be submitted to the Owner’s Representative prior to starting the work.

B. Existing guard posts, barricades, and fences shall be protected and replaced if damaged.
1.05 PROTECTION OF EXISTING INSTALLATIONS

The Contractor shall protect all existing operating facilities and structures from damage. However, if damage occurs, the Contractor shall immediately correct or replace existing equipment, materials, or systems that are damaged as a result of its operations to the satisfaction of the Owner’s Representative and at no additional cost to the Owner.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 RESTORATION ACCEPTANCE

A. The Contractor shall record the existing condition of the Contractor’s work area, staging area, storage area, and parking area as specified in Section 01323 – A, Construction Photographs (SDSR).

B. The Owner’s Representative shall determine if and when restoration of the site is acceptable following review of the pre-construction and post-construction recordings.

** END OF SECTION **
SECTION 02145 – A

DIVERSION OF WATER OR SEWAGE FLOW AND DEWATERING (SDSR)

PART 1 - GENERAL

1.1 DESCRIPTION

A. SCOPE:

This section describes requirements for temporary bypassing and dewatering of sewers during remote internal visual inspection, cleaning operations, rehabilitation, and inspection of the project pipelines and of service laterals during the rehabilitation prior to reconnection to the rehabilitated pipeline. Because of the flow rates present within the collection system, temporary bypass pumping may be required for this project.

B. REQUIREMENTS:

The Contractor shall provide all labor, materials, equipment, and supervision to temporarily bypass pump flow around the Contractor’s work to dewater the pipes in accordance with the specific needs of the rehabilitation method being utilized. The bypass strategy shall maintain flow to prevent wastewater backup into customer fixtures or discharge to the environment.

The actual design of the bypass arrangement shall be prepared by the Contractor, and submitted to the Owner’s Representative to determine general conformance to project objectives. Means and methods of accomplishing the bypassing shall be the responsibility of the Contractor.

The Contractor shall have the entire bypassing system in place and tested before bypassing any sewage.

The Contractor shall notify the Owner’s Representative 48 hours prior to shutting down or bypassing the sanitary sewer pipe. Wastewater levels shall be continuously monitored.

The Contractor is responsible for immediate and proper cleanup should any spill occur, regardless of amount. Spills shall be reported according to Section 01570 – A, Temporary Controls (SDSR).
CITY OF PHOENIX: Water Services Department  
PROJECT NAME:  Small Diameter Sanitary Sewer Rehabilitation – FY 19/20  
PROJECT NUMBER: WS90500118

C. EXPERIENCE:

Contractor shall utilize staff and/or a subcontractor that has been directly responsible for the bypass pumping of sewage flows during the completion of a similar pipe rehabilitation project of similar diameter.

PART 2 - PRODUCTS

2.1 MATERIALS

A. The Contractor shall provide temporary pumps, conduits, and other equipment to bypass sanitary sewer flow around the Contractor’s work area as required by the rehabilitation method, and during remote visual inspection and cleaning activities. The Contractor shall furnish all necessary labor and supervision to set up and operate the pumping and bypass system. Equipment shall be equipped with sound attenuation devices to keep the noise level within limits specified in the Phoenix City Codes and/or stated in Section 01570 – A, – Temporary Controls (SDSR). Pumps and bypass lines shall be of adequate capacity and size to handle the required capacity.

B. The Contractor shall maintain on site, sufficient equipment and materials to ensure continuous and successful operation of the bypass and dewatering systems. The Contractor shall maintain on site a sufficient number of valves, tees, elbows, connections, tools, sewer plugs, piping, and other parts or system hardware to ensure immediate repair or modification of any part of the system as necessary.

C. All pumps, generators and other equipment shall be placed on a new plastic tarp, adequately sized and bermed to contain gasoline, oil, and hydraulic fluid spills.

PART 3 - EXECUTION

3.1 ESTIMATED FLOWS AND SEWER CAPACITY

A. Reference Section 01110 – A, Summary of Work, paragraph 1.3.

3.2 PROTECTION

In areas where flows are bypassed, all bypass flow shall be discharged as described above or approved by the Owner’s Representative. No bypassing to the ground surface, receiving waters, storm drains, or bypassing which results in groundwater contamination or potential health hazards shall be permitted in accordance with Section 01412 – A, Stormwater Pollution Prevention Plan and Permit (SDSR).
3.3 DAMAGES

The Contractor shall repair, without cost to the Owner, any damage that may result from his negligence, inadequate or improper installation, maintenance and operation of bypassing system, including mechanical or electrical failures.

** END OF SECTION **
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PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies the requirements for cleaning of the sewers and sewer structures prior to remote visual inspection, Owner’s Representative inspection, and pipe rehabilitation. The work to be done under this Contract consists of furnishing all labor, materials, and equipment to remove the accumulated sediments and clean the sanitary sewers and sewer structures.

1.2 SUBMITTALS

The following submittal shall be provided in accordance with Section 01330 – A, Submittals (SDSR):

1. A letter identifying the methods the Contractor plans to employ to remove sediment, debris, grease, scale, encrustations, and roots throughout the sewer to be lined and in the sewer structures to be repaired or coated. The letter report shall include a detailed explanation of the cleaning process and a schedule of activities, references where the Contractor has used the identified cleaning method successfully in the past.

2. The Contractor shall submit the cleaning technique, nozzle and water pressure proposed to ensure the interior circumference of the pipe is clean and free from any residual sediment.

3. The Contractor shall submit a public awareness plan outlining the means and methods he plans to initiate to mitigate impact to the public during the cleaning operation.

PART 2 - MATERIALS

2.1 CHEMICAL ADDITIVES

No chemicals shall be used without written approval of the Owner’s Representative. In no case shall any chemical additive be used which might be considered hazardous, or might be considered detrimental to organisms or equipment of a wastewater treatment plant, or detrimental to old or new pipe materials.

A Material Safety Data Sheet (MSDS) shall be posted onsite with a copy supplied to the
Owner’s Representative for all chemicals anticipated to be used in the project or brought on-site.

2.2 NOZZLE

A. The Contractor shall use a nozzle to ensure the interior 360 degree circumference of the pipe interior is clean and free from any residual sediment prior to lining.

B. It shall be the Contractor’s responsibility to determine whether structural condition of the existing pipe will not be detrimentally damaged by use of spinning nozzle and water pressure utilized. The Contractor shall notify the Owner’s Representative of pipe condition that would be impacted through the proposed cleaning process and equipment. Once the Contractor initiates the cleaning operation, he accepts the responsibility of reinstating normal operation of the sewer.

PART 3 - EXECUTION

3.1 GENERAL

The Contractor shall at all times conduct work so as to prevent any detrimental sewage blockage and minimize surcharging in the sewer manholes or connecting sewer pipes.

