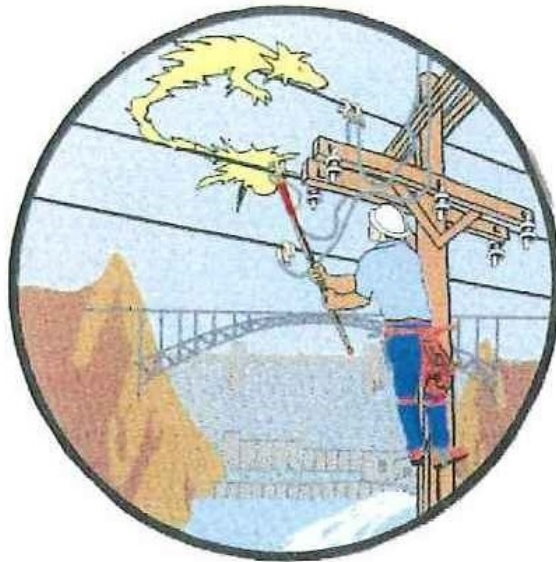


Request for Proposal

**Page Utility Enterprises Electrical Upgrade,
Page, Arizona by City of Page dba,
Page Utility Enterprises
Facilities Upgrade for FY 2018-2019 (12TH
AVENUE- NORTH - PHASE II), RFP # 230**

Page Utility Enterprises
P.O. Box 1955
Page, Arizona 86040

Issued: September 26, 2018
Mandatory Pre-Bid Meeting: October 10, 2018 - 10:00AM
Submission of Proposals Deadline: December 3, 2018, 4:00PM



Construction to begin January 2019

Bidder's Initials _____



**BID DOCUMENTS
FOR**

RFP #230, Facilities Upgrade 12th Avenue - North Phase II for FY 2018-2019
(Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona

FOR

**Page Utility Enterprises
City of Page, Arizona**

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NOTICE OF INVITATION FOR BID

NOTICE IS HEREBY GIVEN that the City of Page, dba, Page Utility Enterprises, Coconino County, State of Arizona, has requested that bids be solicited for the following work:

RFP #230, Facilities Upgrade 12th Avenue - North - Phase II for FY 2017-2018 (Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona

SCOPE OF WORK: By means primarily of directional boring, the contractor is to complete the installation of conduit throughout an existing subdivision. The subdivision is currently served by direct bury primary and secondary electrical services that shall be replaced by primary and secondary electrical services within conduit.

SEALED BIDS WILL BE RECEIVED until 4:00 P.M., Arizona time, on December 3, 2018, by the Utility Project Manager, for Page Utility Enterprises, PUE Office, 640 Haul Road, Page, Arizona 86040-1955. At this time and place, all timely bids will be publicly opened and read aloud. Bids received after the time and date specified above will be returned unopened to the bidder. Bids may not be withdrawn for a period of sixty (60) days after the date set for receipt of bids. Bids must be clearly marked on the outside of the envelope as follows: **“Bid of (Name and Address of Bidder) for RFP #230, Facilities Upgrade 12th Avenue - North - Phase II for FY 2018-2019 (Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona**

Bids may be mailed to Page Utility Enterprises, P.O. Box 1955, Page, AZ, 86040-1955. Bids sent through Federal Express or other express mail agencies must have the bid document sealed within an additional envelope (also marked with the bidder’s name and address and bid information) inside the outer mailer.

Under the Sealed bid process, E-mail and Fax bids **will not** be accepted by the City of Page or Utility. Each bid shall be made on the bid form contained in the Bid Forms section.

Specifications and bid documents may be obtained from the Page Utility Enterprises Office, 640 Haul Road, P.O. Box 1955, Page, Arizona, 86040-1955, between the hours of 7:00 A.M. and 5:30 P.M., Monday through Thursday. Call (928) 645-2419 or fax (928) 645-5322.

Page Utility Enterprises reserves the right to accept the lowest, responsible bid, in accordance with the City of Page Code, Section 3-4-4, to consider and act on alternatives, to waive any informalities, and to reject any or all bids.

Page Utility Enterprises is an affirmative Action/Equal Opportunity Employer. Disadvantaged business enterprises will be afforded a full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, creed, sex, color, national origin, familial status, religious affiliation or handicap.

Office Manager

Published in the Lake Powell Chronicle. See, publications dated September 26, 2018.

DEFINITIONS

Whenever in these Bid Documents, or in any document of instruction where these Bid Documents govern, the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

BID: The offer of the BIDDERS for the work when properly made out on forms containing the Bid Form supplied by UTILITY and properly submitted signed and guaranteed.

BID DOCUMENTS: Consists of all CONTRACT DOCUMENTS and may be used interchangeably with said term.

BIDDER: Any individual, firm or corporation, qualified as herein provided, legally submitting a Bid for the work contemplated, acting directly or through an authorized representative.

CITY/UTILITY: The CITY of Page, an Arizona municipal corporation dba, Page Utility Enterprises.

CONSTRUCTION DOCUMENTS: The drawings, technical plans and specifications/provisions, supplementary general and/or special conditions for THE WORK.

CONTRACT: The written agreement covering the performance of THE WORK and the furnishing of labor, equipment, and materials in the construction for THE WORK.

CONTRACT DOCUMENTS: Includes the Notice of Invitation for Bid, Definitions, Scope of Work and/or Plans, Drawings, and Technical Specifications/provisions, Instructions to Bidders, General Conditions, Special Conditions (if any), Arizona Statutory Bid Bond, Arizona Statutory Performance Bond, Arizona Statutory Payment Bond, Contract, Contractor's Reference List, List of Subcontractors & Material Vendors, Statement of Bidder Qualifications, Bid Forms, Notice of Award, and Notice to Proceed.

CONTRACTOR: The successful BIDDERS selected by the Utility Board and City Council that enters into the CONTRACT to perform THE WORK.

EXTRA WORK: Work, including materials, for which no price agreement is contained in the CONTRACT and which is deemed necessary for the proper completion of the work.

NOTICE OF AWARD: The official written notice from CITY/UTILITY to the BIDDERS selected by CITY/UTILITY to perform THE WORK.

NOTICE TO PROCEED: The official written notice from CITY/UTILITY to CONTRACTOR to begin performance of THE WORK.

RESPONSIBLE BIDDER: A BIDDER determined by CITY/UTILITY:

- (A) To have the ability, capability, experience and skill to provide the goods and/or services in accordance with the bid specifications;
- (B) To have the ability to provide the goods and/or services promptly, or within the time specified, without delay or interference;
- (C) To have equipment, facilities and resources of such capacity and location to enable the BIDDER to provide the goods and/or services;
- (D) To be able to provide future maintenance, repair, parts and service for the use of the goods purchased, when applicable;
- (E) To have the quality and adaptability of the materials, supplies or services required or necessary to the particular use; and
- (F) To possess the financial resources to perform the CONTRACT.

RESPONSIVE BIDDER: A BIDDER determined by CITY/UTILITY to have submitted a bid that conforms in all material respects to the requirements of the BID DOCUMENTS.

SPECIAL CONDITIONS: Additional conditions to the General Conditions which are conditions or requirements peculiar to the project under consideration. In the event Special Conditions are in conflict with the General Conditions, the Special Conditions shall be controlling.

SURETY: The corporate body, who is primarily liable, that agrees to be responsible for the payment of all debts pertaining to the acceptable performance of the work for which the CONTRACTOR has contracted.

THE WORK: All of the work or services, including the labor and materials, specified in the CONTRACT DOCUMENTS.

NOTICE TO CONTRACTORS

TO: All Prospective Bidders

FROM: Phillip Faulk, Project Manager

SUBJECT: Methods to forward Bids to Page Utility Enterprises

There are five (5) methods by which prospective Bidders can forward a Bid package to Page Utility Enterprises. We encourage the Bidders to be aware that, in most instances, firms that advertise overnight delivery cannot actually provide overnight delivery to the City of Page because of its remote geographic location. Page Utility Enterprises recommends that prospective Bidders plan to send a Bid package several days in advance of the deadline date. The five (5) available methods are as follows:

Regular U.S. Postal Service (No delivery to Page Utility Enterprises --Use P.O. Box)
U.S. Postal Express Mail (No delivery to Page Utility Enterprises --Use P.O. Box)
Federal Express
United Parcel Service
Hand delivery

The mailing address for the Page Utility Enterprises is as follows:

Page Utility Enterprises
P.O. Box 1955
Page, AZ 86040-1955

The physical address for Page Utility Enterprises is as follows:

Page Utility Enterprises
640 Haul Road
Page, AZ 86040

Under the sealed Bid process, FAX Bids will not be accepted by Page Utility Enterprises. It is the responsibility of the Bidder to ensure delivery of Bid packages to the Utility Office by the designated deadline. If further information is needed, please contact the Utility Office at (928) 645-2419.

INSTRUCTIONS TO BIDDERS

The purpose of the project specified herein is to upgrade existing infrastructure by means of horizontal directional boring, trenching, placing/installing conduit, and installing Owner supplied wire into the new conduit as well as site restoration as outlined in the construction drawings. The contract will require a licensed commercial contractor.

1. PREPARATION OF BID. All BIDS shall be on the forms provided in this Invitation for Bid package. It is the responsibility of all CONTRACTORS/BIDDERS to examine the entire BID DOCUMENTS package and seek clarification of any requirement that may not be clear and to check all responses for accuracy before submitting a BID.

The Bid Form shall be submitted with an original ink signature by the person authorized to sign the bid. Erasures, interlineations, or other modifications in the BID shall be initialed in original ink by the authorized person signing the BID. The CITY/UTILITY shall not reimburse the cost of developing, presenting, or submitting any response to this solicitation. BIDS submitted should be prepared simply and economically, providing adequate information in the straightforward and concise manner.

2. SUBMISSION OF BID. Submission of a BID shall be considered prima-facie evidence that the CONTRACTOR is familiar with and understands all the conditions under which the BID and subsequent CONSTRUCTION CONTRACT is to be awarded, performed, and administered. The CONTRACTOR, if awarded the CONSTRUCTION CONTRACT, shall not be allowed extra compensation by reason of any matter or thing which such CONTRACTOR might have more fully explored or been informed prior to submitting a BID. After the submission of the BID, no complaint or claim that there was any misunderstanding as to the specifications and the conditions under which the CONSTRUCTION CONTRACT is to be performed will be entertained.

Submission of additional terms, conditions, or agreements with the BID DOCUMENTS may result in rejection of the BID. CONTRACTOR shall return all BID DOCUMENTS intact and completed as directed. All costs required for the preparation and submission of the BID shall be borne by the CONTRACTOR. Only one bid response will be accepted from any one person, partnership, corporation or other entity.

3. METHOD OF DELIVERY. There are five (5) methods by which BIDDERS can forward this bid package to the CITY/UTILITY: Regular U.S. Postal Service (No delivery to the CITY/UTILITY-Use P.O. Box); U.S. Postal Express Mail (No delivery to the CITY/UTILITY Office-Use P.O. Box); Federal Express; United Parcel Service; hand delivery. Facsimile BIDS shall not be accepted.

The mailing address for Page Utility Enterprises is as follows:

Page Utility Enterprises
P.O. Box 1955
Page, AZ 86040-1955

The physical address for the CITY/UTILITY is as follows:

Page Utility Enterprises
640 Haul Road
Page, AZ 86040

4. QUESTIONS, OMISSIONS, DISCREPANCIES, INTERPRETATIONS AND ADDENDA. All questions regarding discrepancies in, or omissions or ambiguities in the Specifications of the CONSTRUCTION PROJECT, or other BID DOCUMENTS, or doubts as to their meaning should be submitted in writing to the Project Manager.

No oral interpretations shall be made to any CONTRACTOR as to the meaning of any of the BID DOCUMENTS, and the CITY/UTILITY shall not be bound by any oral interpretation of the specifications or BID DOCUMENTS. Oral interpretations or clarifications will be without legal effect.

Interpretation, correction, or change to specifications will be made by written addendum. Interpretations, corrections, or changes to specifications made in any other manner will not be binding. Questions received less than 72 hours before the submission deadline will not be answered. Any amendment or addendum issued will be forwarded within 5 days to any recipient of the original Invitation for Bid. The CITY/UTILITY reserves the right to extend the period of time in which to submit bids.

5. WITHDRAWAL OF BID. At any time prior to the specified BID submission deadline, a BIDDER may withdraw or revise the BID. Any withdrawal or revision request must be received in writing prior to said deadline. All revisions must be submitted in the same form and manner as the original BID. No BIDDER may withdraw a BID for Sixty (60) days after the time established for receiving BIDS. The award of the contract to another party does not constitute a waiver of this condition.

6. LATE BIDS. Late BIDS shall not be considered. The CITY/UTILITY is considered a rural area by most express delivery carriers and thus, they do not guarantee priority or next day delivery. BIDDERS are encouraged to keep this in mind when arranging delivery of their BIDS and are advised herein that late BIDS shall be rejected and returned to the BIDDER regardless of reason for being late.

7. PRICES. In the event of discrepancy or conflict between the prices quoted in the BID in words and those quoted in figures, the words shall control. The price(s) quoted shall be the total cost the CITY/UTILITY will pay for this PROJECT, including all applicable taxes, permits and other costs for completion of the WORK. All prices quoted shall be in United States dollars and "whole cent," no cent fractions shall be used. There are no exceptions. The CITY/UTILITY has the right to decline to award this CONTRACT if it is determined that proposed pricing is not competitively priced with similar sized counties or non-City of Page agencies within the State of Arizona. Price quotes shall include any and all payment incentives available to the CITY/UTILITY.

8. REFERENCES. The BIDDER shall provide a list of five (5) current and five (5) former clients. References should have similar scope and requirements to those outlined in these BID DOCUMENTS. Unacceptable references, as determined by the CITY/UTILITY, may be sufficient reason to deny award of this project to BIDDER.

9. STATEMENT OF QUALIFICATIONS. As evidence of his competency to perform THE WORK, BIDDER shall complete and submit with his BID the Statement of Bidder Qualifications. Low bidders may be asked to furnish additional data to demonstrate competency. By submitting a BID, BIDDER certifies that he is skilled and regularly engaged in the general class and type of work called for in the BID DOCUMENTS. Additionally, BIDDER shall comply with all provisions of Arizona Revised Statutes, Title 32, Chapter 10.

10. SUBCONTRACTORS. The CONTRACTOR may subcontract any part of the work to be performed under this CONTRACT as long as resulting charges to the CITY/UTILITY do not exceed the Lump Sum BID quoted in the Bid Form and the subcontractor(s) is/are licensed to perform the work required by the CONTRACT. The BIDDER shall submit the List of Subcontractors and Supplier form, listing all of the subcontractors and major suppliers it intends to use in the performance of THE WORK. The CITY/UTILITY reserves the right to reject any BID based on submission of an incomplete list of subcontractors and major material suppliers as non-responsive. The CITY/UTILITY reserves the right to reject, prior to award of the CONTRACT, the bidder's request for substitution of subcontractors or major material suppliers provided, however, substitute subcontractors may be considered as long as they comply with the requirements of these CONTRACT DOCUMENTS.

11. DETERMINATION OF SUCCESSFUL BIDDER(S). Except where the CITY/UTILITY exercises the reserved right herein to reject any or all BIDS, the CONTRACT shall be awarded by the CITY/UTILITY to the RESPONSIVE and RESPONSIBLE BIDDER(S) who has submitted the lowest lump sum bid for the construction work. In the event the lump sum bid quoted by a local contractor is within 5% of that quoted by a contractor located outside the corporate boundaries of the CITY/UTILITY, the local contractor shall be considered the LOW BIDDER.

12. NOTICE OF AWARD. Notwithstanding any other provision in these BID DOCUMENTS, the CITY/UTILITY reserves the right to (a) waive any immaterial defect or informality; or (b) reject any or all BIDS, or portions thereof; or (c) reissue this Invitation for Bids. At the conclusion of the Invitation for Bids response evaluation process ("Evaluation Process"), all BIDDERS will be notified in writing of the contract award recommendation. The award will be made to the lowest RESPONSIBLE BIDDER(S) who meets the requirements of these specifications, terms and conditions. The CITY/UTILITY reserves the right to reject any or all responses that materially differ from any terms contained herein or from any Exhibits attached hereto and to waive informalities and minor irregularities in responses received. The Invitation for Bids specifications, terms, conditions and Exhibits, Addenda and Bidder's Quotation, will be

incorporated into and made a part of any contract that may be awarded as a result of this Invitation for Bids. Change orders shall be agreed upon by the CONTRACTOR and CITY/UTILITY and issued as needed in writing by the CITY/UTILITY.

13. TIME FOR EXECUTING CONTRACT. Any BIDDER whose BID has been accepted shall be required to provide and execute a CONTRACT with the CITY/UTILITY within fourteen (14) business days after receipt of the NOTICE OF AWARD. Failure or neglect to do so shall constitute a breach of the agreement effected by the NOTICE OF AWARD. The rights and obligations provided for in the contract shall become effective and binding upon the parties only with its formal execution by the CITY/UTILITY.