It shall be the Contractor’s responsibility to determine whether structural condition of the existing pipe will not be detrimentally damaged as a result of the cleaning process. Damage to existing facilities as a result of the Contractor's work shall be promptly repaired in kind at the Contractor's expense.

3.2 SEWER BYPASSING AND DEWATERING

If required or directed by the Owner’s Representative, sewer flow shall be bypassed during the cleaning of the sewers as specified in Section 02145 – A, Diversion of Sewage Flow and Dewatering (SDSR).

3.3 CLEANING

The Contractor shall clean existing sediment, debris, roots, scale, encrustations, grout, and grease accumulations from the sanitary sewer pipes to be inspected or scheduled to be rehabilitated and adequately prepare the surfaces for installation of liner. Initial cleaning may not be performed more than thirty (30) days prior to start of lining installation.

Pipe discovered by the Contractor or his Subcontractor to be physically deteriorated to the extent where cleaning may detrimentally impact the structural integrity of the existing
pipe shall be brought to the attention of the Owner’s Representative prior to conducting cleaning operations.

Cleaning shall remove all sediment, rocks, debris, roots, grease accumulations and obstructions from the sewer to be lined and from the structures to be coated (if applicable). Cleaning of the sewer and structure interior surfaces shall remove all grease, scale, encrustation, and any other foreign material from the surface. Multiple passes with cleaning equipment may be required at no additional cost to the Owner.

Sediment or debris from cleaning operations larger than U.S. #8 sieve shall not be deposited downstream in the sewer. Sedimentation deposited downstream shall be removed at no cost to the Owner. All materials dislodged during cleaning shall be removed from the pipe and delivered to an approved disposal site.

The Contractor shall be thoroughly familiar with all phases of sewer and structure cleaning to ensure the completion of this Contract without causing a health hazard or damage to the sewage system, public and private property.

The Contractor shall clean the sewer and structures so that there are no visible rocks, debris, roots, grease accumulation and obstructions. The Contractor shall clean the pipe to ensure proper installation of the sewer liner.

It shall be the responsibility of the Contractor to repeat the cleaning process if root regrowth or other detrimental obstructions are present between the time pre-video inspection for sanitary sewer lateral reinstatement determination and CIPP lining operation at no additional cost to the Owner.

3.4 RECLEANING

Re-cleaning of the sewer pipe may be required prior to the remote visual pipe inspection preceding CIPP lining operation at no additional cost to the Owner.

3.5 REMOTE VISUAL INSPECTION

Cleaning of the sanitary sewer pipe is required prior to remote visual inspection of the sewer to view pipe conditions and service laterals per Section 02147 – A, Remote CCTV Inspection of Existing and Rehabilitated Sewers (SDSR).

3.6 DISPOSAL OF SEDIMENTS

The Contractor shall be responsible for transporting and disposing, including all disposal fees, of any sediments and material removed from the sewer or structures.

All sediment and debris removed from the sewer shall be disposed off-site in a lawful
manner. Hauling containers shall be watertight. On-site stockpiling of removed material will not be permitted.

The Contractor is responsible for obtaining all necessary permits, fees, and approval from all regulatory agencies required to perform the work, including transport of sediments. Off-site disposal of all material removed from the sewer shall be the Contractor's responsibility.

** END OF SECTION **
SECTION 02147 – A

REMOTE CCTV INSPECTION OF EXISTING AND REHABILITATED SEWERS (SDSR)

PART 1 - GENERAL

1.1 DESCRIPTION

This specification defines the requirements for internal closed circuit (CCTV) television inspection of the existing sewer pipes before and after rehabilitation according to the National Association of Sanitary Service Company (NASSCO) standards.

1.2 SUBMITTALS

A. PRELIMINARY

At the preconstruction conference the Contractor shall submit the following information for review per Section 01330 – A, Submittals (SDSR) following notification of award of the Contract:

1. The Contractor shall submit CCTV operator name that possesses three (3) years of experience along with NASSCO PACP certification number for approval.

2. The Contractor shall submit an example of work to demonstrate proposed quality and clarity of video along with proposed methods of documentation. Example shall consist of one remote visual inspection record in digital format of previous sewer inspection work complete with audio commentary and inspection log(s). The submitted record shall show operational and structural defects in sewers that are of the same diameter as the sewers in this project.

The information will be reviewed to determine if the quality of the images, technique, and inspection procedures are acceptable and if defects were properly identified and documented. Samples shall be with the same camera, lighting equipment, and data handling procedures proposed for this work.

The Owner’s Representative will review the records, not for accuracy of content, but to make sure that the required information is provided and the recording is of acceptable quality. If the Owner’s Representative determines that the records are defective or not of adequate quality, the Contractor shall repeat the inspection documentation at the Contractor's expense.

The Contractor shall be responsible for modifications to his equipment and/or inspection procedures to achieve report material of acceptable quality. No work shall
commence prior to approval of the material by the Owner’s Representative. Once accepted, the report material shall serve as a standard for the remaining work.

The Contractor shall resubmit a final video showing a post inspection after the liner issue(s) have been addressed and approved. Contractor shall correct all title information on the video and labels prior to final submittal.

Digital Video Disk (DVD) records shall include labels containing project titles, dates, including City and Contractor company names. The Contractor shall maintain a copy of all inspection documentation (disks, tapes, databases, and logs) for the duration of the work and warranty period.

B. OTHER SUBMITTALS

1. Pre-Construction Inspections: One copy of the pre-construction CCTV inspection stored on DVD media or external hard drive, showing the existing sewer pipe after preliminary cleaning, shall be submitted to the Owner’s Representative, a minimum of fourteen (14) days prior to CIPP lining. The distance to each sanitary sewer lateral shall be recorded on the inspection tape and paper copy record. Each pipe segment to be rehabilitated shall be CCTV inspected and recorded. Multiple pipe segment inspections can be stored on one DVD. If the Owner’s Representative determines that the records are defective, not of adequate quality, not containing pipe identification information, or footage counter, the Contractor shall repeat the inspection documentation at the Contractor's expense.

2. One copy of the CCTV inspection stored on DVD media or external hard drive, showing the existing sewer pipes after cleaning, just prior to CIPP installation along with a final inspection video after liner installation and lateral cutting shall be submitted to the Owner’s Representative within fourteen (14) days from the final inspection video. The Owner’s Representative will track and compile a final record of initial cleaning, pre-lining CCTV and post-lining CCTV and if necessary secondary post-lining CCTV after liner issues have been addressed and submitted to the Owner’s Representative by the Contractor.