14. SUSPENSION & DEBARMENT. The CITY/UTILITY reserves the right to reject the BID of any person or corporation that has previously defaulted on any contract with the CITY/UTILITY or has engaged in conduct that constitutes a cause for debarment or suspension.

15. PROTEST PROCEDURE. The award determination of the Page City Council shall be final.

16. PUBLIC RECORD. All BIDS submitted in response to this invitation shall become the property of the CITY/UTILITY and shall become a matter of public record; provided, however, that the BIDDER shall clearly identify information that he considers to be confidential. To the extent that the CITY/UTILITY agrees with such designation, such information will be held in confidence whenever possible.

17. NON-DISCRIMINATION PROVISION. CITY/UTILITY does not discriminate on the basis of race, creed, sex, color, national origin, familial status, religious affiliation or handicap, in its vendor selection. The CONTRACTOR doing business with the CITY/UTILITY must be in compliance with the Federal Civil Rights Act of 1964, and Title VII of the Act (Rev. 1979), and the Americans with Disabilities Act of 1990 (Public Law 101-336).

18. TAXES. The CONTRACTOR shall be responsible for all applicable taxes. All BIDS shall verify that the BID includes the cost of applicable federal, state, and local taxes.

19. NON-COLLUSION. In signing the bid, the Contractor certifies it has not, either directly or indirectly, entered into any action in restraint of free, competitive bidding in connection with the bid submitted to the City/UTILITY.

20. SCOPE. The CONTRACTOR represents by submitting a Quotation that it has expertise in the process of preparation for, as well as the construction work detailed in the BID DOCUMENTS and utilization of all materials and tools associated with such construction work, and that it has the qualified personnel, and to the extent necessary, sub and/or agents, (if any), who have been instructed in and have experience with the

construction work detailed in the BID DOCUMENTS.

21. SPECIFIC REQUIREMENTS. The CONTRACTOR shall be qualified to perform all of the listed functions and comply with all related specifications listed in this Invitation for Bids and the BID DOCUMENTS. The CONTRACTOR shall meet or exceed the generally accepted industry practices and standards involved in all stages of the project.

The CONTRACTOR may subcontract any part of the work to be performed under terms to be stated in any contract arising here as long as resulting charges to the CITY do not exceed those quoted in BIDDER'S response to this BID and the sub-contractors are licensed to perform the work required herein. It shall be the CONTRACTOR'S responsibility to verify that it's sub-contractors have all appropriate licenses prior to their performing CITY/UTILITY work on behalf of the CONTRACTOR. The CONTRACTOR shall provide a list and keep the CITY/UTILITY informed of all the sub-contractors currently being used by the CONTRACTOR on CITY/UTILITY projects, including the company name, street address and permit numbers, and this information shall be included in BIDDER'S response to this Invitation for Bids.

The CONTRACTOR shall provide a performance bond in an amount equal to the full contract amount conditioned upon the faithful performance of the CONTRACT in accordance with plans, specifications and conditions thereof. The CONTRACTOR shall also provide a payment bond in an amount equal to the full contract amount solely for the protection of claimants supplying labor or materials to the CONTRACTOR or his subcontractors in the prosecution of the WORK provided for in the CONTRACT. Each such bond shall include a provision allowing the prevailing party in a suit on such bond to recover as a part of the judgment such reasonable attorneys' fees as may be fixed by a judge of the court. Notwithstanding any other statute, each such bond shall be executed solely by a surety company or companies holding a certificate of authority to transact surety business in this state issued by the director of the department of insurance. The bonds shall be payable to the CITY/UTILITY.

The CONTRACTOR shall at all times remain primarily liable and responsible to the CITY/UTILITY or any and all work performed, damage to persons or property and/or any acts or omissions to act by any of the CONTRACTOR'S sub-contractors in the performance of their work for the CITY/UTILITY.

Sub-contractors identified in the CONTRACTOR'S response to this BID shall be acceptable to CITY/UTILITY and shall be made a part of any contract which may be entered into between CITY/UTILITY and the CONTRACTOR. Thereafter, any substitution of sub-contractors shall be permitted only with the express written consent of the CITY/UTILITY.

It is the responsibility of each BIDDER to be familiar with all of the specifications, terms and conditions and site conditions. By the submission of a BID, the BIDDER certifies that if awarded a CONTRACT they will make no claim against the CITY/UTILITY

based upon ignorance of conditions or misunderstanding of the specifications.

22. RESPONSE CONTENT/SUBMITTALS.

A. BID responses must be signed in ink as set forth in this subsection. The signatures of all persons required under the applicable organizational documents in order to bind the BIDDER must be on the BID response.

B. BIDDERS shall follow the requirements set forth below. Any material deviation from these requirements may be cause for rejection of the BID, as determined at the CITY'S/UTILITY'S sole discretion. All items listed below are required to be submitted in each BID response. The content and sequence of each BID shall be as follows:

C. The BIDDER'S Federal Tax Identification Number;

D. The name, address, telephone, fax numbers and e-mail address of the person(s) who will serve as the contact(s) to the CITY/UTILITY, with regards to the bid response, with authorization to make representations on behalf of and to bind the BIDDER.

E. A representation that the BIDDER is in good standing in the State of Arizona and has all necessary licenses, permits, certifications, approvals and authorizations necessary in order to perform all of its obligations in connection with this Invitation for Bids.

F. An acceptance of all conditions and requirements contained in this Invitation for Bids.

G. Letter of Transmittal: BID responses shall include a description of the BIDDER'S approach in providing its goods and services to the CITY/UTILITY stating its understanding of the WORK to be done and a positive commitment to perform the WORK as specified.

H. BIDDER'S Qualifications and Experience: Provide a description of the CONTRACTOR/BIDDER'S capabilities pertaining to this Invitation for Bids, including a detailed summary of the CONTRACTOR'S/BIDDER'S experience relative to the Invitation for Bids requirements described herein, including references.

I. References: BIDDERS are to provide a list of five current and five former clients. References should have similar scope, volume and requirements to those outlined in these specifications, terms and conditions. References provided to the CITY/UTILITY pursuant to this Invitation for Bids shall be deemed acceptable and favorable by the individual(s) checking such references. Unacceptable reference, as determined by the CITY/UTILITY, may be sufficient reason to deny award of this PROJECT to BIDDER.

Reference information is to include:

- Company/Agency name
- Contact person (name and title), contact person is to be someone directly involved with the services.
- Complete street address
- Telephone number
- Type of business
- Dates of service

The CITY/UTILITY may contact some or all of the references provided in order to determine BIDDER'S performance record on work similar to that described in this request. The CITY/UTILITY reserves the right to contact references other than those provided in the response and to use the information gained from them in the evaluation process.

Each reference shall include the project name and location, the scope of services performed and the name, address, telephone and fax numbers of the person who may be contacted for reference information.

23. CONTRACTOR REQUIREMENTS.

A. The CONTRACTOR shall possess all current permits, licenses and professional credentials necessary to perform services as specified under this Invitation for Bids.

B. The CITY/UTILITY has the right to request removal of any employee or sub-contractors that do not properly conduct himself/herself/itself or perform quality work.

C. The CONTRACTOR'S personnel shall be easily identifiable as Non-City of Page/Utility employees (i.e. work uniforms, badges, etc.).

D. All WORK shall be performed in a professional manner according to generally accepted industry standards.

E. WORK shall strictly comply with all applicable laws, rules, regulations and ordinances.

F. The CONTRACTOR shall warrant that it has obtained all licenses and permits required by law for companies that engage in the activities required in these specifications, terms and conditions.

G. Cost shall be submitted on the Proposal page and shall be a Lump Sum item. No alterations or changes of any kind are permitted. BID RESPONSES that do not comply will be subject to rejection in total.

GENERAL CONDITIONS

The following Provisions are general in scope and may refer to conditions which will not be encountered in the performance of THE WORK included in this CONTRACT and which are not applicable thereto. Any requirements, provisions or other stipulation of these General Conditions which pertain to a non-applicable condition shall be excluded from the scope of this CONTRACT.

1. CERTIFICATION. By signature of the Bid Form, BIDDER certifies:
 - A. The submission of the BID did not involve collusion or other anti-competitive practices.
 - B. The BIDDER shall not discriminate against any employee, or applicant for employment in violation of Federal Executive Order 11246, or A.R.S. § 31-1461 et seq.
 - C. The BIDDER has not given, offered to give, nor intends to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with the submitted BID.
 - D. The BIDDER submitting the offer hereby certifies that the individual signing the BID is an authorized agent for the BIDDER and has authority to bind the BIDDER to the CONTRACT.
 - E. That no person has been employed or retained to solicit or secure this CONTRACT upon an agreement or understanding for a commission, percentage, brokerage or contingency fee, and that no member of the CITY/UTILITY Board or Council or CITY/UTILITY employee has any interest, financial or otherwise, in the Contracting firm.

2. COMPLIANCE WITH LAW. The CONTRACTOR, in the execution of THE WORK, shall conform to all applicable Federal, State, and local laws, rules and regulations. If CONTRACTOR observes that the CONSTRUCTION DOCUMENTS are at variance therewith, it shall promptly notify the CITY in writing, and any necessary changes shall be made as provided in this CONTRACT for changes in work. CONTRACTOR shall bear all costs arising from work performed contrary to such laws, rules and regulations, and without such notice to the CITY/UTILITY.

3. LICENSES. THE WORK to be performed under the CONTRACT will be subject to the provisions on Title 34 of the Arizona Revised Statutes (A.R.S. § 34-101 through 34-461, as amended). All BIDDERS and their subcontractors shall be duly licensed to perform THE WORK at the time the BID is submitted pursuant to all applicable laws, rules and regulations (Each BIDDER shall note their license number on the Bid Form). At all times thereafter, while performing THE WORK, CONTRACTOR shall maintain in current status all licenses, permits, certifications, approvals and authorizations necessary to perform all obligations as set forth in the BID DOCUMENTS. It shall be the CONTRACTOR's responsibility to verify that its subcontractors have all appropriate licenses, permits, certifications, approvals and authorizations prior to their performing the

CITY/UTILITY's work on behalf of the CONTRACTOR.

4. TAXES. The CONTRACTOR shall pay sales, consumer, use and other similar taxes which are legally enacted when bids are received or negotiations concluded.

5. PERMIT COMPLIANCE. Unless otherwise provided in the CONTRACT DOCUMENTS, the CONTRACTOR shall secure and pay for the building permit and other permits and governmental fees, licenses and inspections necessary for proper execution and completion of the CONTRACT.

6. LIQUIDATED DAMAGES. If CONTRACTOR fails to complete this CONTRACT on or before the completion date as specified in the CONTRACT and NOTICE TO PROCEED, then and in that event, for each day this CONTRACT shall remain uncompleted, PAGE UTILITY ENTERPRISES may deduct the sum of Five Hundred (\$500.00) from this CONTRACT price as payment by CONTRACTOR of liquidated damages sustained by reason of the failure of CONTRACTOR to complete this CONTRACT on the date specified. Provided, however, that if the completion of the CONTRACT is delayed by the CITY/UTILITY or by casualty beyond CONTRACTOR'S control, then and in such event, the time of completion of this CONTRACT shall be extended for an additional period equal to the time lost due to such delay. Provided, always, however, that CONTRACTOR shall at the time of such delay, if any, request in writing such additional time.

7. PROVISIONS REQUIRED BY LAW. All applicable Federal, State and local laws, rules and regulations of all authorities having jurisdiction over construction for the project shall apply to the CONTRACT throughout, and they shall be deemed to be included in the CONTRACT the same as if each were fully set forth verbatim herein. Contractor shall be familiar with and at all times shall observe said laws, rules and regulations.

8. DEFFECTIVE WORK. the CITY/UTILITY, by and through its properly authorized agent shall have the authority to reject all materials and/or services that do not conform to the specifications of this CONTRACT. In such an event, the CITY/UTILITY shall give written notice of the noncompliance to the CONTRACTOR. Within ten (10) days from receipt of such notice, the CONTRACTOR shall undertake the work necessary to correct such deficiencies, and to bring the work into compliance with the CONTRACT DOCUMENTS at CONTRACTOR's own expense. the CITY/UTILITY may withhold payment(s) in the event defective work is not remedied.

The acceptance of materials, equipment, or workmanship by or on behalf of the CITY/UTILITY shall not be a bar to future rejection if they are subsequently found to be inferior in quality or in uniformity to the material or equipment specified, or are not as represented to the CITY/UTILITY. Neither shall any payment be construed as acceptance of any defective material or work, either wholly or in part.

9. CHANGE ORDERS FOR CHANGED OR EXTRA WORK. the CITY/UTILITY

reserves the right at any time during the progress of THE WORK to make necessary alterations of, deviations from, additions to, or deletions from the CONTRACT, or may require the performance of EXTRA WORK neither covered by the specifications nor included in the BID, but forming a part of THE WORK contracted for; provided however, the CONTRACTOR shall not proceed with any such change or EXTRA WORK without a written CHANGE ORDER approved by the CITY/UTILITY. Adjustments, if any, in the amount to be paid to the CONTRACTOR by reason of any such change shall be agreed upon by the Parties prior to issuance of the CHANGE ORDER.

No claim for any changed or EXTRA WORK of any kind shall be allowed unless the work is ordered and approved in writing by the CITY/UTILITY in the form of a CHANGE ORDER. No anticipated profits shall be allowed for work deleted.

In the event any written instructions appear to the CONTRACTOR to involve a change or EXTRA WORK for which, in his opinion, he should receive extra compensation, he shall make a written request to the Department Director named herein, or his properly authorized agent, for a written CHANGE ORDER. The matter shall then be submitted to the CITY/UTILITY for final determination as to whether or not a change or EXTRA WORK was involved, and if so, the amount due to the CONTRACTOR. Any claim for extra cost pursuant to this provision, together with supporting documents and receipts must be filed within ten (10) consecutive calendar days after performing the work for which the extra cost is claimed.

If CONTRACTOR, in the course of THE WORK, finds any discrepancy between the CONSTRUCTION DOCUMENTS and the physical conditions of the locality, or any errors or omissions in the CONSTRUCTION DOCUMENTS or in the layout as given by points and instructions, it shall be CONTRACTOR's duty to immediately inform the CITY/UTILITY, in writing, and the CITY/UTILITY shall promptly verify the same. Any work done after such discovery, until authorized in writing, shall be done at CONTRACTOR's risk.

10. PROTECTION OF WORK/PROPERTY. The CONTRACTOR, at no additional expense to the CITY/UTILITY, shall at all times safely guard and protect Contractor's own work; provide, erect, and maintain suitable barriers around all excavations or obstructions to prevent accidents; and provide, place and maintain during the night sufficient lights, signals, and signs for this purpose on or near the work. The CONTRACTOR shall at all times, until its completion and final acceptance, protect his work apparatus, equipment, and material from accidental or other damage; and make good any damages thus occurring at no additional cost to the CITY/UTILITY.

The CONTRACTOR, at no additional expense to the CITY/UTILITY, shall at all times be responsible for the preservation of all public and private property on the surface and subsurface, along and adjacent to the work and shall conduct its operations so as to insure the prevention of injury or damage thereto. In the event damage or injury is done to public or private property on account of any act, omission, neglect, or misconduct in the

execution of THE WORK, such property shall be restored by CONTRACTOR.

CONTRACTOR shall exercise care to protect from injury all water lines, sanitary sewer lines, gas mains, telephone cables, electric cables, services pipes, and all other utilities and fixtures which may be encountered during the progress of work. All utilities and other service facilities or fixtures if damaged, shall be repaired by CONTRACTOR without additional compensation.

Until written final acceptance of the work by the CITY/UTILITY, CONTRACTOR shall be responsible for and take every precaution against injury or damage to any part of THE WORK from any cause, whether arising from the execution or non-execution of THE WORK . CONTRACTOR shall rebuild, repair, restore, and make good all injuries or damages of any portion of THE WORK occasioned by any cause, with the exception of negligence or willful misconduct of the CITY/UTILITY, before final acceptance and shall bear the expense thereof;

11. SUPERVISION AND CONSTRUCTION PROCEDURES. The CONTRACTOR shall supervise and direct the PROJECT, using the CONTRACTOR's best skill and attention. The CONTRACTOR shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the PROJECT under the CONTRACT, unless the CONTRACT DOCUMENTS give other specific instructions concerning these matters. If the CONTRACT DOCUMENTS give specific instructions concerning construction means, methods, techniques, sequences or procedures, the CONTRACTOR shall be fully and solely responsible for the jobsite safety thereof unless the CONTRACTOR gives timely written notice to the CITY/UTILITY that such means, methods, techniques, sequences or procedures may not be safe.

The CONTRACTOR shall be responsible to the CITY/UTILITY for acts and omissions of the CONTRACTOR's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the PROJECT for or on behalf of the CONTRACTOR or any of its Subcontractors.

12. LABOR AND MATERIALS. Unless otherwise provided in the CONTRACT DOCUMENTS, the CONTRACTOR shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the PROJECT whether temporary or permanent and whether or not incorporated or to be incorporated in the PROJECT.