3. The Contractor shall submit written inspection logs and CCTV procedures according to National Association of Sanitary Service Companies (NASSCO) – Pipeline Assessment and Certification Program (PACP) for the sewer pipes inspected and/or lined.
PART 2 - PRODUCTS

2.1 MATERIALS

A. TELEVISION INSPECTION CAMERA(S)

Camera(s) shall be intrinsically safe and shall be operative in 100 percent humidity conditions. Lighting intensity shall be remotely controlled and shall be adjusted to minimize reflective glare. Lighting and camera quality shall provide a clear, focused picture of the entire inside periphery of the sewer. Camera shall have tilt and zoom capabilities to view 90 degrees to the pipe centerline for the entire 360 degrees of the pipe circumference. Camera and associated equipment shall support the minimum of 720 H x 480 V pixels and 720p resolution.

The Contractor shall utilize equipment that allows for CCTV to be performed within conditions noted in the specification. Contractor’s equipment shall be sized to fit within lined segments. Any scrapes or damages to the liner resulting from equipment use shall be addressed and corrected.

B. DIGITAL RECORDING

Video recordings of all sewer line inspections shall be made on Digital Video Disk (DVD) disks or external hard drives compatible with Microsoft products. The audio portion of the video shall be sufficiently free from electrical interference and background noise to provide complete intelligibility of the oral report. Video recording shall be MPEG I and shall comply with ISO/IEC 11172 MPEG I specifications. The inspection image files (pictures) shall have the ability to be exported to Industry Standard Formats, including JPEG, BMP, and TIFF formats, and shall be capable of transfer between DVD and external hard drive. A copy of the video recordings shall be consolidated by City of Phoenix quarter section number of lined sewer segments.

C. FOOTAGE COUNTER

A footage counter device, which measures the distance traveled by the camera in the sewer, shall be accurate to plus or minus 2 feet in 1,000 feet.

D. VIDEO TITLING

Video equipment shall include genlocking capabilities to the extent that computer generated data, (i.e., footage, date, size, address and location, etc.) as determined by the Owner can be overlaid onto video, and both indicated on the television monitor and permanently recorded on the inspection video.
E. SEWAGE FLOWS IN SEWERS:

During remote visual inspections, and continuously until completion of liner installation and final documentation inspection, the Contractor shall provide temporary dry conditions in the sewer pipes. The bypassing requirements are provided in Section 02145 – A, Diversion of Sewage Flow and Dewatering (SDSR).

PART 3 - EXECUTION

3.1 CLEANING

The remote visual inspection shall be performed after cleaning the sewer as specified in Section 02146 – A, Sewer and Sewer Structure Cleaning (SDSR), and prior to lining the pipe. The Contractor shall be responsible for properly inspecting and documenting the final condition of the rehabilitated pipe.

3.2 SCHEDULE

The Contractor shall submit post CCTV of segments within ten (10) working days from the date of installation. The Contractor shall also be responsible to produce and submit hard copy inspection logs of the inspection process.

3.3 SEQUENCE OF INSPECTION

The sewer pipe shall be remote visually inspected, in the same direction, prior to and following the lining of the sewer. Final CCTV inspection shall be performed after lateral reinstatement has been completed.

3.4 INSPECTION METHODS

The Contractor shall inspect the sewer interior using a camera or process capable of producing a color image for permanent record and documentation of inspection in digital format (mpeg or jpeg) with audio location and date information, data title information.

A. VERBAL COMMENTARY

The Contractor shall audio record narrative on the remote visual inspection the location, upstream and downstream control points, date, and time of the inspection.

B. ACCESS

The Owner’s Representative shall have full access to observe the monitor and all other operations at all times. The system of cabling employed to transport the camera and
transmit its signal shall not obstruct the camera's view.

C. INSPECTION RATE

The camera shall be pulled through the sewer in either direction, but all inspections at each location shall be in the same direction. Maximum rate of travel shall be 30 feet per minute when recording.

D. IMAGE PERSPECTIVE

The operator shall perform a full 360 degree pan of both pipe end openings. The camera image shall be down the center axis of the pipe when the camera is in motion. The Contractor is required to provide a 360-degree view of the pipe interior. Points of interest shall also be documented and shall include, but not be limited to, defects, encrustations, mineral deposits, debris, sediment, any location determined not to be clean or part of a proper liner installation, or defects in the liner (including, but not limited to, bumps, folds, tears, dimples, etc.).

Each individual sanitary sewer lateral opening to the sewer main shall be remote visually inspected. Full 360 degrees of the lateral opening shall be documented without zoom where the edge of the cut opening is centered in the image. Camera shall first pan and tilt to the lateral opening prior to zoom. The camera will then zoom into the lateral interior to document the condition of the lateral and identify any obstructions. Contractor shall not utilize pan, tilt and/or zoom simultaneously.

E. SEWER IDENTIFICATION

All inspection documentation shall include the sewer location identified by City of Phoenix quarter section manhole numbers.

F. VIDEO NAMING CONVENTION

All CCTV inspection videos and reports shall be named based on the following convention: quarter section (XXXX) – upstream manhole (XXX) or cleanout (COXXX) – downstream manhole (XXX) – Initial cleaning (Cleaning Pre-Video) or Pre-lining of CIPP (Pre-Video) or Post-lining of CIPP (Post-Video).

G. TEXT SCREEN

Each video survey shall be identified with an initial text screen and completed in accordance with PACP’s CCTV inspection form header instruction and shall have the minimum information displayed:

Item – Description
H. QUALITY CONTROL

The Owner’s Representative will review DVDs to ensure compliance with the requirements listed in this specification and contract documents. If the sewer line is determined not to be adequately cleaned, as required in this section, it shall be re-cleaned and remote visual inspection repeated by the Contractor at no additional cost to the Owner. If any portion of the liner is determined not acceptable, the liner shall be repaired or replaced, whichever the Owner’s Representative deems appropriate, and re-inspected and documented.

** END OF SECTION **
SECTION 02148 – A

CIPP LINING OF EXISTING SEwers (SDSR)

PART 1 - GENERAL

1.1 DESCRIPTION

A. SCOPE

This section specifies the Cured-In-Place-Pipe (CIPP) rehabilitation lining, sets acceptable material and experience parameters, defines minimum performance requirements for the finished, installed product and details testing requirements for the completed product.

B. REQUIREMENTS

The Contractor shall provide and install a ASTM D5813 Type III (Fully Deteriorated Host Pipe) resin-impregnated flexible tube (liner) with an interior plastic coating barrier between resin and interior of pipe where steam and water introduced for the curing process in accordance with American Society for Testing and Materials (ASTM) F1216 for the inversion installation method or ASTM F2019 for pulled-in place (Glass Reinforced Plastic – liner) with resin cured by exposure to heated water, steam or Ultraviolet (UV) light. When cured, the CIPP shall be continuous and tight fitting.

1.2 CLIMATIC CONDITIONS

The Contractor is made aware that the Work may occur during the summer months with temperatures exceeding 115 degrees F. The Contractor shall be prepared for these conditions and alter installation procedures or provide protection from detrimental exposure to adverse temperature or sunlight consistent with the materials proposed for use.

Severe thunderstorms could occur that may increase volume of flow present within the sewer system. The Contractor shall be prepared for these conditions and alter his installation procedures and/or provide bypass pumping capabilities accordingly. Contractor shall be responsible for review of the weather forecast prior to commencement of liner installation that restricts or impedes the flow capacity of sewer pipe being rehabilitated. When the anticipated weather conditions are such that the resulting sewer flow may exceed upstream sanitary system storage volume or the capacity of the bypass pumping system or otherwise adversely affect the liner installation then the City’s Representative shall be informed and the installation shall be delayed until favorable weather is forecast.
1.3 EXPERIENCE RECORD OF CONTRACTOR

Contractor shall provide to the satisfaction of Owner, written documentation from the CIPP liner manufacturer that Contractor’s personnel have been adequately informed and trained in the installation procedures of CIPP lining process proposed. Such written documentation shall describe manufacturer’s procedures for installers, training program and, if applicable, licensing policies.

The Contractor shall have an experienced representative on-site that has been responsible for the successful installation of a minimum of 50,000 linear feet of CIPP liner installation of similar diameter in the United States utilizing the installation materials and techniques proposed.

1.4 REFERENCES

This section contains references to the following documents. They are a part of this section as specified and modified. In case of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

- **AASHTO Loading**
  - American Association of State Highway and Transportation Officials - Anticipated external load to be placed on the pipe.
- **ASTM F412**
  - Definitions of Terms Relating to Plastic Piping Systems.
- **ASTM F1216 (including Appendix XI)**
  - Standard practice for rehabilitation of existing pipelines and conduits by the inversion and curing of a resin-impregnated tube.
- **ASTM F2019**
  - Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Pulled-in-Place Installation of Glass Reinforced Plastic (GRP) Cured-in-Place Thermosetting Resin Pipe (CIPP).
- **ASTM D543**
- **ASTM C581**
- **ASTM D578**
  - Standard Specification for Glass Fiber Strand
- **ASTM D638**
1.5 SUBMITTALS

The following submittals shall be provided in accordance with Section 01330 – A, Submittals (SDSR):

1. Shop drawings which detail short and long term properties (providing all supporting test data) of all component materials,

2. Representative cured liner sample (1-foot in length) for each diameter size of the same resin and felt/fiberglass liner proposed for the project depicting all material components and final quality of workmanship that can be expected on this project.

3. Structural calculations of each CIPP diameter size at a depth of 15-feet along with calculations for each liner with depth greater than 15-feet. CIPP liner calculations shall be stamped by a Professional Engineer in the State of Arizona,

4. 10,000-hour third party, 50-year Flexural Creep Modulus test data. Test shall be in accordance with ASTM D2990 at 10,000 hours. If approved 10,000 hour tests are not available, Contractor shall use a minimum 50% reduction (50% retention) of Flexural

| ASTM D790 | Test Method(s) for flexural properties of unreinforced and reinforced plastics and electrical insulating materials. |
| ASTM D1600 | Standard Terminology for Abbreviated Terms Relating to Plastics. |
| ASTM D1682 | Standard Methods of Testing for Breaking Load and Elongation of Textile Fabrics. |
| ASTM D3567 | Standard Practice for Determining Dimensions of “Fiberglass” (Glass-Fiber-Reinforced Thermosetting Resin) Pipe and Fittings |
| NASSCO Standard | Recommended Specifications for Sewer Collection System Rehabilitation. |
Modulus of Elasticity (per ASTM F1216) for all design calculations.

5. Detailed description of method for quality control test sampling,

6. Independent laboratory test reports of CIPP sample(s) and tests as specified in Section 02148 - A, paragraph 1.6 – A.

7. Remote visual inspection video and reports as specified in Section 02148 - A, paragraph 3.1 – C,

8. Liner manufacturer’s recommended installation procedures per ASTM F1216, ASTM D5813 or ASTM F2019. Recommendations for material storage and temperature control, CIPP liner handling, insertion, curing, trimming and finishing.

9. Liner manufacturer’s recommended maximum pulling force to be applied to the liner (if pulled-in-place method employed) or maximum inflation pressure (if inversion method employed).

10. Resin manufacturer’s proposed rate of cure temperature change (heating and cooling) and the target temperature and duration for cure of resin along with the maximum rate and target temperature for cool down prior to the termination of the cure process.

11. Resin manufacturer’s proposed exposure time to ultraviolet (UV) light and recommended travel speed of UV light train for wattage of light bulbs used.

12. Certification obtained within the previous six (6) months of the Contractor UV Light bulbs wattage output.

13. Certification showing the Contractor is currently licensed by the appropriate licensor to perform CIPP installation. Certification shall be given to the Owner’s Representative before any materials are delivered to the job site.

14. A certified affidavit, signed by an officer of the installation Company, shall be provided stating that the on-site superintendent has received proper training in the manufacturer’s recommendations for CIPP liner installation methods and procedures.

15. Certification stating CIPP tube and resin have been manufactured in accordance with ASTM F1216, ASTM F2019, ASTM D578, and ASTM D5813 and is suitable for its intended use.

16. Test results for chemical resistance performed on a previously prepared sample of the finished product proposed for this project. Contractor shall submit a certified affidavit, signed by an officer of the company, stating that the resin the tests apply to and the resin submitted for this project are the same.
17. Contractor shall submit method of measuring defects and an outline of specific repair or replacement procedures as recommended by the tube manufacturer for potential defects removal that may occur in the installed CIPP. Potential defects within the CIPP that cannot be repaired shall be clearly defined by the Contractor based on the manufacturer’s recommendations, accompanied by a proposal for compensation to the Owner.

18. Method and equipment used to reinstate connecting service laterals or drop manhole connections.

19. Certification stating operator reinstating lateral services has 3+ years’ experience in the industry in lateral cutting.

20. Manhole connection (liner termination) detail and material proposed to seal annular space between the liner and host pipe.

21. Warranty information and certificates.

22. Safety data sheets for all hazardous chemicals used or expected to be on-site. At a minimum, sheets for the resin, catalyst, cleaners and repair agents should be submitted.

1.6 CIPP LINER QUALITY ASSURANCE

A. LABORATORY TEST SAMPLE:

1. Sample should be cut from a section of cured CIPP at an intermediate manhole or at the termination point that has been inverted through a similar diameter pipe or other restraining system which will be held in place by a suitable heat sink, such as sandbags per ASTM F1216 or ASTM F2019.

2. CIPP liner samples taken shall be sent to an independent laboratory for quality control testing shall be signed and dated by the Owner’s Representative and accompanied by a Chain of Custody form, reference Section 01331 – A, Reference Forms (SDSR) – FORM 01331-D.