The CONTRACTOR shall enforce strict discipline and good order among the CONTRACTOR's employees and other persons carrying out the CONTRACT. The CONTRACTOR shall not permit employment of unfit persons, persons that are not legal residents or citizens of the United States or persons not skilled in tasks assigned to them.

The CONTRACTOR shall deliver, handle, store and install materials in accordance with

the manufacturers' instructions. The CONTRACTOR may make substitutions only with the consent of the CITY/UTILITY.

13. SUBCONTRACTS. CONTRACTOR agrees that it is as fully responsible to the CITY/UTILITY for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by them, as it is for the acts and omissions of persons directly employed by it.

14. FINAL PAYMENT. Prior to receiving final payment, THE WORK shall be completed according to the CONTRACT DOCUMENTS, as determined by the CITY/UTILITY. Retention shall be as provided in A.R.S. § 34-221. The acceptance of final payment by the CONTRACTOR shall operate as a release to the CITY/UTILITY of all claims by the CONTRACTOR for all things done or furnished in connection with the CONTRACT and for every act and neglect of the CITY/UTILITY, and others relating to or arising out of THE WORK under the CONTRACT, except for claims made in writing and still unsettled, and specifically itemized at the time the final payment request is made.

15. CLEAN UP. CONTRACTOR shall, as directed by the CITY/UTILITY, remove from CITY/UTILITY's property and from all public and private property, at its own expense, all temporary structures, rubbish, and waste materials resulting from its operation. All surplus materials and all materials and equipment removed and not reused as a condition of this CONTRACT shall remain or become the property of the CONTRACTOR, unless otherwise so stated in writing.

16. WARRANTY. The CONTRACTOR warrants to the CITY/UTILITY that materials and equipment furnished under the CONTRACT will be of good quality and new unless otherwise required or permitted by the CONTRACT DOCUMENTS, that the work will be free from defects not inherent in the quality required or permitted, and that the PROJECT will conform to the requirements of the CONTRACT DOCUMENTS. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. CONTRACTOR shall provide a written guarantee covering all costs for repair or replacement of defective work for a period of two (2) years.

17. LIENS. Neither final payment nor any part of the retained percentage shall become due until CONTRACTOR delivers to the CITY/UTILITY a complete release of all liens arising out of this CONTRACT, or receipts in full or in lieu thereof, and if required in either case, an affidavit that so far as it has knowledge or information the release and receipts include all the labor for which a lien could be filed. If any lien remains unsatisfied after all payments are made, CONTRACTOR shall pay to the CITY/UTILITY all monies that the latter may be compelled to pay in discharging such a lien, including all costs and a reasonable attorneys' fee.

All materials, services, and other deliverables supplied to the CITY/UTILITY under this CONTRACT shall be free of all liens other than the security interest held by the CONTRACTOR until payment in full is made by the CITY/UTILITY.

18. THE CITY/UTILITY'S RIGHT TO DO WORK. If CONTRACTOR should neglect to prosecute THE WORK properly or fail to perform any provision of this CONTRACT, the CITY/UTILITY, after ten (10) days written notice to CONTRACTOR, may, without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due CONTRACTOR.

19. ROYALTIES & PATENTS. CONTRACTOR shall pay all royalties and license fees. It shall defend all suits or claims for infringement of any patent rights and shall indemnify, defend, and hold the CITY/UTILITY harmless from loss on account thereof, except that the CITY/UTILITY shall be responsible for all such losses when a particular process or the product of a particular manufacturer or manufacturers is specified, but if CONTRACTOR has information that the process or article specified is an infringement of a patent it shall be responsible for such loss unless it promptly gives such information to the CITY/UTILITY.

20. SCHEDULES. CONTRACTOR shall submit at such times as may be requested by the CITY/UTILITY, schedules which shall show the order in which CONTRACTOR proposes to carry on THE WORK with dates at which CONTRACTOR shall start the several parts of THE WORK and estimated dates of completion of the several parts.

21. OWNERSHIP OF DOCUMENTS. All original drawings, boring logs, field data, estimates, field notes, plans, specifications, documents, reports, calculations, maps and models, and other information developed by CONTRACTOR under this CONTRACT shall vest in and become the property of the CITY/UTILITY and shall be delivered to the CITY/UTILITY upon completion or termination of the services, but CONTRACTOR may retain record copies thereof.

22. INSPECTION OF WORK. The CITY/UTILITY's representatives shall at all times have access to THE WORK wherever it is in preparation or progress. If the specifications, the CITY/UTILITY's instructions, laws, ordinances, or any public authority, require any work be specifically tested or approved, CONTRACTOR shall give the CITY/UTILITY timely notice of its readiness for inspection and if the inspection is by an authority other than the CITY/UTILITY, of the date fixed for such inspection. Inspections by the CITY/UTILITY shall be promptly made, and where practicable at the source of the supply. If any work should be covered up without approval or consent of the CITY/UTILITY, it must, if required by the CITY/UTILITY, be uncovered for inspection at CONTRACTOR's expense.

Re-examination of questioned work may be ordered by the CITY/UTILITY, and if so ordered the work must be uncovered by CONTRACTOR. If such work is found to be in accordance with the BID DOCUMENTS, the CITY shall pay the costs of re-examination and replacement. If such work is found not to be in accordance with the BID DOCUMENTS, CONTRACTOR shall pay such costs.

ARIZONA STATUTORY BID BOND
PURSUANT TO TITLE 34, ARIZONA REVISED STATUTES
(Penalty of this bond must not be less than 10% of bid amount)

KNOW ALL MEN BY THESE PRESENTS THAT:

_____ (hereinafter "Principal"), as Principal, and _____ (hereinafter "Surety"), a corporation organized and existing under the laws of the State of _____, with its principal offices in the City of _____, holding a certificate of authority to transact surety business in Arizona issued by the Director of the Department of Insurance pursuant to Title 20, Chapter 2, Article 1, as Surety, are held and firmly bound unto the City of Page, dba Page Utility Enterprises, Arizona (hereinafter "Obligee"), in the sum of Ten Percent (10%) of the amount of the bid of Principal, submitted by Principal to Obligee for the work described below, for payment of which sum, the Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for the work titled:

RFP #230, Facilities Upgrade 12th Avenue - North Phase II for FY 2018-2019 (Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona

NOW, THEREFORE, if the obligee shall accept the proposal of the Principal and the Principal shall enter into a contract with the Obligee in accordance with the terms of the proposal and give the bonds and insurance as specified in the standard specifications with good and sufficient surety for the faithful performance of this contract and for prompt payment of labor and materials furnished in the prosecution of this contract, or in the event of the failure of the Principal to enter into this contract and give the bonds and certificates of insurance, if the Principal pays to the Obligee 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 is void. Otherwise, it remains in full force and effect provided, however, that this bond is executed pursuant to the provisions of Section 34-201, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of that section to the extent as if it were copied at length herein.

Witness our hands this _____ day of _____, 20_____.

By _____
Principal

By _____
Surety

ARIZONA STATUTORY PAYMENT BOND
PURSUANT TO TITLE 34, ARIZONA REVISED STATUTES
(Penalty of this bond must be 100% of this CONTRACT amount)

KNOW ALL MEN BY THESE PRESENTS THAT:

_____ (hereinafter "Principal"), as Principal, and _____ (hereinafter "Surety"), a corporation organized and existing under the laws of the State of _____, with its principal offices in the City of _____, holding a certificate of authority to transact surety business in Arizona issued by the Director of the Department of Insurance pursuant to Title 20, Chapter 2, Article 1, as Surety, are held and firmly bound unto the City of Page, dba Page Utility Enterprises, Arizona (hereinafter "Obligee"), in the amount of [amount of Contract], for the payment whereof, Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written CONTRACT with Obligee, dated the, _____, 201__ for:

RFP #230, Facilities Upgrade 12th Avenue - North Phase II for FY 2018-2019 (Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona

Which contract is hereby referred to and made part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THE OBLIGATION IS SUCH, that if the Principal promptly pays all monies due to all persons supplying labor or materials to the Principal or the Principal's subcontractors in the prosecution of the work provided for in the contract, this obligation is void. Otherwise it remains in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34, Chapter 2, Article 2, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions, conditions and limitations of Title 34, Chapter 2, Article 2, Arizona Revised Statutes, to the same extent as if it were copied at length in this agreement.

The prevailing party in a suit on this bond shall recover as part of the judgment reasonable attorney fees that may be fixed by the court.

Witness our hands this _____ day of _____, 20_____.

By _____
Principal

By _____
Surety

ARIZONA STATUTORY PERFORMANCE BOND
PURSUANT TO TITLE 34, ARIZONA REVISED STATUTES
(Penalty of this bond must be 100% of this CONTRACT amount)

KNOW ALL MEN BY THESE PRESENTS THAT:

_____ (hereinafter "Principal"), as Principal, and _____ (hereinafter "Surety"), a corporation organized and existing under the laws of the State of _____, with its principal offices in the City of _____, holding a certificate of authority to transact surety business in Arizona issued by the Director of the Department of Insurance pursuant to Title 20, Chapter 2, Article 1, as Surety, are held and firmly bound unto the City of Page, dba Page Utility Enterprises, Arizona (hereinafter "Obligee"), in the amount of [Amount of Contract], for the payment whereof, Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written CONTRACT with the Obligee, dated the, _____, 201__ for:

RFP #230, Facilities Upgrade 12th Avenue - North Phase II for FY 2018-2019 (Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona

Which contract is hereby referred to and made part hereof as fully and to the same extent as if copied at length herein.

WHEREAS, payment shall be made by Surety to Obligee upon failure of Principal to faithfully perform and fulfill all the undertakings, covenants, terms, conditions and agreements of the Contract regarding the performance of the contract and presentation of such to Surety by a claim, which has been prepared and signed by the Obligee's representative and witnessed by a notary, stating that: "The Principal is in default, such condition has existed for over 90 days, and the Obligee is hereby exercising its rights under bond no. _____."

NOW, THEREFORE, THE CONDITION OF THE OBLIGATION IS SUCH, that if the Principal faithfully performs and fulfills all of the undertakings, covenants, terms, conditions and agreements of the contract during the original term of the contract and any extension of the contract, with or without notice to the Surety, and during the life of any guaranty required under the contract, and also performs and fulfills all of the undertakings, covenants, terms, conditions and agreements of all duly authorized modifications of the contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, the above obligation is void. Otherwise it remains in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34, Chapter 2, Article 2, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions, conditions and limitations of Title 34, Chapter 2, Article 2, Arizona Revised Statutes, to the same extent as if it were copied at length in this agreement

The prevailing party in a suit on this bond shall recover as part of the judgment reasonable attorney fees that may be fixed by the court.

Witness our hands this _____ day of _____, 20 _____.

By _____
Principal

By _____
Surety

THE CONTRACTOR'S QUALIFICATION PAGE
(Submit with Bid)

If BIDDER is a corporation, answer the following:

- (a) Date of incorporation: _____
- (b) State of incorporation: _____
- (c) President's name: _____
- (d) Vice President's name: _____
- (e) Secretary's or Clerk's name: _____
- (f) Treasurer's name: _____

If BIDDER is a partnership, answer the following:

- (a) Date of organization: _____
- (b) Name and address of all partners. State whether it is a general or limited partnership: _____.

If other than a corporation or partnership, describe the organization and name principals:

Major types of work done by the organization:

How many years has your organization been in business as a contractor under your present business name: _____

How many years experience in the proposed type and scale of construction work has your organization had: _____

- (a) As a general contractor: _____
- (b) As a subcontractor: _____

What is the construction experience of the principal individuals of your organization?

Individual's Name	Present Position or Office	Years Construction Experience	Magnitude & Type of Work	In what Capacity
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The CONTRACTOR'S Arizona Contractor's License #: _____

**THE CONTRACTOR'S REFERENCE PAGE
(Submit with Bid)**

The CONTRACTOR shall submit references for RFP #230, Facilities Upgrade 12th Avenue - North Phase II for FY 2018-2019 (Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona that the CITY/UTILITY can verify. Each reference shall be for work actually performed by the BIDDER. The CITY/UTILITY may contact some or all of the references provided in order to determine Bidder's RESPONSIBILITY and performance record on work of similar scope. The CITY/UTILITY reserves the right to contact references other than those provided in the response and to utilize the information gained from them in the evaluation process.

ALL REFERENCES WILL BE TREATED AS THE CONTRACTOR'S CONFIDENTIAL BUSINESS INFORMATION. **Previous work for the CITY/UTILITY may be used as references. Complete each item for all 10 references (5 Current and 5 Former):**

Current References:

Owner/Agency:	
Address:	
Address:	
City, State, Zip	
Contact:	
Phone:	

Owner/Agency:	
Address:	
Address:	
City, State, Zip	
Contact:	
Phone:	

Owner/Agency:	
Address:	
Address:	
City, State, Zip	
Contact:	
Phone:	

Owner/Agency:	
Address:	
Address:	
City, State, Zip	
Contact:	
Phone:	

Owner/Agency:	
Address:	
Address:	
City, State, Zip	
Contact:	
Phone:	

Former References:

Owner/Agency:	
Address:	
Address:	
City, State, Zip	
Contact:	
Phone:	

Owner/Agency:	
Address:	
Address:	
City, State, Zip	
Contact:	
Phone:	

Owner/Agency:	
Address:	
Address:	
City, State, Zip	
Contact:	
Phone:	

Owner/Agency:	
Address:	
Address:	
City, State, Zip	
Contact:	
Phone:	

Owner/Agency:	
Address:	
Address:	
City, State, Zip	
Contact:	
Phone:	

The following Agreement contains terms and conditions which the Contractor must be prepared to accept upon receipt of a Notice of Award.

CONSTRUCTION CONTRACT

The ultimate contract between City/Utility and the Contractor will contain substantially the following terms and conditions:

PROJECT TITLE: RFP #230, Facilities Upgrade 12th Avenue - North Phase II for FY 2018-2019 (Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona

This contract is made and entered into by and between the City of Page, dba, Page Utility Enterprises, Arizona, a municipal Corporation (hereinafter the “**City/Utility**”), and _____ (hereinafter the “**Contractor**”) (collectively referred to as the “**Parties**” or a “**Party**”).

WITNESSETH:

THAT WHEREAS, the Mayor and City Council/City Manager of the City of Page are authorized and empowered by the provisions of the Arizona Revised Statutes to execute contracts for Professional Services;

NOW THEREFORE, for and in consideration of the mutual covenants and conditions hereinafter contained, it is agreed by and between the CITY/UTILITY and the CONTRACTOR, as follows:

1. SCOPE OF WORK AND CONTRACT DOCUMENTS

The Contractor shall furnish all labor, materials and equipment necessary to perform the WORK provided for in the CONTRACT DOCUMENTS as defined herein. The following documents are hereby incorporated by reference into this CONTRACT, and shall be referred to as the CONTRACT DOCUMENTS:

- a. Notice of Invitation for Bid
- b. Definitions
- c. Scope of Work and/or Plans, Drawings, and Technical Specifications
- d. Instructions to Bidders
- e. General Conditions
- f. Special Conditions (if any)
- g. Arizona Statutory Bid Bond
- h. Arizona Statutory Payment Bond
- i. Arizona Statutory Performance Bond
- j. Contractor’s Reference List
- k. List of Subcontractors & Material Vendors
- l. Bid Form/Unit Price Form
- m. Notice of Award
- n. Notice to Proceed
- o. Drawings and any other attachments

The above named documents are essential parts of this CONTRACT, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complimentary and to describe and provide for a complete work. CONTRACTOR agrees to be bound by all terms, conditions, covenants, and obligations in the CONTRACT DOCUMENTS as if each were again fully set forth verbatim herein.

Execution of this Agreement by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the work is to be performed and correlated personal observations with requirements of the Contract Documents.

2. DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

The date of commencement of the Project shall be the date fixed in the "Notice to Proceed" issued by the City/Utility. The Contract Time shall be measured from the date of commencement.

The Contractor shall achieve Substantial Completion of the entire Project not later than calendar days from the date of commencement, subject to adjustments of this Contract Time as provided in the Contract Documents.

It is agreed that time is of the essence for the completion of the work described herein and that the City/Utility will be substantially damaged by the Contractor's failure to timely complete the Project according to the schedule contained in this Agreement and that considering that precise damages are difficult to calculate the Contractor shall pay the City/Utility the sum of Five Hundred Dollars (\$500.00) per day for each day the project schedule is extended past the established duration provided the delay is "Non-Excusable" (Delays are caused by the actions or inactions of the contractor, subcontractor, supplier, or any other party for whom the contractor is responsible). These liquidated damages are not punitive and are not negative performance incentives as they are stipulated damages that the City/Utility will have sustained in the event of a default by the Contractor to complete the work within the stipulated time. These liquidated damages have been arrived at by a good faith effort to estimate the actual damages that would likely arise from a breach by the Contractor and are a reasonable forecast of just compensation for the harm that would be caused by late delivery or untimely performance of this Agreement.

3. CONTRACT SUM

The CITY/UTILITY shall pay the CONTRACTOR the Contract Sum in current funds for the CONTRACTOR's performance of the CONTRACT. The Contract Sum shall be \$, subject to additions and deletions as provided in the CONTRACT DOCUMENTS.

4. PAYMENT

In consideration of the services specified in this CONTRACT, the CITY/UTILITY agrees to pay CONTRACTOR in the manner hereinafter specified.

CONTRACTOR shall provide detailed documentation in support of requested progress payments in accordance with A.R.S. § 34-221. the CITY/UTILITY shall then make payments in accordance with its obligation as provided by A.R.S. § 34-221. Any payments made shall not prevent the CITY/UTILITY from objecting to charges after payment therefore in appropriate cases, or from

seeking reimbursement for any such charges.

In no event shall the total payment(s) paid to CONTRACTOR under this CONTRACT exceed \$_____.

Nothing in this CONTRACT shall create any obligation on the part of the CITY/UTILITY to pay or see to the payment of any money due any subcontractor, except as may be required by law.

5. CONTRACTOR/SUBCONTRACTOR PERFORMANCE.

CONTRACTOR shall perform the work in accordance with the terms of this CONTRACT and to the best of CONTRACTOR'S ability. CONTRACTOR agrees to exercise the skill and care, which would be exercised by comparable professional Contractors performing similar services at the time and in the locality such services are performed. Furthermore, CONTRACTOR shall perform the work or services in accordance with generally accepted methods and standards.

CONTRACTOR shall employ suitably trained and skilled personnel to perform all work or services under this CONTRACT. If failure to meet acceptable standards results in faulty work, CONTRACTOR shall undertake, at CONTRACTOR'S own expense, corrective adjustments, modifications, or repair.

CONTRACTOR shall be fully responsible for all acts and omissions of its subcontractor(s) and of persons directly or indirectly employed by subcontractor(s).

6. APPROVALS

All work shall be subject to the approval of the Utility Manager. The Contractor agrees to exercise the skill and care, which would be exercised by comparable professional Contractors performing similar services at the time, and in the locality such services are performed. If the failure to meet these standards results in faulty work, the Contractor shall undertake at its own expense the corrective adjustments or modifications.

7. CUTTING AND PATCHING

The Project is a renovation project and the Contractor shall be responsible for cutting, fitting or patching required to complete the Project or to make its parts fit together properly.

8. CLEANING UP

The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Project, the Contractor shall remove from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus material.

9. INSURANCE.

CONTRACTOR, at his own expense, shall purchase and maintain the herein stipulated minimum insurance with companies duly licensed and subject to legal process within the State of Arizona, possessing a current A.M. Best, Inc. Rating of A- or better.

All insurance required herein shall be maintained in full force and effect until all work or services required to be performed under the terms of this CONTRACT is satisfactorily completed and formally accepted; failure to do so may, at the sole discretion of the CITY/UTILITY, constitute a material breach of this CONTRACT.

CONTRACTOR's insurance shall be primary insurance in regard to the CITY/UTILITY, and any insurance or self-insurance maintained by the CITY/UTILITY shall not contribute to it. The insurance policies shall contain a waiver of transfer rights of recovery (subrogation) against the CITY/UTILITY, its agents, officers, officials and employees for any claims arising out of CONTRACTOR's acts, errors, mistakes, omissions, work or services.

Prior to commencing work or services under this CONTRACT, CONTRACTOR shall furnish the CITY/UTILITY with Certificates of insurance, or formal endorsements as required by this CONTRACT, issued by CONTRACTOR's insurer(s), as evidence that policies providing the required coverages, conditions and limits required herein are in full force and effect. All Certificates of Insurance shall be identified with the bid number and title.

If a policy does expire during the life of this CONTRACT, a renewal certificate must be sent to the CITY/UTILITY fifteen days prior to the expiration date. Insurance required herein shall not expire, be cancelled, or materially changed without thirty (30) days written notice to the CITY/UTILITY.

Commercial General Liability

CONTRACTOR shall maintain Commercial General Liability insurance with a limit of not less than \$1,000,000 for each occurrence with a \$2,000,000 Products/Completed Operations Aggregate and a \$2,000,000 General Aggregate Limit. The policy shall include coverage for bodily injury, broad form property damage, personal injury, products and completed operations and blanket contractual coverage including, but not limited to, the liability assumed under the indemnification provisions of this CONTRACT.

Such policy shall contain a severability of interest provision, and shall not contain a sunset provision or commutation clause, or any provision, which would serve to limit third party action over claims.

The Commercial General Liability additional insured endorsement shall be at least as broad as the Insurance Service Office, Inc.'s Additional Insured, Form B, CG 20101185, and shall include coverage for the CONTRACTOR's operations and products and completed operations.

Automobile Liability

The CONTRACTOR shall maintain Commercial/Business Automobile Liability insurance with a combined single limit for bodily injury and property damage of not less than \$1,000,000 each occurrence with respect to the CONTRACTOR's owned, hired, and non-owned vehicles assigned to or used in performance of the CONTRACTOR's work. Coverage will be at least as broad as coverage code 1, "any auto", (Insurance Service Office, Inc, Policy Form CA 00011293, or any replacements thereof). Such insurance shall include coverage for loading and off loading hazards. If hazardous substances, materials or wastes are to be transported, MCS 90 endorsement shall be included and \$5,000,000 per accident limits for bodily injury and property damage shall apply.

Workers' Compensation

The CONTRACTOR shall carry Workers' Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction over the Contractor's employees engaged in the performance of the work or services; and, Employer's Liability insurance of not less than \$100,000 for each accident, \$100,000 disease for each employee, and \$500,000 disease policy limit.

In case any work is subcontracted, this CONTRACT will require the Subcontractor to provide Workers' Compensation and Employer's Liability to at least the same extent as required of this CONTRACTOR.

Professional Liability

CONTRACTOR shall maintain Professional Liability insurance covering acts, errors, mistakes and omissions arising out of the work or services performed by this CONTRACTOR, or any person employed by this CONTRACTOR, with a limit of not less than \$1,000,000 each claim.

10. INDEMNIFICATION.

To the fullest extent permitted by law, CONTRACTOR shall indemnify, defend and hold harmless the CITY/UTILITY, its agents, officers, officials and employees from and against any and all claims, demands, suits, actions, proceedings, loss, cost and damages of every kind and description, including any reasonable attorney fees and/or litigation expenses, which may be brought or made against or incurred by the CITY/UTILITY on account of (1) loss or damage to any property or interest of the CITY/UTILITY, its officers, employees and agents, or any damages, injury to person or property, or death of any person arising out of, relating to, or alleged to have resulted from any acts, errors, omissions, work, or services of CONTRACTOR, its employees, agents, representatives, or subcontractors, their employees, agents, or representatives, (2) any workers' compensation claims, unemployment compensation claims or unemployment disability claims of employees of CONTRACTOR or claims under similar such laws or obligations. This indemnification shall not extend to any loss, damage, injury, or death to the extent caused by the negligence or willful misconduct of the CITY/UTILITY, or its employees.

The amount and type of insurance coverage requirements set forth within this CONTRACT shall in no way be construed as limiting the scope of the indemnity as set forth herein.

11. INDEPENDENT CONTRACTOR STATUS.

Both parties agree that: (a) the work contracted for in this CONTRACT falls within the distinct nature of CONTRACTOR'S business; (b) the nature of the work contained within this CONTRACT is specialized, and the CITY/UTILITY has elected to contract out the work rather than attempt to perform the work with its current workforce; (c) CONTRACTOR is an incorporated business that possesses the personnel and materials necessary to perform the work; (d) the relationship of the work provided by CONTRACTOR has no relationship to the regular business conducted by the CITY/UTILITY; (e) it is understood and agreed that CONTRACTOR is an independent contractor, and nothing herein contained shall constitute, create, give rise to, or otherwise recognize an employment relationship, joint venture, partnership, or formal business association or organization of any kind between the parties hereto, other than as contracting parties, nor shall CONTRACTOR or any subcontractor, or any employee of CONTRACTOR or any subcontractor be deemed to be employed by the CITY/UTILITY or entitled to any remuneration or other benefits from the CITY/UTILITY, other than as set forth in this CONTRACT.

12. ASSIGNMENT.

CONTRACTOR shall not assign its rights to this CONTRACT, in whole or in part, without prior written approval of the CITY/UTILITY. Approval may be withheld at the sole discretion of the CITY/UTILITY, provided that such approval shall not be unreasonably withheld.

13. AUTHORITY TO CONTRACT.

CONTRACTOR warrants its right and power to enter into this CONTRACT. If any court or administrative agency determines that the CITY/UTILITY does not have authority to enter into this CONTRACT, the CITY/UTILITY shall not be liable to CONTRACTOR or any third party by reason of such determination or by reason of this CONTRACT.

14. CANCELLATION FOR CONFLICT OF INTEREST.

This CONTRACT is subject to cancellation for conflict of interest pursuant to A.R.S. § 38-511, the pertinent provisions of which are incorporated into this CONTRACT by reference.

15. TERMINATION OF CONTRACT FOR CAUSE.

If, through any cause, CONTRACTOR shall fail to fulfill in timely and proper manner its obligations under this CONTRACT, or if CONTRACTOR shall violate any of the covenants, provisions, or stipulations of this CONTRACT, the CITY/UTILITY shall thereupon have the right to terminate this CONTRACT by giving written notice to CONTRACTOR of such termination and specifying the effective date thereof, at least ten (10) days before the effective date of such termination.

In such event, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs, and reports prepared by CONTRACTOR shall, at the option of the CITY/UTILITY, become its property and CONTRACTOR shall be paid an amount based on time and expenses incurred by CONTRACTOR prior to the termination date; however, no payment shall be allowed for anticipated profits on unperformed work or services. Notwithstanding the above, CONTRACTOR shall not be relieved of liability to the CITY/UTILITY for damages sustained by the CITY by virtue of any breach of this CONTRACT by CONTRACTOR and the CITY/UTILITY may withhold payments to CONTRACTOR for purpose of set-off until such time as the exact amount of damages due the CITY/UTILITY from CONTRACTOR are determined.

16. TERMINATION FOR CONVENIENCE.

The CITY/UTILITY may terminate this CONTRACT at any time by giving written notice to CONTRACTOR of such termination and specifying the effective date thereof, at least thirty (30) days before the effective date of such termination. In that event, all finished or unfinished documents and other materials shall, at the option of the CITY/UTILITY, become its property. If this CONTRACT is terminated by the CITY/UTILITY as provided herein, CONTRACTOR shall be paid an amount based on the time and expense incurred by CONTRACTOR prior to the termination date, however, no payment shall be allowed for anticipated profit on unperformed work or services.

17. NON-APPROPRIATION OF FUNDS.

Notwithstanding any other provision of this CONTRACT, this CONTRACT may be terminated if for any reason there are not sufficient appropriated and available monies for the purpose of maintaining the CITY/UTILITY or other public entity obligations under this CONTRACT. The CITY/UTILITY shall have no further obligation to CONTRACTOR, other than to pay for services rendered prior to termination.

18. BONDING REQUIREMENTS.

CONTRACTOR shall provide, pursuant to A.R.S. §34-211, payment and performance bonds for not less than One Hundred Percent (100%) of this CONTRACT amount. Copies of said bonds shall be attached to and become a part of this CONTRACT.

19. REMEDIES.

Either party may pursue any remedies provided by law for breach of this CONTRACT. No right or remedy is intended to be exclusive of any other right or remedy and each shall be cumulative and in addition to any other right or remedy existing at law or at equity or by virtue of this CONTRACT.

20. WAIVER.

Failure of either party to insist on one or more instances upon the full and complete compliance with any of the terms or provisions of this CONTRACT to be performed on the part of the other, or to take any action permitted as a result thereof, shall not be construed as a waiver or relinquishment of the right to insist upon full and complete performance of the same, or any other covenant or condition, either in the past or in the future. The Acceptance by either party of sums less than may be due and owing it at any time shall not be construed as an accord and satisfaction.

21. CHOICE OF LAW/VENUE.

Any dispute, controversy, claim or cause of action arising out of or related to this CONTRACT shall be governed by Arizona law. The venue for any such dispute shall be in Coconino County, Arizona. Each party waives the right to object to venue in Coconino County for any reason.

22. CONSTRUCTION OF THIS CONTRACT.

This CONTRACT shall be construed and interpreted according to its plain meaning, and no presumption shall be deemed to apply in favor of, or against the party drafting this CONTRACT. The parties acknowledge and agree that each has had the opportunity to seek and utilize legal counsel in the review of and entry into this CONTRACT.

23. NOTICES.

All notices, requests, demands, payments and other communications hereunder shall be in writing and shall be deemed given if personally delivered or mailed, certified mail, return receipt requested, or sent by overnight carrier to the following address on the date received:

Utility:
Page Utility Enterprises
640 Haul Road.
P.O. Box 1955
Page, Arizona 86040

Contractor:

24. NO KICK-BACK CERTIFICATION

The Contractor warrants that no person has been employed or retained to solicit or secure this Contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, and that no member of the City Council, Utility Board or any employee of the City has any interest, financially or otherwise, in the Contracting firm.

For breach or violation of this warranty, the City/UTILITY shall have the right to annul this Contract without liability, or at its discretion to deduct from the Contract Price or consideration, the full amount of such commission, percentage, brokerage or contingent fee.

25. GOVERNMENTAL REQUIREMENTS

The Contractor warrants and represents that it is familiar and will comply with all laws, statues, rules, regulations, and ordinances now in force or which may hereafter be in force, imposed on the Contractor, relating to or affecting the Contractor's performance of the work and compliance herewith (collectively, the "**Governmental Requirements**"), including keeping all records and allowing for all inspections. In Particular, but without limiting the general statements above, the Contractor, in the performance of the Project, will comply with all occupational safety laws (OSHA, etc.), workers' compensation acts, unemployment compensation acts, and tax and social security laws.

26. SEVERABILITY

If any provision of this Agreement is held to be invalid or unenforceable for any reason, the remaining provisions will continue to be valid and enforceable. If a court finds that any provision of this Agreement is invalid or unenforceable, but that by limiting such provision it would be valid and enforceable, then such provision will be deemed to be written, construed, and enforced as so limited.

27. ENTIRE AGREEMENT

The terms and conditions contained in the Request for Bids are incorporated herein by this reference and The Contractor agrees to be bound by such terms as if each were again fully set forth herein. Together, this is the entire agreement of the parties and cannot be changed or modified orally. This agreement may be supplemented, amended or revised only in writing by agreement of the parties.

IN WITNESS WHEREOF, the parties have hereunto subscribed their names this ____day of _____, 2019.

The Contractor

Utility General Manager

Attested By:

Approved as to Form:

Utility Office Manager

City Attorney

BID FORM

RFP #230, Facilities Upgrade 12th Avenue - North Phase II for FY 2018-2019 (Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona

BIDDER'S Name: _____

The undersigned BIDDER has carefully examined the BID DOCUMENTS and the site of the work for the RFP #230, Facilities Upgrade 12th Avenue - North Phase II for FY 2018-2019 (Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona, for Utility Infrastructure for the CITY/UTILITY, and shall provide all necessary machinery, tools, apparatus, and other means of construction and do all THE WORK and furnish all materials called for in the BID DOCUMENTS.

The undersigned BIDDER understands that the quantity of work as shown herein shall be lump sum, complete in place.

THE BIDDER AGREES TO PERFORM ALL OF THE NECESSARY WORK DESCRIBED IN THE BID DOCUMENTS FOR THE LUMP SUM BID PRICE OF:

_____ Dollars (\$ _____)

Accompanying this BID is a Bid Bond for Ten Percent (10%) of the lump sum bid payable to the CITY/UTILITY, which is to be forfeited as liquidated damages, if, in the event that this bid is accepted, the undersigned fails to execute the CONTRACT and furnish satisfactory performance and payment bonds under the conditions and within the time specified in the BID DOCUMENTS; otherwise said Bid Bond is to be returned to the undersigned.

Date: _____

Name of Bidder: _____

Signature of Bidder: _____

Title of Bidder: _____

Address of Bidder: _____

Bidder's Telephone Number: _____

Bidder's Fax Number: _____

BIDDER shall have the following License(s) to perform THE WORK specified herein:

Arizona General Contractor's License #: _____

Federal Department of Transportation #: _____

Federal Tax ID #: _____

NON-COLLUSION AFFIDAVIT

(Proposer /The Contractor)

The person(s), corporation, or entity making the accompanying Bid, having been first duly sworn, deposes and says:

That the attached Bid is genuine and neither collusive, nor made in the interest of, or on behalf of, any person not herein named; that the Contractor did not encourage another the Contractor to put in a sham bid or to refrain from bidding; and that the Contractor has not in any manner sought by collusion to secure for itself an advantage over any other Contractor.

Signed and dated this ____ day of _____ 20__.