3. Samples taken for testing shall be individually labeled and logged to record the following:
   a. City name.
   b. City’s project number and project title.
   c. Unique sample number.
   d. Pipe segment number as noted on Design Drawings or Pipe Rehabilitation List.
   e. Date and time sample was taken.
f. Name of Contractor.
g. Date, location and name of person by whom the sample was taken.

Updated copies of the test log shall be submitted to the City Representative at the regularly scheduled coordination meeting.

4. SAMPLE TESTING. The cured sample shall be tested by an independent testing laboratory approved by the City’s Representative. Final payment will not be made until acceptable test results are received by the City’s Representative. The Contractor shall be responsible for any deviation from the specified physical properties and those evaluated through testing. Failure to meet the specified physical properties will result in the CIPP liner being considered defective work which will be handled in accordance with MAG Section 106. The Contractor shall be responsible for all costs associated with the testing of the liner physical properties and repair of any defective work.

5. SAMPLING FREQUENCY: The above-stated sampling shall be performed for each manufacturing lot of CIPP liner materials (per diameter size). A sample shall be taken every 3,000 linear feet or one delivery load of liner whichever is less. Owner’s Representative reserves the right to request the Contractor to perform one additional test for every 3,000 linear feet or one semi-trailer load of liner whichever is less.

6. Grounds for rejection of installed CIPP liner include, but not limited to the following:
   a. CIPP sample sent to a testing laboratory that is missing Owner’s Representative signature;
   b. CIPP samples sent to a testing laboratory missing the Chain of Custody forms;
   c. Chain of Custody form missing information or signatures of all those who handled or processed the sample, including the signature of the laboratory technician performing the testing.
   d. Laboratory test results not meeting minimum specification requirements.

7. Rejected length of liner is defined as the entire liner segment from upstream manhole to downstream manhole.

8. Contractor shall pay all costs and fees associated with the sampling, shipping and independent laboratory testing.

B. LABELING
Each liner shall be labeled of the liner manufacturer with a permanent unique identification number that is referenced to accompanying documentation. Accompanying documentation shall include the following:

1. Liner manufacturer’s company name,
2. Location the liner was manufactured,
3. Liner felt or fiberglass supplier,
4. Resin manufacturer and supplier,
5. Date of resin impregnation into liner,
6. Unique identification number of liner,
7. Resin identification number,
8. Resin weight – lbs/ft,
9. Resin and felt weight – lbs/ft,
10. Manufactured liner lengths both resin impregnated “wet” and dry “dry”
11. Liner thickness - mm,
12. Liner outside diameter - inches.

1.7 WARRANTY

The work performed under this Project shall be warranted to be free from defects in material and workmanship for a period of two (2) years from the date of project Final Acceptance.

The Owner’s Representative, while not acting as quality control agent for the Contractor, shall be allowed to view and document any portion of this contract, including but not limited to verifying type and quantities of resin used at any point during this work. In the opinion of the Owner or the Owner’s Representative the process/material/installation has failed during the warranty period, the Contractor shall perform any and all repairs at no additional cost to the Owner.

The warranty period of any part of the Work repaired or replaced under the provisions of the warranty will be extended for one (1) additional year.

1.8 QUALITY ASSURANCE

The Contractor shall comply with these Technical Specification and specific product manufacturer’s recommendations. Conflict between product manufacturer’s recommendations and any portion of Contract documents shall be submitted to Owner’s Representative in writing and resolved prior to proceeding with Work.

A. MANUFACTURE QUALIFICATIONS: Products used in Work shall be produced by manufacturers regularly engaged in manufacture of similar items, and with history of successful acceptable production.
B. INSTALLER QUALIFICATIONS: Licensed by lining system manufacturer, and have the following qualifications:

1. Thoroughly trained and experienced in necessary crafts.
2. Completely familiar with specified requirements and methods needed for proper performance of Work.

1.9 PERFORMANCE REQUIREMENTS

Diameter and wall thickness of new liner shall be manufactured to size such that when installed, it shall provide at least the minimum wall thickness as determined according to Part 2 - Products.

Proposed liner material shall be inert to attack by domestic sewage and suitable for use in underground sanitary sewer environments.

Liner material shall be manufactured in such manner as to result in tight-fitting liner after installation. There shall be no measurable continuous annular space between outside diameter of new liner and existing host pipe. Measureable annular space will result in the CIPP liner being considered defective work which will be handled in accordance with MAG Section 106.

CIPP liner shall meet minimum liner tube length requirements. Excessive shrinkage or short CIPP liner is considered to be defective work and will be handled in accordance with MAG Section 106.

PART 2 - PRODUCTS

2.1 GENERAL

A. All materials and installation procedures provided by the Contractor for use in the CIPP installation process shall be equal to or exceed the requirements of ASTM F1216 Section 5 and 7, and ASTM F2019.

B. Contractor shall be responsible for control of all material and process variables to provide a finished CIPP possessing the minimum properties specified in ASTM F1216, ASTM F2019, ASTM D5813 and supplemented herein.

2.2 COMPONENT PROPERTIES

A. FELT LINER MATERIAL
The liner tube shall consist of one or more layers of flexible needled felt or an equivalent non-woven and/or woven material meeting ASTM F1216 Section 5 and capable of carrying resin, withstanding installation pressures, pull tension, and curing temperatures, and is compatible with the resin system used.

B. FIBERGLASS LINER MATERIAL
The liner tube shall consist of one or more layers of flexible fiberglass or an equivalent woven material meeting ASTM D2990 and ASTM D5813 and capable of carrying resin, withstanding installation pressures and curing temperatures and is compatible with the resin system used.

The fiberglass liner shall include an exterior and interior film that protects and contains the resin used in the liner. The exterior film shall be provided with an Ultra Violet (UV) light blocker foil.

C. RESIN
The resin system to be used shall be manufactured by an approved company selected by the CIPP process manufacturer. Only corrosion resistant polyester resins shall be used.

The resin used shall produce a properly cured-in-place pipe system, which will be resistant to abrasion caused by solids, grit, and/or sand. The cured-in-place pipe system shall also be resistant to corrosion due to acids and gases such as sulfuric acid, carbonic acid, hydrogen sulfide, methane, and carbon monoxide. The cured-in-place pipe system utilized shall withstand the corrosive effect of the existing residential, commercial, and industrial effluents, liquids and/or gases.

The chemical corrosion resistance of the actual resin system used by the Contractor shall be tested by the resin manufacturer in accordance with ASTM F1216, or ASTM D543 as applicable. Exposure to the chemical solutions listed below shall result in a loss of not more than twenty percent (20%) of the initial physical properties when tested in accordance with ASTM D543.