Vendor

BY: _____ Title: _____

STATE OF _____)
) SS.
COUNTY OF _____)

Subscribed and sworn before me this ____ day of _____, 20__
Notary Public _____ My Commission Expires _____

NOTICE OF AWARD

Date:

Contractor's Name:

Street/P.O. Box:

City, State, Zip:

SUBJECT: NOTICE OF AWARD – RFP #230, Facilities Upgrade 12th Avenue - North Phase II for FY 2018-2019 (Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona

The City of Page, dba Page Utility Enterprises having duly considered the bid submitted on _____, 20__ for _____ as outlined in the CONTRACT DOCUMENTS, and it appearing that your BID for performing the work is fair, equitable, and in the City of Page/Page Utility's best interest, said BID is hereby accepted at the lump sum price contained therein, and in accordance with all terms, conditions, covenants, and provisions set forth in the CONTRACT DOCUMENTS.

In accordance with the terms of the CONTRACT DOCUMENTS, you are required to execute the formal CONTRACT and furnish the required Payment and Performance Bonds within ten (10) consecutive calendar days from and including the date of receipt of this Notice.

In addition, you are requested to furnish at the same time, the required certificates of insurance evidencing compliance with the requirements for insurance stated in the CONTRACT DOCUMENTS.

The Bid Bond submitted with your bid will be retained until the CONTRACT has been executed and the required Payment and Performance Bonds have been furnished and approved.

City of Page, Arizona, dba Page Utility Enterprises
Sincerely,

Name:
Department Director Title:

RECEIVED AND ACCEPTED:

Contractor

By: _____
Name: _____
Date: _____

NOTICE TO PROCEED

Date:

Contractor's Name:
Street/ P.O. Box:
City, State, Zip:

Attention:

SUBJECT: NOTICE TO PROCEED – RFP #230, Facilities Upgrade 12th Avenue - North Phase II for FY 2018-2019 (Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona

You are hereby authorized to proceed with work effective _____, 20__ and fully complete all work within ___ consecutive calendar days from this date. The completion date for this Project is therefore _____, 20__. Liquidated damages of \$_____ (\$_____) per day are applicable for each day past _____, 20__ for which work on this Project is not complete, unless otherwise provided.

City of Page, Arizona, dba Page Utility Enterprises
Sincerely,

Name:
Department Director Title:

RECEIVED AND ACCEPTED:

Contractor

By: _____
Name: _____
Date: _____

TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS INDEX

<u>Section</u>	<u>Number of Pages</u>
16010 Basic Electrical Requirements.....	18
16110 Raceways.....	6
16126 25 kV / 600v Power Cable Installation Methods.....	3
16300 Earthwork, Streets and Related Work, Right-of-Way and Traffic Control, Structures, Water and Sewer, Materials.....	1

SECTION 16010 - BASIC ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1. DESCRIPTION OF WORK:

- A. The work covered by this project includes the complete installation of the 12th Avenue - North: Streets between 12th and 20th Avenue upgrade project located in Page, Arizona.
- B. City of Page, dba, Page Utility Enterprises will make final connections of the electrical distribution system to the existing City electrical system, as indicated in the drawings.
- C. The extent of electrical work required is indicated in the Contract Documents and the drawings which include but are not limited to, the specification sections listed in the index.
- D. The work under these specifications shall include furnishing all equipment and materials, except those listed to be furnished by the Owner; providing all labor, supervision, administration, and management; and supplying all construction equipment, materials, and services necessary to construct the Facilities Upgrade 12th Avenue - North - Phase II for FY 2018-2019 (Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona, complete in accordance with the specifications, drawings (as listed in the Table of Contents), and other contract documents.
- E. Major components of the work under these specifications and documents for construction include:
 - 1. Earthwork.
 - 2. Furnishing and installing electrical raceway systems, i.e. conduit, j-boxes.
 - 3. Installing Owner furnished 21.6 kV cable.
- F. The above explanations and listing are intended to give a general definition of the scope of the work under these specifications, and shall not be construed to be an itemized listing of each element of work required. The Contractor shall be responsible for construction of complete facilities, conforming in all respects to the details and requirements of the specifications, drawings, and other contract documents.
- G. The Contractor shall be required to establish installation procedures, workmanship standards, and quality of work guidelines for all phases of the project. The final quality of the work will be reviewed by the Owner to assure compliance with the intent of the specifications.
- H. The Contractor shall be required to perform complete work regardless of possible omissions in the drawings, construction units, vendor drawings, Owner-furnished material lists and these specifications. Miscellaneous material items that are missing shall be furnished by the Contractor at no cost to the Owner to produce a complete working system in conformity with the intent of the work. The Engineer shall have final authority in determining the Contractor's responsibility to complete all work in conformance with the drawings. The Owner shall have the final authority to direct the Contractor to correct any and all work that has been improperly performed, at no cost to the Owner.

1.2. DEFINITIONS: The following are Division 16 document definitions:

- A. "Furnish": Purchase and deliver to project site or storage yard.
- B. "Connect": Make all final electrical connections to a piece of equipment or device.
- C. "Install": To furnish, connect and physically install the item.

- D. "Contract Documents": Includes all applicable drawings, specifications, and authorized changes (addendums, change orders, etc). They also include, but are not limited to, electrical and other drawings, related Document/Section specifications and all authorized changes.

1.3. INTERPRETATION OF CONTRACT REQUIREMENTS

- A. Prior to bidding, the contractor shall review all applicable Contract Documents and shall make as many site visits as necessary to become completely familiarized with existing conditions and proposed construction requirements. Contractor shall include all demolition/renovation/new construction costs in bid.
- B. Contractor shall address all requests for clarification to the Owner in writing five (5) working days prior to issuance of the final addendum.
- C. After the contract has been awarded and signed, the Contractor shall fulfill the intent and purpose of the Contract Document requirements. All costs pertaining to equipment, material devices, testing and labor necessary for the completion of the job shall be the responsibility of the Contractor and shall be included in the bid.
- D. Additional costs due to inadequate site investigation or drawing/specification interpretation shall be the responsibility of the Contractor.
- E. Conflict of Requirements:
 - 1. If a conflict of requirements is found between Division 16 and other Divisions/Sections, the more stringent requirement will take precedence.

1.4. ELECTRICAL IDENTIFICATION

- A. Contractor shall furnish and apply equipment identifying nameplates of engraved phenolic plastic-laminate on each major unit of electrical equipment.
 - 1. Nameplates shall be as indicated in the project drawings.
 - 2. Text shall match terminology and numbering of the Contract Documents, and Nameplate Schedule.
 - 3. Nameplates shall be mounted on the described equipment if possible or otherwise next to the equipment on it's support structure.

1.5. CODE AND STANDARDS COMPLIANCE

- A. The most current published and adopted edition of the following codes, standards and references are considered part of this specification:
 - 1. Codes:
 - (a) NEC - National Electric Code
 - (b) NESC - National Electric Safety Code
 - (c) NFPA - National Fire Protection Association
 - (d) UBC - Uniform Building Code
 - (e) UFC - Uniform Fire Code
 - (f) UMC - Uniform Mechanical Code
 - 2. Standards:
 - (a) AEIC - Association of Edison Illuminating Companies
 - (b) ANSI - American National Standards Institute
 - (c) ASTM - American Society for Testing Materials
 - (d) ETL - Electrical Testing Laboratories
 - (e) IEEE - Institute of Electrical and Electronics Engineers
 - (f) IPCEA - Insulated Power Cable Engineers Association
 - (g) NEMA - National Electrical Manufacturer's Association

(h) UL - Underwriters' Laboratories

3. All electrical equipment furnished under Division 16 shall comply with all current applicable NEMA requirements and shall be UL listed and labeled.

B. Code Compliance

1. The Contractor shall comply with all Federal, State and/or Local code requirements. If a conflict of requirements is found between those and the contract documents/specifications, the more stringent requirement will take precedence and shall be followed.
2. The Contractor accepts responsibility for code compliance upon bid submittal. All costs pertaining to this requirement shall be included in the bid and shall be the responsibility of the Contractor.

1.6. PERMITS/INSPECTIONS

- A. Contractor shall obtain all permits, inspections, etc. pertaining to the completion of the job as required by the authority having jurisdiction and include all costs in the bid.
- B. Contractor shall deliver all required certificates of approval to the Owner or Owners Representative upon completion of the project or upon the Owner's or Owner's Representative request.

1.7. QUALIFIED PERSONNEL/WORKMANSHIP

- A. The following are personnel/workmanship guidelines which the Contractor shall adhere to. They include, but are not limited to:
 1. The Contractor shall have a current applicable state contracting license for the type of work required under this contract.
 2. Provide a competent supervisor to oversee work at all times.
 3. Employ only qualified personnel with at least (3) years experience for the type of work required.
 4. Supervisors or personnel deemed incompetent by Owner or Owner Representative shall be discharged and replaced.
 5. Workmanship shall conform to the latest industry practices and shall have a neat, clean looking appearance.

1.8. MAINTENANCE AND OPERATION MANUALS

Contractor shall provide maintenance and operation manuals for all equipment provided under this specification in the following manner:

- A. Provide five (5) copies to the Engineer or Owner's Representative three weeks prior to completion of the project.
- B. Manuals shall include the following:
 1. A cover letter indicating a complete list of equipment contained in the manual.
 2. Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of replacement parts.
 3. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; summer and winter operating instructions, wiring diagrams and certified outline and shop drawings.
 4. Wiring diagrams, printed circuit card schematics, replaceable parts, spare parts list, manufacturer and catalogue numbers of items and equipment (sales cut sheets are not acceptable). Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions.
 5. Servicing instructions and lubrication charts and schedules.
 6. Names, addresses and phone numbers of vendors for each piece of equipment.

C. All information shall be neat and legible.

D. Submittal

1. One complete copy of the proposed manual shall be submitted to the Owner for review. The Owner's review will be for general conformity to specified requirements and is not intended to constitute detailed review or approval of content.
Upon acceptance of the manual by the Owner, the remaining copies shall be sent to the addresses designated by the Owner.

1.9. RECORD DRAWINGS

A. Drawing Requirements:

1. Contractor shall maintain a set of Record Drawings for the project in the following manner:
 - (a) Show accurately dimensioned locations (from two reference points) of all buried or concealed work and equipment including, but not limited to, manholes, conduit, junction boxes, devices, etc. This includes change order and addendum items and all deviations from locations as shown on the Contract Documents.
 - (b) Neatly labeled daily updates and instructions/information shall be made on a set of Contract Drawing blueprints.
 - (c) Contractor shall provide Owner with Field Record Drawings of applicable Contract Document drawings at the completion of the project and assist in the transfer of all the information from the field set of Record Drawings in a neat, easily readable manner. Include notes and instructional information as required on the drawings to aid interpretation of project "as-built" conditions. Provide the Owner with corrected originals for the project.
 - (d) Remove or black out the Engineers seal on each drawing.
 - (e) Put the heading "Record Drawings" in 1" high block letters in the upper right hand corner of each drawing sheet.

B. Certification

1. On of the first sheet of the Record Drawings set, place the following certification statement:

The information contained in this set of "Record Drawings" is accurate and complete and hereby certified as correct.

(Name of General Contractor) _____

By: _____ Date: _____

(Name of Electrical Contractor) _____

By: _____ Date: _____

2. Persons with the authority to contract for the Contractor are to sign and date this certification.

C. Delivery of Record Drawings

1. The complete and signed/dated set of Record Drawings shall be delivered to the Owner no later than two (2) weeks after project completion.

1.10. RECEIVING, HANDLING AND STORAGE

A. General

1. The Contractor shall promptly receive, unload and place into storage all equipment, materials, and supplies arriving at the project site for the work under this Contract. This shall include equipment and materials furnished by the Owner and specified to be erected and installed under this Contract.
2. The Contractor shall provide all required storage facilities.

B. Receiving

1. The Contractor shall examine all shipments of Owner-furnished equipment and material, and shall notify the Owner immediately of any shortages, discrepancies, or damage.
2. The Contractor shall prepare a listing of the materials or equipment received and acknowledge receipt of such items from the Owner. The Contractor shall take immediate custody of all materials and equipment received in good condition and shall thereafter be solely responsible for any damage or shortage until final acceptance of the Contractor's work.
3. The Contractor shall be responsible for the prompt unloading of all equipment and materials received into his custody and shall pay any demurrage.
4. The Contractor shall replace all Owner-furnished materials and equipment which are lost or damaged while in the custody of the Contractor. Replacement materials and equipment shall be of a type and quality equal to the original materials and equipment, shall be acceptable to the Owner, and shall be obtained expeditiously to prevent delay of the work. Extensions of time will not be granted for delays caused by failure to receive replacement materials and equipment at the time required for their installation.
5. The Contractor shall maintain a current, accurate inventory and record of location for all equipment and materials in his custody.
6. The Owner may furnish more items than needed. Any unused items shall be returned and stored as directed by the Owner.
7. Some of the Owner furnished materials may be located in the Washington City storage yard. The Contractor shall include the cost to load, transport, and unload the items to the project site. (See Owner furnished material listing.)

C. Handling

1. The Contractor shall handle all equipment and materials carefully to prevent damage or loss, shall store them in an orderly manner, shall keep adequate and convenient records of their location, and shall keep a continuously accurate inventory.
2. The use of bare wire rope slings for unloading and handling materials and equipment is prohibited except with the specific permission of the Owner.
3. The Contractor shall rehandle and reload, if required, all Owner-furnished materials and equipment which have been rejected.
4. The Contractor shall handle and load all returnable packing boxes, special handling devices, and cable reels for Owner-furnished materials and equipment and shall prepare shipping papers therefore, if required. All such materials shall be returned as promptly as possible.

D. Storage

1. Stored equipment and materials shall be adequately supported and protected to prevent damage.
2. Stored materials and equipment shall not be allowed to contact the ground. Materials and equipment shall be stored on platforms or shoring.
3. All platforms, enclosures, shoring, and weatherproof coverings for storage use shall remain the property of the Contractor and shall be removed upon completion of the work.
4. Indoor storage facilities:
 - (a) Indoor storage furnished by the Contractor shall consist of suitable construction trailers or portable enclosures and shall be watertight, well ventilated, and secure against theft and vandalism. Equipment and materials shall be placed on shoring to permit air circulation under the stored item. Access doors shall be adequate to accommodate the movement and handling of materials and equipment to be stored and shall be equipped with secure locks.

(b) Indoor storage facilities shall be acceptable to the Owner.

5. Open Platforms:

- (a) Open platforms shall be Contractor-constructed from sound lumber not less than 2 inches nominal thickness. Open platforms shall be adequately constructed to support the loads imposed by the stored materials and equipment. Platforms shall be level, shall be supported on concrete block piers, and shall be not less than 6 inches above grade.
- (b) Shoring for storage of materials and equipment shall utilize sound timbers not less than 6 inches by 8 inches nominal size. Shoring shall be arranged to provide 6 inches of clearance above grade.

6. Coverings:

- (a) Weatherproof coverings for outdoor storage shall utilize a waterproof flame resistant type sheeting. Sheeting widths shall be the maximum practicable and, if necessary, widths may be built up by using waterproof taped splices. The sheeting shall be carefully placed and tied down to prevent moisture from entering the laps and to prevent wind damage to the coverings.

7. Storage Methods:

- (a) Except as otherwise specified, the storage method to be used for various materials and equipment shall be determined as follows:
 - (1) All small loose items which could be easily lost, stolen, broken, or misused shall be stored indoors.
 - (2) All other equipment and materials shall be stored on open platforms or shoring..
 - (3) Combustible and flammable materials shall be handled and stored as specified in the Special Conditions under the article entitled FIRE PREVENTION AND PROTECTION.
 - (4) Control panels and relays shall be stored inside a weather-tight building.
- (b) All storage methods shall be acceptable to the Owner.

E. Material storage on site will be limited to the project site unless prior arrangements are made with the Owner. The area available for material storage and/or a construction trailer will be as approved by the Owner.

1.11. CORRESPONDENCE

A. Correspondence of engineering data shall be addressed to the Engineer and Operation and Maintenance Manager as follows:

1. The original and one (1) copy to the Operation and Maintenance Manager;

City of Page, dba, Page Utility Enterprises
ATTN: Phil Faulk
P.O. Box 1955
640 Haul Road
Page, AZ 86040

B. Letters of transmittal shall accompany all submittals of engineering data and shall include a list of the data included in the transmittal. Lists shall include manufacturer's drawing numbers and the project name, specification number, Owner's Project number, and manufacturer's order number.

C. The Owner's review of engineering data will cover only general conformity of the data to the specifications and documents. The review does not indicate a thorough review of all dimensions, quantities, and details of the equipment, material, device or item indicated or the accuracy of the information submitted; nor shall review by the Owner be construed as relieving the Contractor from any responsibility for errors or deviations from the requirements of the contract documents.

- D. Each submittal, regardless of origin, shall be stamped with the approval of the Contractor and clearly marked with the name of the project, the unit designation, the specification title, the specification number, the Contractor's name, and the Owner's drawing number (after it is assigned upon initial submittal of the drawings). If standard drawings are submitted, the applicable equipment and devices furnished shall be clearly indicated.
- E. The Contractor's stamp of approval will be representation to the Owner that the Contractor has assumed full responsibility for determining and verifying all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data and that he has reviewed or coordinated each submittal with the requirements of the work and the contract.

1.12. COORDINATION MEETING

- A. Representatives of the Contractor shall attend a coordination meeting at a time and place selected by the Owner to discuss matters relative to the execution of this Contract. The Contractor's representatives shall attend additional meetings as required by the Owner thereafter to expedite the work. Meetings will be held at the Page Electric Utility office, or as scheduled.
- B. Within one week after award of this Contract, the Contractor shall attend a preconstruction meeting to be held in the Operations and Maintenance Manager's office. Those in attendance shall be the Owner, Operations and Maintenance Managers, Contractor's Project Manager and Contractor's Field Superintendent.

1.13. SCHEDULE

- A. The time of completion of the work is a basic consideration to the contract. This shall include the completion of various activities in accordance with the Schedule of Activities included at the end of this article. It is necessary that the Contractor perform the activities shown on or before the dates indicated to avoid delay of the entire project.
- B. Activity Periods and Dates: The time periods and dates listed in the Schedule of Activities indicate the latest dates by which the listed activities shall be completed. Data, drawings, and lists for planning, engineering, and documentation may be submitted earlier than the indicated dates at the Contractor's option.
- C. Schedule of Activities:

ACTIVITY	
Planning, Engineering and Documentation	Days after Award of Contract
Contractor to deliver catalog cuts to Owner	10
Contractor to deliver material ordering and delivery schedule	14
Contractor to deliver detailed schedule to Owner	14
Contractor to delivery safety, health, accident prevention program to Owner	14
Contractor to deliver complete as-built drawings to Owner	14 days after completion of construction
Contractor to deliver acceptable copies of insurance certificates or policies	7
<u>Construction</u>	
Earliest mobilization date	7
Latest mobilization date	21

1.14. CONSTRUCTION MANAGEMENT SYSTEM

- A. The Contractor and his subcontractors shall participate in the Construction Management System established by the Owner. Under this program, the Contractor and his subcontractors shall provide, to the Owner or the Owner's Agent, specific and accurate man-hours, quantity and schedule information, and other information as required by the Owner. The information shall be submitted by the first and the fifteenth of each month. The information will be used by the Owner for schedule monitoring purposes and to monitor overall project performance.

1.15. CONSTRUCTION MANAGEMENT REQUIREMENTS

- A. The Contractor and his subcontractors shall actively participate in and adhere to the Owner's project management requirements, job rules and conduct, fire protection and safety procedures, and all other procedures initiated by the Owner for the purpose of maintaining jobsite administrative control. The Contractor and his subcontractors shall attend project management meetings on a weekly basis or as deemed necessary by the Owner.

PART 2 - PRODUCTS

2.1. GENERAL

- A. Products and materials are specified by manufacturer name, catalog number and by description. Any approved equals must be approved by the Owner in writing prior to bid opening.
- B. Referenced Manufacturers catalog numbers or descriptions establish the minimum quality of materials or systems required for project completion.
- C. Except for ordinary wear and tear, Contractor shall replace or repair all equipment, devices or materials which develop defects within one year of project completion.
- D. The contractor shall inform the Owner in writing of any discrepancies found between the intended function of equipment and equipment specified in the Contract Documents a minimum of five (5) working days prior to issuance of the final addendum. Failure to report any discrepancy (catalog numbers, discontinued items, etc.) does not relieve the contractor from providing equipment which shall conform to and fulfill the intent of the Contract Documents. Nor shall it be used as a condition to obtain additional funds from the Owner after the Contract is awarded.
- E. Nameplates:
 - 1. Each major component of equipment shall have, at a minimum, the manufacturer's name, address, and catalog or style number on a nameplate securely attached to the item of equipment. Nameplates for individual items of electrical equipment shall be as specified in Section 1.4 and shall be provided on each item of equipment.
- F. Prevention of Corrosion:
 - 1. Metallic materials shall be protected against corrosion as specified. Aluminum shall not be used in contact with earth or concrete. Where aluminum conductors are connected to dissimilar metal, fittings conforming to UL 486B shall be used.
 - 2. Ferrous metal hardware shall be hot dip galvanized in accordance with ASTM A 12, and A 153.
 - 3. Rigid steel conduits installed in the earth shall be field wrapped with .010 inch thick pipe wrapping plastic tape applied at a 50 percent overlay. Plastic tape is to be polyethylene or PVC with a minimum dielectric strength of 10,000 volts.
- G. The Contractor shall request all clarifications of Contract Document requirements in writing to the Owner a minimum of five (5) working days prior to issuance of the final addendum.
- H. Contractor shall upon request, provide samples of substitution or non-standard items.
- I. Items may not be substituted after the bid opening without the Engineers written approval.

2.2. PRODUCT DATA SUBMITTALS

A. Proof of Compliance:

1. Where materials or equipment are specified to conform to the standards or publications, and requirements of ANSI, ASTM, AEIC, IEEE, NEMA, NFPA, or UL, or to conform to a Federal Specification, the Contractor shall submit proof that the items furnished under this section of the specification conform to the specified requirements. The label of, or listing in the Electrical Construction Materials Directory of UL or the manufacturer's certification or published catalog specification data statement that the items comply with applicable specifications, standards, or publications and with the manufacturer's standards will be acceptable evidence of such compliance.

B. Shop Drawings:

1. After receiving complete material lists and before installation of any of these items, the Contractor shall submit complete shop drawings and such other descriptive data as the Owner may require to demonstrate compliance with the contract documents. Shop drawings and/or catalog cut sheets shall be submitted for the following items and such other items as the Owner may direct:
 - (a) Conduit
2. If departures from the contract drawings are deemed necessary by the Contractor, complete details of such departures, including changes in related portions of the project and the reasons therefore, shall be submitted with the shop drawings. Approved departures shall be made at no additional cost to the Owner.

C. List of Equipment and Materials:

1. A complete itemized listing of equipment and materials proposed for incorporation into the work shall be submitted by Contractor. Each itemization shall include an item number, the quantity of items proposed, the name of the manufacturer of each such item.

D. Quality Standards

1. Prior to submitting Shop Drawings for review, the Contractor shall verify that the items submitted comply with the functional intent, rating, type, and construction requirements of items indicated in the Contract Documents.
2. Equipment shall also comply with all required installation and operating clearances.

E. Submittal Procedures

1. Submit product data submittals for items as required per each section of this specification division.
2. Submit three (3) copies of Product Data submittals for review prior to ordering or installing any equipment.

F. Submittal Content

1. Each submittal shall contain a cover sheet with the following information:
 - (a) Name and location of the project.
 - (b) Contractor and Subcontractor names, addresses and phone numbers.
 - (c) Supplier and/or Vendor name, address, and phone number.
 - (d) Submittal date.
 - (e) Revision or correction information.
2. Product data shall be published catalog material from the Manufacturer and shall contain the following information:

- (a) Complete dimensional, installation, and functional information including required options and special features.
- (b) Submittals shall contain only information relevant to the equipment under review.
- (c) Catalog sheets shall have the Contract Document call out designation written on it in the upper right hand corner.
- (d) Each item under review shall have its own catalog sheet.
- (e) Shop Drawings shall contain detailed, 1/4" = 1' 0" scaled plans, sections and elevations which shall clearly indicate equipment and its relationship to adjacent equipment and/or structural elements.

3. Certification

- (a) The cover sheet shall contain the following statement signed by Contractors representative authorized to enter into contracts for the Contractor:

The product data contained in this submittal has been thoroughly checked in all respects and complies with all requirements, performance intents and standards of the Contract Documents and Specifications for this project.

Signed: _____
Typed Name and Title
Name of Contractor

Date: _____

G. Submittal Rejection

- 1. If the Product data and/or Shop Drawing submittals do not comply with the requirements contained in this section, they will be returned for resubmission.

H. Review Period

- 1. The Owner has a minimum of one (1) week to review or rereview submittals after receiving them.

I. Contractor Responsibility

- 1. Review and/or acceptance of the Product Data and/or Shop Drawings submittals by Owner or Owner's representative does not relieve the Contractor from the responsibility to provide materials and systems which satisfy the intent, dimensional proportions, purpose and functional abilities of equipment or devices which are indicated on the Contract Documents.
- 2. The omission of noting errors or corrections by the Owner on the submittals does not permit the Contractor to proceed in error or purchase, install or fabricate equipment or devices which do not satisfy the intent or requirements of the Contract Documents.
- 3. Regardless of any information contained in Product Data or Shop Drawings Submittals, requirements of the Contract Documents shall supersede any review of said submittals.

J. Job Site Verification

- 1. Upon arrival of equipment to the job site, the Contractor shall verify that the equipment complies with the requirements of the Contract Documents.

2.3. PRODUCT SUBSTITUTION SUBMITTAL

- A. Substitutions will be considered only if the following requirements are met:

- 1. The Contractor shall supply two (2) copies of the proposed substitution submittal to the Owner a minimum of eight (8) working days prior to the bid date.

2. The submittal shall include:

- (a) A cover letter which lists proposed substitution items by manufacturer name and catalog number which are cross referenced to specified equipment in the Contract Documents.
- (b) Manufacturer's published pictorial and specification material for proposed substitution items.

B. Contractor Responsibility

- 1. Upon submission of a substitution submittal, the contractor automatically assumes responsibility to ensure that the proposed substitutions are equal to those items specified in the Contract Documents in performance, functional intent, voltage, ratings, construction design and is compatible in dimensional characteristics, etc.
- 2. Acceptance of substitution items by Owner does not relieve the Contractor from providing equipment which complies with the intent of the Contract Documents. If substitution equipment or material are judged to be inadequate by the Owner after the contract is awarded, the Contractor shall replace that equipment or material with the originally specified items at no extra cost to the Owner.

C. Substitution Submittal Acceptance

- 1. Substitution Submittal acceptance will be issued only by addendum prior to the bid opening or by change order in the case of a discontinued item. Verbal acceptance by the Owner will not be given nor shall conversations with the Owner be construed as a basis to provide unapproved materials.

2.4. OWNER FURNISHED EQUIPMENT AND MATERIALS

- A. A complete list of owner-furnished material (OFM) ordered for this project is found in this Contract under Contractor's Proposal.
- B. The Contractor shall coordinate his work in accordance with the Owner-furnished material delivery schedules.
- C. Contractor shall assume risk of loss of all OFM transferred for installation. Contractor's responsibility for loss/damage to OFM shall continue until final acceptance is made by the Owner of the constructed facilities, and until excess OFM is returned and accepted.
- D. Owner-furnished equipment and materials will be delivered to the indicated locations where the Contractor shall receive them into his custody until final acceptance of the work.

2.5. INCENTIVE BIDS

- A. Incentive bids are acceptable only if they are listed individually on the bid form as specific additions or deductions from the base bid and must be based on items specified or approved per addendum.

2.6. SPARE PARTS

- A. Contractor shall provide all spare parts as required to the Owner.

PART 3 - CONSTRUCTION SCHEDULE

3.1. GENERAL

- A. This Section covers the schedule and requirements for performance and completion of the work included under this contract.

3.2. CONSTRUCTION SCHEDULE

- A. In general, the Contractor shall manage his own construction work activities for timely completion of the overall Project with primary regard for personnel safety and the Owner's system integrity.

- B. The Contractor shall provide detailed completion schedules for the various work classifications. The schedule shall be discussed in detail at the pre-construction conference, at which time the Contractor may be requested to defend the schedule and demonstrate its conformance to the completion date.
- C. Completion of the overall Project on the date specified in the Contractor's Proposal shall be the basis for the Contractor's Bid. The Bidder may offer an alternative completion schedule for consideration by the Owner, provided:
 - 1. The alternate proposal accompanies the basic proposal.
 - 2. The only exceptions taken pertains to the completion schedule and the cost advantages is to the Owner.

3.3. WORK PROGRESS REPORTS

- A. Contractor shall submit to the Owner a report on actual progress of the work every week.
- B. Work progress reports shall consist of marked prints of the accepted work progress schedule, and a narrative report including, but not limited to, the following:
 - 1. A statement of the percentage completion of each Project labor and material bid unit.
 - 2. A statement of work in progress and scheduled work for the following two weeks.
 - 3. A statement of any factors delaying the construction effort including causes and solutions.
- C. In addition to the bi-weekly reports, the Contractor shall report to the Owner immediately upon becoming aware of any circumstance which might delay or accelerate the approved work schedule.
- D. A work progress report shall accompany each application for partial payment. Work reported completed but not readily apparent to the Owner must be substantiated with supporting data.
- E. Should the work fall behind the accepted schedule to an extent that substantial completion of the work within the contract time appears doubtful, Contractor shall, at no additional expense to the Owner, take whatever action is required to be in compliance with the specified schedule, including, but not limited to:
 - 1. Add to his plan, equipment, and construction forces, or
 - 2. Increase the working hours per week, or
 - 3. Both 1 and 2 above

3.4. COORDINATION

- A. The Contractor shall coordinate his work with materials and equipment arrival and shall cooperate fully with the Owner in maintaining orderly progress towards completion of the work as scheduled.
- B. The dates indicated for delivery of Owner-furnished equipment and materials are based on dates set forth in separate contracts with the Owner and represent the best information available at this time. It should be recognized that these dates may vary due to causes beyond the Owner's control and appropriate allowance should be made in the Contractor's planning of the work.
- C. Failure of Owner-furnished equipment and materials to arrive as scheduled shall not be justification for an extension of time, except where such failure causes, in the opinion of the Owner, an unreasonable delay in the Contractor's work, in which case the provisions of the General Conditions regarding changes in the contract shall apply. The Contractor will be required to show to the satisfaction of the Owner that the late delivery did in fact delay the Contractor's overall project schedule.
- D. The Contractor shall keep himself, and his subcontractors, advised at all times during the course of construction as to the delivery status of Owner-furnished equipment and materials and of the progress of construction work being performed under separate contracts.
- E. The Owner will, upon written request by the Contractor, furnish information which may be available to the Owner regarding the status of the Owner-furnished equipment and materials or construction work being performed under separate contracts.

- F. Coordination conferences will be held as requested by the Owner. Contractor, Engineer, and Owner shall be represented at each conference. Contractor may, at his discretion, request attendance by representatives of his suppliers, manufacturers, and other subcontractors.
- G. Contractor shall be prepared to discuss all issues related to the Contract including quality control, schedules, material status. Regarding schedules, Contractor shall be prepared to report current status, near term anticipated progress and overall schedule conformance as it relates to completion date. Format of all submittals for these conferences shall be subject to approval by the Owner.

PART 4 - SITE CONDITIONS

4.1. SITE INVESTIGATION AND REPRESENTATION

- A. The Contractor acknowledges that he has satisfied himself as to the nature and location of the work, the general and local conditions, particularly those bearing upon availability of transportation, access to the site, disposal, handling and storage of materials, availability of labor, water, electric power, roads, and uncertainties of weather, water levels, or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during the prosecution of the work and all other matters which can in any way affect the work or the cost thereof under this Contract.
- B. The Contractor further acknowledges that he has satisfied himself as to the character, quality, and quantity of surface and subsurface materials to be encountered from his inspection of the site and from reviewing any available records of exploratory work furnished by the Owner or included in these Documents. Failure by the Contractor to acquaint himself with the physical conditions of the site and all the available information will not relieve him from responsibility for properly estimating the difficulty or cost of successfully performing the work.
- C. The Contractor warrants that as a result of his examination and investigation of all the aforesaid data that he can perform the work in a good and workmanlike manner and to the satisfaction of the Owner. The Owner assumes no responsibility for any representations made by any of his officers or agents during or prior to the execution of this Contract, unless (1) such representations are expressly stated in the Contract, and (2) the Contract expressly provides that the responsibility therefore is assumed by the Owner.

4.2. CONTRACTOR'S RESPONSIBILITY FOR EXISTING PROPERTIES

- A. Take necessary precautions to prevent damage to existing facilities or structure whether on the surface, aboveground, or underground. An attempt has been made to show major facilities and structures on the drawings. While the information has been compiled from the best available sources, its completeness and accuracy cannot be guaranteed, and it is presented simply as a guide to possible difficulties.
- B. Where existing buildings, poles, or any other structures must be removed in order to properly carry out the construction, or are damaged during construction, restore to their original condition to the satisfaction of the property owner involved at the Contractor's own expense. Notify the Owner of any damaged underground structure, and make repairs or replacements before backfilling.
- C. The Contractor shall replace, at his own expense, any and all existing utilities, equipment, or structures removed or damaged during construction, unless otherwise provided for in these Contract Documents or ordered by the Owner.

PART 5 - TEMPORARY CONSTRUCTION UTILITIES AND FACILITIES

5.1. TEMPORARY WATER

- A. The Contractor shall make his own arrangements to obtain suitable water and shall pay all costs.

5.2. TEMPORARY ELECTRIC POWER

- A. The Contractor shall make his own arrangements to obtain suitable temporary power and shall pay all costs.