D. CHEMICAL RESISTANCE
The chemical resistance tests should be completed in accordance with Test Method ASTM D543. Exposure should be for a minimum of one month at 73.4 degrees F. During this period, the CIPP test specimens should lose no more than 20 percent of their initial flexural strength and flexural modulus when tested in accordance with ASTM F1216 Appendix X2 when subjected to the following solutions:
<table>
<thead>
<tr>
<th>Chemical Solution</th>
<th>Concentration (%)</th>
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</thead>
<tbody>
<tr>
<td>Tap Water (pH 6-9)</td>
<td>100</td>
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<tr>
<td>Nitric Acid</td>
<td>5</td>
</tr>
<tr>
<td>Phosphoric Acid</td>
<td>10</td>
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<tr>
<td>Sulfuric Acid</td>
<td>10</td>
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<tr>
<td>Gasoline</td>
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<td>Vegetable Oil</td>
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<td>Detergent</td>
<td>0.1</td>
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<tr>
<td>Soap</td>
<td>0.1</td>
</tr>
</tbody>
</table>

The Contractor shall be responsible for all costs associated with the chemical resistance tests. Proof of meeting these requirements shall be provided to the Owner’s Representative for approval at least seven (7) days prior to commencement of work.

E. LINER TUBE

1. The liner tube shall be fabricated to a size that, when installed, will fit the internal circumference of the existing host pipe without any annular space between liner and wall of the host pipe. Allowances shall be made for circumferential stretching due to insertion of liner and deterioration of host pipe wall.

2. The minimum liner tube length shall be that deemed necessary by the Contractor to effectively and continuously span the distance from the inlet to the outlet of the respective manholes, unless otherwise specified. The Contractor shall verify the lengths in the field before impregnation and installation of the tube. Individual insertion runs may be made over one or more manhole sections as determined in the field by the Contractor.

3. Contractor shall measure the overall elongation of the liner after pull-in completion and report to the Owner’s Representative.

4. Contractor shall utilize a dynamometer or load cell or other approved method to monitor winch or cable pulling force.

5. Prior to insertion, the liner tube shall be free of all visible tears, holes, cuts, foreign materials, and other defects.

6. The physical properties quoted in Section 02148 – A, paragraph 2.3 applies to CIPP manufactured polyester, or vinyl-ester resin. Resins shall be color tinted for visibility and provide positive indication of adequate liner wet-out. Resins should be appropriate for conditions encountered.
F. DIMENSIONS

1. The Contractor shall make allowances in determining the liner length and circumference for stretch during installation and shrinkage during curing. The Contractor shall verify the lengths in the field before the liner tube is installed. Individual installation runs may include one or more manhole-to-manhole sections as approved by the Owner’s Representative.

2. The diameter of the host pipe may be larger than the nominal inside diameter due to manufacture tolerance or corrosion of the existing host pipe. It is the Contractor’s responsibility to determine the necessary diameter of the liner.

3. “Minimum Design” thickness is defined as the CIPP calculated thickness according to ASTM F1216 or ASTM D2990 using design criteria as outlined in Paragraph 2.4. Calculations of liner thickness shall be submitted to the Owner’s Representative according to Section 01330 – A, Submittals (SDSR) prior to installation.

Unless otherwise specified to provide for excess resin migration, the gap thickness of the wetting out equipment shall be sized to allow an excess of 5 to 10 percent resin to pass during impregnation. The measurement of installed dry cured liner thickness shall be determined at a minimum of three locations cut from a CIPP restrained liner sample, minus the thickness of any plastic coatings or CIPP layers not included in the structural design of the CIPP liner, using a method of measurement accurate to the nearest 0.0001-inch.

2.3 FINISHED AND CURED CIPP LINER PROPERTIES

The physical properties of the cured CIPP shall have minimum initial test values as given below in Table 1 for polyester resins. Properties for these or any other enhanced resins shall be substantiated with test data.

<table>
<thead>
<tr>
<th>Test Property</th>
<th>Test Value Felt Liner</th>
<th>Test Value Fiberglass Liner</th>
<th>Test Method</th>
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</thead>
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<tr>
<td>Flexural strength</td>
<td>4,500 psi</td>
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<td>ASTM D790</td>
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<tr>
<td>Flexural modulus</td>
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<td>50-year flexural creep modulus</td>
<td>150,000 psi</td>
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<td>ASTM D2990</td>
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</table>
2.4 DESIGN CRITERIA

A. The liner thickness shall be designed in accordance with the procedures of ASTM F1216 Appendix X1 or ASTM D3567 and these specifications. All material properties used in design calculations shall be long-term (time-corrected) values. Contractor shall familiarize itself with site conditions when preparing liner design. Depth of pipe shall take into consideration intermediate elevated areas (i.e. roadways, hills) requiring adjustment of the depth of manhole closest to the raised elevation and adding the total elevated height to establish the new design minimum pipe depth at invert criteria.

B. The following parameters shall be assumed for the liner design:

1. Modulus of soil reaction, $E_s = 1,000$ psi (Type III fully deteriorated host pipe)
2. Unit weight of soil = 140 pcf
3. The minimum ovality shall be 2.0 %
4. Groundwater to ground surface elevation
5. AASHTO H20 Traffic loads
6. Safety Factor = 2.0
7. Pipe depth at invert = 15 feet minimum

2.5 PAYMENT PENALTY / REDUCTION

A penalty will be assessed by the Owner to the Contractor for payment on all installed CIPP liners that do not meet or exceed the minimum CIPP wall thickness requirements as stated in Section 02148 - A paragraph 2.2.F.3. Payment to the Contract will be reduced on Contractor’s unit price per foot payment for the total length of CIPP liner installed as measured between center of upstream manhole to center of downstream manhole. Payment reduction shall be based on the following Table 2 – Payment Penalty / Reduction:

<table>
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<tr>
<th>Payment Penalty (see note 1)</th>
<th>Installed Dry Cured Liner Thickness Below Minimum Design (mm)</th>
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<tr>
<td>20%</td>
<td>0% up to and including 10%</td>
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<tr>
<td>40%</td>
<td>Greater than 10% up to and including 20%</td>
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<tr>
<td>Liner Rejected</td>
<td>Greater than 20%</td>
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</tbody>
</table>

Note 1 – Reduction in payment assessed in Contractor’s pay request to Owner

2.6 CIPP TERMINATION POINTS

The Contractor shall provide CIPP liner terminations. If the CIPP fails to make a tight seal at the manhole walls, a seal consisting of a resin mixture compatible with the liner/resin system shall be applied in accordance with manufacturer specifications and approved by the Owner’s Representative.
PART 3 - EXECUTION

3.1 PREPARATORARY PROCEDURES

A. SET-UP

Prior to CIPP installation all necessary traffic control measures shall be put into place per Section 01551 – A, Maintenance and Protection of Traffic (SDSR), and the by-pass diversion pumping system, including back-up pumps, shall be tested and running per Section 02145 – A, Diversion of Water or Sewage Flow and Dewatering (SDSR).

Every effort should be made to protect the environment from any contamination from sanitary sewer.

B. SEWER CLEANING

Prior to CIPP tube installation, the Contractor shall clean the existing sewer in accordance with Section 02146 – A, Sewer and Sewer Structure Cleaning (SDSR). The Contractor shall clear the existing sewer of obstructions such as solids that will prevent or hinder CIPP liner installation. The Contractor shall utilize a nozzle as to ensure that the circumference of the host pipe is free from any residual sediment prior to lining. A time lapse no greater than 30 calendar days shall be allowed between initial host pipe cleaning and liner installation. Contractor shall re-clean pipe if time lapses beyond 30 days at no additional cost to the Owner.

C. CCTV INSPECTION

The interior of the sewer shall be inspected in accordance with Section 02147 – A, Remote CCTV Inspection of Existing and Rehabilitated Sewers (SDSR) to determine the location on any service laterals and/or any conditions which may prevent proper installation of CIPP liner.

The Contractor shall furnish the cleaning CCTV and report to the Owner’s Representative for any host pipe segments that the Contractor determines existing conditions may impact the final operation of the lined pipe, either grade or condition. If existing host pipe defects or voids exist, the Contractor shall repair or replace that section of the host pipe.

The Contractor shall not line over any pipe joint offset that is greater than 5% of the lined pipe internal diameter without first notifying the Owner’s Representative. Contractor shall take full responsibility for removal and replacement of liner if resulting lined pipe does not meet project specifications.

D. CIPP LINER DIAMETER VERIFICATION
The internal diameter of the existing host pipe may be larger (or smaller) than their nominal size. It is the Contractor's responsibility to measure the actual inside diameter of the pipe to determine the appropriate size of CIPP liner to install.

3.2 INSTALLATION METHODS

A. GENERAL

The Contractor shall designate the location where the CIPP liner would be impregnated with resin ("wet-out"). Locations shall be subject to approval by the Owner’s Representative and applicable local agencies. The Contractor shall allow the Owner and/or Owner’s Representative to inspect the materials and "wet-out" procedure.

If the “wet-out” location is not at the project site, the impregnated CIPP liner shall be transported to the site under controlled environmental conditions. Transport vehicles shall include a tamper resistant, sealed temperature-recording device which records the temperature of the liner at all time after leaving the wet-out site. The Contractor shall decide when to transport the impregnated CIPP tube to the site and when to commence insertion with respect to weather conditions.

The Contractor is responsible for obtaining construction water source / hydrant meters from Phoenix Customer Service and for paying all applicable deposit, fees and water usage fees.

B. PRE-INSTALLATION

Prior to installation of the liner, the following activities are required to be completed by the Contractor:

1. Receipt and approval of pre-installation submittals by the Owner’s Representative.

2. Verification and documentation of pipe condition and identification of any internal pipe obstructions by video inspection.

3. Verification of existing laterals and location of services by flowing water, dye test, or visually with a pan and tilt head camera or other means.

4. Cleaning of sewer host pipe (recorded on video).

5. Perform required point repairs at pipe locations that would prevent or hinder proper CIPP liner installation. The Contractor shall obtain the approval of the point repairs from the Owner’s Representative prior to proceeding with the liner installation. The Contractor assumes all responsibility of liner quality once installation begins.
if prior written notification is not received and acknowledged by the Owner’s Representative.

6. The Contractor is to ensure liner is free of all visible tears, holes, cuts, foreign materials, and other defects.

C. HANDLING

The Contractor shall exercise adequate care during transportation, handling and installation to ensure the CIPP material is not torn, cut, or otherwise damaged. If any part or parts of the CIPP material becomes torn, cut or otherwise damaged before or during insertion, it shall be repaired or replaced in accordance with the manufacturer’s recommendations and approval by the Owner’s Representative before proceeding further; at no additional cost to the Owner.

D. INSTALLATION PROCESS

No CIPP installations shall be undertaken in weather conditions that could jeopardize the quality of the CIPP liner or be detrimental to the long-term performance of the CIPP liner. The liner shall be installed by the inversion method or winching method as follows.

1. INVERSION METHOD: The liner shall be impregnated with a liquid thermosetting resin and lowered into the insertion pit through an inversion tube. The inversion tube will then be inverted into the existing sewer by air pressure which will push the liner through the host pipe inside out, while pressing the resin impregnated side firmly against the inside walls of the host pipe. The smooth coated side of the liner shall become the new interior surface of the host pipe. After the liner is inverted through the host pipe section, the Contractor shall cure the liner by introducing hot water, steam or a combination of compressed air and steam to initiate the curing process.

2. PULLED-IN-PLACE METHOD: The liner shall be inserted through the upstream manhole and pulled through the host pipe section through the use of a power winch attached to the end of the liner with an appropriate pulling head as per ASTM F2019. Maximum manufacturer’s pulling force shall be submitted according to Section 01330 – A, Submittals (SDSR).

Sliding Foil shall be installed flush on the invert of the host pipe and entire pipe length when installing fiberglass liner to minimize liner damage and reduce tension during pull-in as per ASTM F2019 Section 6.2.1.

Rollers shall be installed in the upstream and downstream manholes to guide the liner into and out of the host pipe and to guard against chafing of the crowns at the
entry and exit.

The Contractor shall use a flexible and impermeable calibration hose or inner film to inflate the liner. The calibration hose or inner film may or may not remain in the complete installation. Any dry tube, inflation hose or inner film material that enters the existing pipe that has not been previously impregnated with resin under controlled conditions cannot be included in the structural wall of the CIPP. The nominal thickness of this material shall be deducted from the field sample thickness measured in order to verify that the minimum specified wall thickness is achieved. Hose or inner film materials which are to be removed after curing shall be of non-bondable material.

The Contractor shall introduce air into the liner and expand with pressure inflating and pressing the liner material in a tight fit against the inner walls. All hoses/pipes used for introducing air shall be ramped during the inversion and curing process to allow for the ease of vehicular and pedestrian traffic.

E. CURING

1. FELT LINER
   
The curing process shall be per ASTM F1216 or similar approach recommended by the manufacturer and approved by the Owner’s Representative, to ensure that the liner design physical properties are attained. Circulation water shall be cool down to at least 100 degrees F before releasing the hydrostatic head.

   The rate of temperature rise and fall during heating and cooling shall not exceed 2 degrees F per minute or manufacturer’s recommendation. Contractor shall submit per Section 01330 – A, Submittals (SDSR) the manufacturer recommendation for temperature control requirements during heat-up, cure, recommended cure temperature, and length of time at recommended cure temperature, and maximum rate of cool down of temperature. Exceeding rate of temperature rate change shall be grounds for liner rejection.