5.3. SAFETY REQUIREMENTS FOR TEMPORARY ELECTRIC POWER

- A. Temporary electric power installation shall meet the construction safety requirements of the NESC, OSHA, and state and other governing agencies.

PART 6 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

6.1. MOVE IN AND SITE PREPARATION

- A. Set up construction facilities in a neat and orderly manner within designated area at location of choice as approved by the Operation and Maintenance Manager. Accomplish all required work in accordance with applicable portions of these Specifications or as approved. Confine operations to work areas described or as approved.

6.2. LAYING OUT THE WORK

- A. Where construction of reinforced concrete is required, the Contractor shall: establish grades and set batter boards and reference points as required; have available on the job, as required, an accurate instrument for checking lines, grades, and elevations; establish all lines and elevations from the bench marks indicated or furnished by the Owner; maintain and protect the batter boards until all related work is complete and approved.

PART 7 - PUBLIC SAFETY AND CONVENIENCE

7.1. ACCESS BY FEDERAL, STATE, AND LOCAL GOVERNMENT OFFICIALS

- A. Authorized representatives of the United States Environmental Protection Agency, the State Department of Transportation, State Board of Health, and other government officials shall at all times have safe access to the work wherever it is in preparation or progress, and the Contractor shall provide proper facilities for such access and inspection.

7.2. TRAFFIC MAINTENANCE AND SAFETY

- A. The Contractor shall comply with all applicable sections of the State Department of Transportation, Utility Accommodation Guide, latest edition, and the department's Manual on Traffic Control and Safe Practices. The Contractor shall comply with all other rules and regulations of the city, state, federal, and county authorities regarding closing or restricting the use of public streets or highways. No public or private road shall be closed, except by express permission of the Owner. Conduct the work so as to assure the least possible obstruction to traffic and normal commercial pursuits. Protect all obstructions within traveled roadways by installing approved signs, barricades, and lights where necessary for the safety of the public. The convenience of the general public and residents adjacent to the project, and the protection of persons and property are of prime importance and shall be provided for in an adequate and satisfactory manner.

7.3. FIRE PREVENTION AND PROTECTION

- A. The Contractor shall perform all work in a fire-safe manner. He shall supply and maintain on the site adequate fire-fighting equipment capable of extinguishing incipient fires. The Contractor shall comply with applicable federal, local, and state fire-prevention regulations. Where these regulations do not apply, applicable parts of the National Fire Prevention Standard for Safeguarding Building Construction Operations, (NFPA No. 241) shall be followed.

7.4. CONTAMINATION PRECAUTIONS

- A. Prevent contamination of the project area. Do not dump waste oil, rubbish, or other similar materials on the ground. Use caution to prevent stream or groundwater contamination. Upon completion of the project, remove the construction facilities, complete, and clean up the construction area to the satisfaction of the Owner.

PART 8 - PRESERVATION, RESTORATION, AND CLEANUP

8.1. SITE RESTORATION AND CLEANUP

- A. At all times during the work, keep the premises clean and orderly, and upon completion of the work, repair all damage caused by equipment and leave the project free of rubbish or excess materials of any kind.
- B. Stockpile excavated materials in a manner that will cause the least damage to adjacent lawns, grassed areas, gardens, shrubbery, or fences, regardless of whether these are on private property, or on city, state, or county rights-of-way. Remove all excavated materials from grassed and planted areas, and leave these surfaces in a condition equivalent to their original condition. Replace topsoil areas raked and graded to conform to their original contours.
- C. All existing drainage ditches and culverts shall be reopened and graded and natural drainage restored. Restore culverts broken or damaged to their original condition and location.
- D. Upon completion of constructing operations, hand-rake and drag all former grassed and planted areas, leaving all disturbed areas free from rocks, gravel, clay, or any other foreign material. The finished surface shall conform to the original surface, and shall be free-draining and free from holes, ruts, rough spots, or other surface features detrimental to a seeded area.
- E. The Contractor shall replace damaged or destroyed vegetation in a manner suitable to the Owner. All surface restoration shall be the responsibility of the Contractor.

8.2. FINISHING OF SITE, BORROW, AND STORAGE AREAS

- A. Upon completion of the project, all areas used by the Contractor shall be properly cleared of all temporary facilities, anchors, structures, rubbish, and waste materials and properly graded to drain and blend in with the adjacent land. Areas used for the deposit of waste materials shall be finished to properly drain and blend with the surrounding terrain.

8.3. STREET CLEANUP DURING CONSTRUCTION

- A. Thoroughly clean all spilled soil, gravel, or other foreign material caused by the construction operations from all streets and roads at the conclusion of each day's operation.

8.4. DUST PREVENTION

- A. If required by the Owner, give all unpaved streets, roads, detours, or haul roads used in the construction area an approved dust-preventive treatment or periodically water to prevent dust. Applicable environmental regulations for dust prevention shall be strictly enforced.

PART 9 - EXECUTION

9.1. ROUGH-IN

- A. Final locations shall be verified with field measurements and with the requirements of the actual equipment to be installed.
- B. Final location for equipment shall be coordinated with the Owner.
- C. Refer to Manufacturers written equipment specifications for installation requirements.

- D. Contract Document Drawings are made at a small scale. Unless dimensions are indicated, equipment/devices are indicated in their approximate location. Contractor shall coordinate locations with other trades and field verify all dimensions and locations.

9.2. ELECTRICAL INSTALLATIONS

- A. General: Contractor shall sequence, coordinate, and integrate the various elements of electrical systems, materials, and equipment. Comply with the following requirements:
 - 1. Coordinate electrical systems, equipment, and materials installation with other components or systems to avoid unnecessary cutting, drilling or channeling.
 - 2. Verify all dimensions by field measurements.
 - 3. Arrange for chases, slots, supports, and openings in other subdivision components during progress of construction, to allow for electrical and equipment installations.
 - 4. Coordinate the installation of required supporting devices and sleeves to be set in poured-in-place concrete and other structural components, as they are constructed.
 - 5. Sequence, coordinate, and integrate installations of electrical materials and equipment for efficient flow of the work. Give particular attention to large equipment requiring positioning.
 - 6. Where mounting heights are not detailed or dimensioned, install systems, materials, and equipment to meet requirements of the applicable code.
 - 7. Coordinate and comply with the requirements of governing regulations, franchised service companies, and controlling agencies for the connection of electrical systems with exterior underground and overhead utilities and services.
 - 8. Install only approved systems, materials, and equipment. Conform to the intent of arrangements indicated by the Contract Documents. Portions of the Work are shown only in diagrammatic form. Where coordination requirements conflict with individual system requirements, refer conflict to the Engineer.
 - 9. Install systems, materials, and equipment level and plumb, parallel and perpendicular to other systems and components.
 - 10. Install electrical equipment to facilitate servicing, maintenance, and repair or replacement of equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations.

9.3. INACCESSIBLE EQUIPMENT

- A. Where the Owner determines that the Contractor has installed equipment not "conveniently" accessible for operation and maintenance, equipment shall be removed and reinstalled as directed at no additional cost to the Owner.
- B. "Conveniently accessible" is defined as being capable of being reached without the unnecessary use of ladders, and without unnecessary climbing or crawling under or over obstacles such as motors, pumps, belt guards, transformers, piping, and ductwork.

9.4. UTILITY DISRUPTIONS

- A. Utility disruptions (power, telephone, etc.) required for the completion of the project shall be coordinated in the following manner:
 - 1. Contact the Owner seven (7) working days prior to the proposed outage in writing.
 - 2. Outage to be coordinated to a time convenient with the owner.
 - 3. All overtime costs for this requirement shall be included in the bid.

PART 10 - PROJECT COMPLETION AND START-UP

10.1. FINAL REVIEW

- A. During the final project review, the Project Foreman shall accompany the reviewing party in inspections of any portion of the electrical system.

10.2. ENERGIZATION

- A. Upon completion of the construction, as-built drawings and cleanup of the subdivision, the Owner shall energize the subdivision.

END SECTION 16010

SECTION 16110 - RACEWAYS

PART 1 - GENERAL

1.1. RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions apply to this Section.
- B. This is a Division 16 Basic Materials and Methods section and is a part of each Division 16 section which references to raceways.

1.2. SUMMARY

- A. This Section covers raceways for electrical wiring. Types of raceways in this section include the following:
 - 1. Rigid galvanized conduit (RGC).
 - 2. Rigid nonmetallic conduit (RNC).
 - 3. Ductbanks

1.3. SUBMITTALS - None Required.

1.4. QUALITY ASSURANCE

- A. All raceways, raceway components, etc. shall comply with current applicable NEMA, NFPA, ETL, and NEC requirements pertaining to materials, construction, sizing, installation, grounding, and performance. Products shall be UL listed and labeled.

1.5. MANUFACTURERS

- A. Contractor shall provide raceways and raceway components from firms regularly engaged in manufacturing the types of raceway indicated and/or required and whose products have been used satisfactorily in similar usage for a minimum of five (5) years.

1.6. DEFINITIONS

A. Plastic Conduit

- 1. PVC conduit shall be PVC Schedule 40 or better.

B. Burial Depth

1. Direct Buried Conduit

- (a) Vertical distance from the surface under which conduits are installed to the top of the conduit nearest the surface.

2. Concrete Encased Conduit

- (a) Vertical distance from the surface under which conduits are installed to the top of the concrete

envelope surrounding the conduits.

C. Sweep

1. Change in direction of a conduit or group of conduits with an angle of bend of ten (10) degrees or less or a radius of bend of 15 feet or more.

D. Bend

1. Change in direction of a conduit or group of conduits that, due to the angle of bend or radius of bend, cannot be defined as a sweep.

PART 2 - PRODUCTS

2.1. METALLIC CONDUIT

- A. Contractor shall provide conduit in sizes indicated on drawings and/or specifications with all required fittings, bushings, couplings, etc. Minimum conduit trade size allowable is 1".
- B. Rigid Galvanized Conduit (RGC) shall conform to ANSI C80.1.
- C. Aluminum conduit is not acceptable for any application.

2.2. UNDERGROUND METALLIC CONDUIT

- A. Direct buried rigid galvanized conduit shall have a protective coat of spirally wrapped PVC tape or a factory applied vinyl coat. Completely wrap and tape all field joints. Provide spacers as needed to allow for proper duct bank installation and function.

2.3. NONMETALLIC CONDUIT AND DUCTS

- A. Rigid Nonmetallic Conduit (RNC) shall conform to NEMA TC 2 and UL 651 and shall be Schedule 40 PVC.
- B. PVC and ABS Plastic Utilities Duct Fittings shall conform to NEMA TC 9 and shall match to duct type and material.
- C. Conduit, Tubing, and Duct Accessories: Types, sizes, and materials complying with manufacturer's published product information. Mate and match accessories with raceway.

2.4. DUCTBANK CONSTRUCTION - GENERAL

- A. Ductbanks shall be direct buried and shall be constructed as indicated in the contract documents. Provide 200 lb. test polypropylene pullrope in each duct with an excess of 48" at each end.
- B. Duct and Conduit Caulking Compound: Compounds for sealing ducts and conduit shall have a putty-like consistency workable with the hands at temperatures as low as 35 degrees F., shall not slump at a temperature of 300 degrees F., and shall not harden materially when exposed to the air. Compounds shall readily calk or adhere to clean surfaces of asbestos-cement, fiber, or plastic ducts; metallic conduits or conduit coatings; concrete, masonry, or lead; any cable sheaths, jackets, covers, or insulation materials; and the common metals. Compounds shall form a seal without dissolving, noticeably changing characteristics, or removing any of the ingredients. Compounds shall have no injurious effect upon the hands of workmen or upon materials. Contractor to provide a Material Safety Data Sheet (MSDS) for compounds used.
- C. Duct and Fittings, Nonmetallic Type for Installation Underground: Wall thickness and fittings shall be suitable for the application. Ducts shall be single, round-bore type. Ducts shall be of the same material when used for applications requiring the same type of wall thickness.
- D. Treatment: Ducts shall be kept clean of concrete, dirt, or foreign substances during construction. Field cuts requiring tapers shall be made with proper tools and match factory tapers. After a duct line is completed, a standard flexible mandrel shall be used for cleaning followed by a brush with stiff bristles. Mandrels shall be at least 12 inches long and have diameters 1/4 inch less than the inside diameter of the duct being cleaned. Pneumatic rodding may be used to draw in lead wires. A coupling recommended by the duct manufacturer shall be used whenever an existing duct is connected to a duct of different material or shape. Ducts shall be stored to avoid warping and deterioration with ends sufficiently plugged to

prevent entry of any water or solid substances. Ducts shall be thoroughly cleaned before being laid. Plastic ducts shall be stored on a flat surface and protected from the direct rays of the sun.

- E. Installation of Couplings: Joints in each type of duct shall be made up in accordance with the manufacturer's recommendations for the particular type of duct and coupling selected and as approved. In the absence of specific recommendations, various types of duct joint couplings shall be made watertight as specified.
 - 1. Plastic Duct: Duct joints shall be made by brushing a plastic solvent cement on insides of plastic coupling fittings and on outside of duct ends. Each duct and fitting shall then be slipped together with a quick one quarter turn twist to set the joint tightly. Solvent to be a two part solvent weld of the slow setting type for ducts over three (3) inches.
- F. Raceways penetrating foundations, slabs on grade, footings, etc. shall be Galvanized Rigid Conduit (GRC) with a plastic wrap or coating for a minimum of 10 feet beyond the structural element before a transition to PVC is permitted.

2.5. TRENCHES FOR CONDUITS

A. Trench Bottoms

- 1. When conduits are direct buried or concrete encased, the bottom of the trench into which the conduits are placed shall be free from rocks exceeding 1 inch in their largest dimension. When the trench bottom contains rocks exceeding this size requirement, the trench shall be excavated 6 inches deeper than the burial depth required for the conduits and then backfilled to the required burial depth with sand or screened backfill.

B. Trench Backfill

- 1. Direct Buried Plastic Conduit
 - (a) At least 6 inches of sand or 1 inch minus material shall be placed over the conduits. The remaining backfill shall meet the requirements of Section 16300.

C. Soil Compaction

- 1. When backfill placed over direct buried plastic conduit must be compacted, machine compacting shall not be used within 12 inches of the conduits. For concrete-encased plastic or steel conduits, machine compaction may be used without restriction on proximity to the concrete envelope.
- 2. Placement and Compaction: Place and compact backfill and fill materials in layers of 8 inch maximum lifts. Thinner lifts may be required depending on materials and compaction effort.
- 3. Before compaction, moisten and aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification specified below. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice or other deleterious materials.
- 4. Place backfill and fill materials evenly adjacent to structures, piping, and equipment to required elevations. Prevent displacement of raceways and equipment by carrying material uniformly around them to approximately same elevation in each lift.
- 5. Compaction: Control soil erosion during construction, providing minimum percentage of density specified for each area classification indicated in Section 16300.
- 6. Subsidence: Where subsidence occurs at electrical installation excavations during the period 12 months after the project completion, remove surface treatment (i.e., pavement, gravel, or other finish), add backfill material, compact to specified conditions, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent areas.

D. Grading of Conduits

1. When conduits are installed between manholes, they shall be graded to drain towards the manholes whenever possible. The minimum slope necessary to accomplish this is 3 inches per 100 feet of conduit.

E. Conduit Spacers

1. Installation Requiring Use of Conduit Spacers

- (a) When two or more conduits are direct buried, base and intermediate spacers shall be installed to maintain conduit spacing during the backfill operation.

2. Minimum Separating Between Conduits

- (a) Conduit Spacers shall provide a minimum center to center separation between conduits of 7.5 inches.

F. Conduit Bends and Sweeps

1. Minimum Radius

(a) Bends

- (1) The minimum radius of bends in conduits shall not be less than 15 times the diameter of the largest conduit being installed. If smaller minimum bending radii are required, they shall not be less than the minimum bending radii of the cables to be installed in the conduits. PVC Schedule 40 or 80 elbows shall be used for bends. Heated bends shall not be used unless approved in writing by the Engineer.

(b) Sweeps

- (1) The maximum angle of sweeps in conduits shall be 11 degrees. When the sweep is greater than 11 degrees, PVC Schedule 40 will be required.

2. Bend and Sweep Construction

- (a) Sweeps shall be made by bending 10 foot lengths of plastic conduit. Bends shall be made using PVC Schedule 40 or 80 elbows.

- (b) To reduce damage to PVC elbows, a wire rope shall be used to pull the cable through the conduit.

3. Conduit bend and elbow sizes greater than 2-inch diameter will be concrete thrust blocked or encased in concrete for the full length of the bend or elbow.

4. Ninety degree (90°) bends made into 200 amp equipment ground sleeves shall be constructed with 45 degree long radius, Schedule 40 PVC elbows. This requirement is made in order to allow more cable distance between the connection elbow and the conduit.

5. Ninety degree (90°) upward bends will not be used for 600 amp equipment. The straight conduit will run directly into the 600 amp equipment base with no upward bend. The cable will be pulled into the base and trained up to the equipment connections.