2. FIBERGLASS LINER

   The fiberglass liner shall be cured with UV light sources (i.e. light train). When inserting the curing equipment (light train) into the liner, care should be taken to not damage the inner film material. The liner shall be held at a constant inner air pressure during the curing process.

   Contractor shall submit manufacturer’s maximum air pressure to be exerted and maximum rate of inflation, recommended incremental inflation pressure points with corresponding hold time durations according to Section 01330 - A – Submittals (SDSR).
The UV light sources or light train should be assembled according to the manufacturer’s recommendations for the liner diameter. For the liner to achieve the required water tightness and specified mechanical properties, the following parameters must be controlled during the entire curing process. A record of the curing parameters over each segment of the entire length of the liner shall be submitted to the Owner’s Representative to demonstrate that the entire liner is cured properly.

The curing data recording shall include:

a. Curing speed  
b. Number of light sources working and wattage of each bulb  
c. Inner liner air pressure  
d. Exothermic (curing) temperatures  
e. Date and time  
f. Length of liner installed.

Record of the curing parameters shall be accomplished using a computer and database that are tamper proof. During the curing process, infrared sensors shall be used to record curing data that shall be submitted to the Owner’s Representative with a post-installation CIPP CCTV inspection on DVD according to Section 01330 – Submittals (SDSR).

The required parameters for curing speed, inner air pressure and wattage are defined in the UV curing protocol issued by the resin manufacturer. The optimal curing speed, or travel speed of the energized UV light train, shall be determined for each length of liner based on liner diameter, liner thickness, and exothermic reaction temperature. Required parameters shall be submitted to the Owner’s Representative according to Section 01330 – A – Submittals (SDSR) prior to installation.

The UV light train shall be capable of curing the fiberglass liner at a curing rate of up to 10 LF (linear feet) per minute.

The fiberglass liner shall be monitored and inspected prior to and during the curing process. Once the light train is inserted into the pipe, prior to curing, the liner shall be inspected by the Contractor using a CCTV camera. During the curing process, infrared sensors shall record the exothermic curing temperatures on a tamper proof computer file. In addition, visual observation using CCTV shall be conducted during the curing process. A printout of the recorded data and a copy of the CCTV data shall be a part of the post installation submittal or as-built information to be submitted to the Owner’s Representative.

F. REINSTATEMENT OF LATERAL CONNECTIONS

It is the intent of this project that all service lateral connections be reopened.
Service laterals shall be reopened to 95% without excavation, utilizing a remotely controlled cutting device, monitored by CCTV. Lateral reinstatement shall be in a good workmanship like manner performed by an operator with a minimum of 3 years’ experience. Contactor shall utilize an accurate and calibrated method for locating lateral services to avoid “missing” lateral opening during initial reinstatement. The cut liner shall have no jagged edges and shall be brushed smooth with a wire brush. Contractor shall reinstate laterals back to a smooth finish with the lateral opening free of debris or obstruction to flow. Contractor shall remove any resin deposits “slugs”, liner “coupons” or pieces that fall into laterals prior to performing a post-installation CIPP CCTV. The Contractor shall certify he has a minimum of two (2) complete working cutter units plus spare key components on the site before the insertion of the liner. No additional payment shall be made for excavations for the purpose of reopening connections unless previously approved by the Owner’s Representative prior to the start of work. The Contractor is responsible for all costs and liability associated with such excavations and restoration work.

3.3 FINISHED PRODUCT

A. FINISH

The finished CIPP shall be continuous over the entire length of an installation run.

B. OUTER FILM / INNER FILM (Fiberglass Liner)

The outer film that has been manufactured to control resin loss, liner thickness, and contamination of the resin by water or other contaminants, shall remain in-place after UV curing of the liner has been completed. The inner film shall be removed after the curing of the liner is complete.

C. MANHOLE CONNECTION

The contractor shall provide a watertight seal between the host pipe and liner pipe at the manhole connection.

D. INSPECTION

The Contractor shall inspect the CIPP liner after installation. The inspection shall be performed and recorded using remote visual television inspection equipment in accordance with Section 02147 – A, Remote CCTV Inspection of Existing and Rehabilitated Sewers (SDSR). If defects exist within the liner, the Contractor shall repair or replace that section of liner at no additional cost to the Owner. Methods of repair shall be proposed by the Contractor and submitted to the Owner’s Representative for review and approval prior to initiating repair work. Owner Representative shall be notified a minimum of 24 hours prior to performing repair work.
The Contractor shall resubmit a video showing a post inspection after the liner has been repaired at no additional cost to the Owner.

E. REPAIR OF DEFECTS

Defects such as but not limited to, foreign inclusions, dry spots, pinholes, delamination, seam separation and wrinkling exceeding the technical specification allowances or as determined by the Owner’s Representative as affecting the integrity or structural stability of the CIPP liner, or as adversely affecting the hydraulic capacity of the CIPP lined pipe are unacceptable and shall be repaired or replaced at no additional cost to the Owner.

1. Wrinkles in the finished lined pipe which cause a backwater of one (1) inch or more or reduce the hydraulic capacity of the lined pipe (wrinkle height that exceed 5 percent of the lined pipe internal diameter) are unacceptable and shall be removed and/or repaired by the Contractor at no additional cost to the Owner.

2. Voids or annular space that exists between a bump and the host pipe shall be repaired or pipe section replaced and relined by the Contractor at no additional cost to the Owner. Methods of repair shall be proposed by the Contractor and submitted to the Owner’s Representative for review and approval prior to initiating work.

3. Separations of CIPP liner seam in the finish lined pipe are unacceptable and shall be removed or repaired by the Contractor at no additional cost to the Owner. If a separation of a liner seam exists, the Contractor shall remove the CIPP liner or replace that section of pipe. Methods of repair shall be proposed by the Contractor and submitted to the Owner’s Representative for approval.

4. Poke holes, gouges, scrapes or damages to the liner created during mechanical operation of the jetter or cutter shall be repaired as per approved method at no additional cost to the Owner.

3.4 CLEANUP

Following inspection, the Contractor shall clean up the entire project area. The Contractor shall dispose of all excess material and debris not incorporated into the permanent installation off site.

** END OF SECTION **
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APPENDIX A

SANITARY SEWER PIPES TO BE REHABILITATED

LIST “A”
<table>
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<th>WAM ID</th>
<th>Upstream Manhole</th>
<th>Downstream Manhole</th>
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<th>Year of Installation</th>
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*Verification of actual conditions may be necessary.*

Field Revision Without Locate
As-Built Without Locate
Private Main
Forced Main
Sewer Encasement

Reclaimed PRVs

Public ROW
Alley ROW

Field Revision Without Locate
As-Built Without Locate
Private Main
Forced Main
Sewer Encasement

Reclaimed PRVs

Public ROW
Alley ROW