G. Shoring, Laying Back, Spoil Placement and Retention

1. When employees must enter a trench to install conduits, the trench shall be shored or laid back and the spoil shall be effectively retained and placed back from the edges of the trench as required by local, state and national codes or ordinances to ensure that the employees are not subject to moving ground or cave-ins.

H. Conduit Repair

1. If after installation a conduit is damaged due to construction or excavation, a full stock length (usually 10 foot segments) will be used to repair damaged section. Repair collars will not be allowed.

PART 3 - EXECUTION

3.1. RACEWAY TYPE

- A. Outdoors: Use the following raceway type for the given application.
 - 1. Exposed: rigid galvanized conduit.
 - 2. Underground: rigid nonmetallic conduit, and as indicated on drawings.

3.2. INSTALLATION

- A. General: Install electrical raceways in accordance with manufacturer's written installation instructions, applicable requirements of NEC, NECA, and NESC.
- B. Complete installation of electrical raceways before starting installation of conductors within raceways.
- C. Prevent foreign matter from entering uncompleted raceways by capping ends.
- D. Protect stubups from damage where conduits rise from below grade. Arrange so curved portion of bend is not visible above the finished grade.
- E. Do not exceed manufacturer's written instructions concerning maximum bending radius limits. Unless otherwise indicated, keep the legs of a bend in the same plane and the straight legs of offsets parallel.
- F. Use raceway fittings that are of types compatible with the associated raceway and suitable for the use and location. No field fabricated fittings are allowed.
- G. Run concealed raceways with a minimum of bends and in the shortest practical distance.
- H. Where nonmetallic conduit is used, raceways must be converted to RGC before rising above grade.
- I. Install exposed raceways parallel and perpendicular to nearby surfaces or structural members and follow the surface contours as much as practical.
- J. Join raceways with fittings designed and approved for the purpose and make joints tight. Make raceway terminations tight. Where terminations are subject to vibration, use bonding bushings or wedges to assure electrical continuity. Where subject to vibration or dampness, use insulating bushings to protect conductors.
- K. Where terminating in threaded hubs, screw the raceway or fitting tight into the hub so the end bears against the wire protection shoulder. Where chase nipples are used, align the raceway so the coupling is square to the box, and tighten the chase nipple so no threads are exposed.
- L. Install 25 kV conductor/cables, per PEU Specifications (under PEU supervision). Conductors to be supplied by PEU and installed at the appropriate locations as shown on the project drawings.
- M. Stub-up Connections: Extend conduits through concrete equipment or grade for connection to freestanding equipment with an adjustable top or coupling threaded inside for plugs and set flush with the finished floor. Extend conductors to equipment with RGC.
- N. Flexible Connections: Use short length (maximum of 3 ft.) of flexible conduit for approved equipment. Use liquidtight flexible conduit in wet locations. Install dedicated ground conductor in flexible conduit.
- O. Comply with NEC requirements concerning pullbox installations.
- P. The minimum allowable burial depths for direct buried and concrete-encased conduits are shown below.

BURIAL DEPTHS - PLASTIC CONDUIT

*Direct Buried

SCH 40 PVC With Primary Cables

42 Inches

*Distance shown above is from subdivision subgrades

- Q. Provide rigid galvanized conduit (RGC) for all bends over 22 degrees for buried conduit. Metal raceway in direct contact with earth or fill of any kind shall have a protective coat of spirally wrapped PVC tape or a factory applied vinyl coat. Completely wrap and tape all field joints.
- R. Direct buried conduits or conduits requiring concrete encasement shall have a 6" wide yellow plastic marker tape placed 12" above the top of conduit bank the entire length of the conduit. Tape shall indicate "Electric Line Below".

3.3. ADJUSTING AND CLEANING

- A. Upon completion of installation of raceways, inspect interiors of raceways; clear all blockages and remove burrs, dirt, and construction debris. Replace all crushed, deformed or damaged raceways prior to installing wiring.

END SECTION 16110

DIVISION 16 - ELECTRICAL

SECTION 16126 - 25 kV POWER CABLE INSTALLATION METHODS

PART 1 - EXECUTION

1.1 GENERAL

- A. Install 25kV URD Owner furnished electric conductors and cables as indicated, in compliance with manufacturer's written instructions, applicable requirements of NEC and NECA's "Standards of Installation", and in accordance with recognized industry practices. The Contractor is responsible for installation of 25 kV cables; all 25 kV cable terminations to be performed by PEU qualified personnel only.
- B. Primary cables shall not be pulled into plastic conduit until all conduit joints made using plastic conduit cement have been allowed to dry for at least ½ hour.
- C. When pulling cables into conduit, the pulling line used shall have a safe working load rating (minimum) equal to the maximum allowable pulling line tensions for the type and size of cables being pulled as recommended by the manufacturer. Cables shall be pulled into conduit with a pulling eye attached to the cable conductor or a pulling grip placed over the cable sheath, insulation or jacket.
- D. When primary cables are pulled into straight conduit runs, the pulling line tension shall not exceed the values shown in the manufacturer's shop drawings.
- E. When primary cables are pulled into conduit runs including bends or sweeps, the maximum pulling line tension shall not exceed 300 times the radius of curvature of the bend or sweep with the smallest radius expressed in feet.

1.2 CABLES PULLING IN CONDUIT

- A. Whenever possible, pull cables so that bends in the conduit into which the cables are to be pulled are nearest to the feed-in end. This will result in minimum tension on the cables.
- B. On long pulls, the pull-out manhole should be rigged whenever possible, so that an adequate amount of cable for splicing and racking may be pulled into the manhole without the necessity of taking hitches on the cable sheath or jacket.
- C. In highly congested switchgear or where cables must be bent sharply to permit pulling, use a feed-in tube for pulling in cables. This will reduce pulling tensions and prevent damage to the cables being pulled and to other adjacent cables.
- D. Before making a pull, conduits should be clear and free of dirt, rocks, etc.
- E. When pulling three single conductor cables in one conduit, consideration should be given to the possibility of the cables jamming, particularly at bends. This possibility occurs when the sum of the outside diameters of the three cables approximately equals the inside diameter of the conduit they are to be pulled into. When the possibility of jamming exists, pulling tension should be continuously monitored to ensure that damage to the cables, should they jam, will be kept to a minimum.
- F. Wire rope shall be used to pull cables in nonmetallic conduits unless all bends in the conduits are constructed using a bent length of steel conduit or steel conduit elbows. Installation methods which eliminate damage to the conduit and associated elbows shall be used.

- G. Where single conductor cables are installed in separate conduits, all conduit fittings and material must be nonmetallic as per requirements.
- H. Cables may be pulled by direct attachment to conductors or by use of basket weave pulling grip applied over cables. Attachment to pulling device shall be made through approved swivel connection. Cable may be pulled by using basket weave pulling grip, provided the pulling force does not exceed limits recommended by manufacturer; if pulling more than one cable, bind them together with friction tape before applying the grip. For long pulls requiring heavy pulling force, use pulling eyes attached to conductors.
- I. Do not exceed manufacturer's recommendations for maximum allowable pulling tension, side wall pressure, and minimum allowable bending radius. In all cases, pulling tension applied to the conductors shall be limited to 0.008 lbs. per circular mil of conductor cross-section area.
- J. Pull in cable from the end having the sharpest bend; i.e. bend shall be closest to reel. Keep pulling tension to minimum by liberal use of lubricant, and turning of reel, and slack feeding of cable into duct entrance. Employ not less than one man at reel and one in pullhole during this operation.
- K. For training of cables, minimum bend radius to inner surface of cable shall be 15 times cable diameter.
- L. Where cable is pulled under tension over sheaves, conduit bends, or other curved surfaces, make minimum bend radius 50% greater than specified above for training.
- M. Use only wire and cable pulling compound recommended by the specific cable manufacturer, and which is listed by UL. Pulling compound shall be used liberally (at both ends of the pull) to minimize any damage to the conduit system and cables and to keep pulling tensions to a minimum.
- N. Seal all cable ends unless splicing is to be done immediately.**
- O. Train and support all cables in manholes, pullholes, concrete trenches, and similar locations by cable racks and secure to rack insulators with nylon cord and self-locking nylon cable ties.

1.3 AFTER INSTALLATION TESTING

Page Electric Utility to perform all testing. Any conductor that fails testing as described below shall be replaced by the Contractor at the Contractor's expense.

- A. After installation and before the operating test on connection to the existing system, the cable shall be given a high potential test.
- B. Test all cable per ICEA Standards and in accordance with IEEE Standard 400-1991. Notify Owner's representative of proposed date of test sufficiently in advance so that arrangements can be made for the Engineer and the Owner's personnel to witness the test.
- C. Direct-current voltage shall be applied on each phase conductor of the system by connecting conductors as one terminal and connecting grounds and metallic shieldings or sheaths of the cable as the other terminal for each test.
- D. For all new cable installation, perform test after all splices, terminations and connections are complete, except at point where cable under this contract is to be connected to existing system. Prior to making the test, the cables shall be isolated by opening applicable protective devices and disconnecting equipment.

- E. Test the conductor for continuity with all equipment disconnected.
- F. The method, voltage, length of time, shall be as specified and other characteristics of the test shall be in accordance with NEMA WC7 or WC8 for the particular type of cable installed, and shall not exceed the recommendations of IEEE Std. 48, 1990, for cable terminations unless the cable and accessory manufacturers indicate higher voltages are acceptable for testing.
- G. High potential DC test for the new cable and equipment shall start at zero volts and increased in 5,000 volt increments until a maximum value for 25 kV systems is reached. However, test voltage level shall not exceed manufacturers recommended test voltage for any cable, splices, or equipment connected to the system under test.
- H. The voltage step value as shown above shall be for a period of five minutes or until the leakage current has stabilized, whichever is less. If the leakage current does not stabilize, the test shall be stopped and the cable re-tested, if the second test does not stabilize, the cable test shall be discontinued.
- I. The leakage current shall be considered to be stabilized if the leakage current does not change more than five microamps in a 15 second period.
- J. Use DC tester specifically designed for the purpose, with overload or current-limiting devices to limit short circuit current. Record leakage current values at 1 minute intervals during the test. Should any cable fail due to a weakness of conductor insulation or due to defects or injuries incidental to the installation or because of improper installation of cable, cable joints, terminations, or other connections, the Contractor shall make necessary repairs or replace cables as directed and perform a retest for acceptance.
- K. Submit three (3) copies of test, properly labeled, to the Engineer of review. Include all necessary test information such as cable system identification, ambient temperature, weather conditions, current, voltage, cable length, size, etc.

1.4 CABLE PHASING

- A. Each cable shall be properly "phased" to assure proper connection to the system.
- B. Supply all equipment needed to make phasing checks.
- C. Notify the Engineer and the Owner sufficiently in advance of making phase checks to allow for arrangements to be made for the witnessing of the tests.
- D. Make necessary changes to cable connection points, as determined by phasing checks, and reverify phasing after any cable changes.

1.5 CABLE TERMINATING

- A. 25KV Class 200 AMP posi-break loadbreak elbows to be installed at each transformer, section can or locations as required per manufacturers instructions.
- B. 6 Way secondary cable aluminum lug sets shall be installed per manufacture's instructions.

- C. Primary and Secondary Cables shall be trained at the time of terminating so that each cable can be removed and reattached at a later date in the event of an outage or that it may be required to be removed for maintenance.
- D. Notify the Engineer and the Owner sufficiently in advance of making terminations to allow for scheduling of the inspections to be made during terminations.

END SECTION 16126

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ITEMIZED BID FORMS

Scope of Work. The work covered by this Proposal embraces the construction of the Electrical Facilities Upgrade known as, RFP #230, Facilities Upgrade 12th Avenue - North - Phase II for FY 2018-2019 (Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona, as shown by the Construction Drawings and Specifications and as indicated in the Acceptance of the Owner. All material furnished by the Bidder shall be new and in conformance with the Specifications for Construction. All construction work shall be done in a thorough and workmanlike manner in accordance with the Plans, Specifications for Construction, and Construction Drawings. Changes from these documents shall not be permitted except upon the written permission of the Owner.

Materials. It is the intent of these specifications that only such materials and equipment that are acceptable to the Owner shall be used. Manufacturer and catalog numbers of acceptable equipment are included in the plans and specifications. **Alternate manufacturer and catalog numbers for materials may be acceptable, however, any alternate materials must be approved by the Owner in writing prior to bid opening.**

Drawings. The Drawings and Specifications collectively, show the specifications of the material and other items not readily ascertained from the picture drawings. Such schedules show the quantities, sizes, types, and other pertinent information; method of installation, and construction details are indicated clearly. The drawings, as listed in the Table of Contents, and specifications are made a part of these contract Specifications.

Description of Construction Units. To aid in identification of the work and in the pricing of the work, the construction is divided into various groups of construction units. Each Construction Unit consists of a complete installation of the designated portion of a subdivision as specified on the drawings together with connections to associated equipment. Each construction unit represents all labor and material including necessary accessories completely installed and tested in satisfactory operation. (Note: must include all overheads and profits.) Full identification of each Construction Unit and all necessary specifications of the installation shall be shown on the drawings.

The Bidder shall have the cost for the complete construction of the project distributed among the appropriate listed Construction Units. Should some item of work required for the complete construction of the project be apparently omitted from the Construction Units, the Bidder shall notify the Owner prior to submittal of Proposal for clarification. Without such notification, such apparently omitted work required for the complete construction of the underground facilities replacement shall be taken as included within the nearest appropriate Unit.

Each Construction Unit shall be designated by the letter of the Group to which it belongs and identifying number. The bid sheet for the substation shall be completely filled out and shall contain all unit prices for Construction Units contained in the project. It is intended that in all cases the "Name and Description of Construction Unit" column of the Bid Sheets shall contain sufficient information to identify the Construction Unit.

Additional description to one or more of the Groups may be provided by the Owner if deemed necessary to clarify the intent of these Specifications for Construction. However, such requests must be made at least 5 (five) working days prior to the bid due date.

Group A. Concrete or Asphalt Removal. A Construction Unit consists of asphalt or concrete saw cut, removal and disposal off site. Due to the nature of boring and each contractor having the potential to have a different preference for machine setup, the actual asphalt and concrete removal locations shall be determined by the contractor prior to bidding. Locations shown on the plans are for reference compared to prior projects only.

- Group A-A. **Payment.** The square foot (for concrete) or linear foot (for asphalt) as stated in the bid item unit cost spread sheet, bid price for this Bid Item, Concrete or Asphalt Removal, shall include all work and materials necessary for the CONTRACTOR to fully complete both concrete or asphalt removal needed to perform the work as outlined in the construction drawings including saw cut, removal and transportation from the site to an approved waste storage area.
- Group B. **Excavation / Boring.** A Construction Unit consists of trench excavation and boring in all types of soil conditions including **sandstone and rock** as well as storage of approved excavated material for re-installation after duct bank installation. Units consisting of boring in varying materials and back reaming while installing conduit as specified in the contract drawings are to be considered incidental to the project. Unit to contain evacuating, boring and removal of spoils from the job site to an acceptable location.
- Group B-A. **Payment.** The unit cost bid price for this Bid Item, Excavation / Boring, shall include all labor and equipment necessary for the CONTRACTOR to fully complete all necessary excavation and boring as well as back fill and compaction as outlined in the construction drawings. Quantities to be determined by in place units complete and accepted.
Sandstone is considered incidental to all excavation and boring. No additional compensation shall be rewarded for difficult boring or trenching.
- Group C. **Duct bank/Conductor Installation.** A Construction Unit consists of all labor and materials associated with the installation of conduit as specified in the drawings. The installation includes all labor, elbows, couplings, conduit spacers, connectors and miscellaneous material required to install a complete duct bank. Install underground J-boxes provided by Utility as required for each location.
- Group C-A. **Payment.** A Construction Unit consists of all labor and materials associated with the installation of conduit as specified in the drawings. The installation includes all labor, equipment, and project management to install said duct bank per utility standards associated with the specifications.
- Group D. **Backfill/Compaction.** A Construction Unit consists of backfilling and compacting trench and bore pits with excavated material. All backfill and compaction is to be considered incidental to the project. Backfill of all excavated locations including bore pits shall be considered daily duties as required to perform the task as outlined in the Project Drawings and Specifications. One compaction test for every three bore pits within the roadway will be required. In the event of an open trench within the roadway there will be one compaction test per every 200 linear foot of trench.
- Group D-A. **Payment.** Compaction test shall be paid per unit cost each. No additional payment to be considered for backfill and compaction of bore rig or receiving pits.
- Group E. **Restoration.** A Construction Unit consists of replacing, including but not limited to, removed concrete, asphalt or vegetation, landscaping, privacy fencing, etc. per specifications and clean-up of site. Site is to be left as encountered prior to construction. No permanent markings of private property shall be used during any portion of this project.
- Group E-A. **Payment.** A Construction Unit consists of replacing concrete and asphalt removed for bore pits and machine setup. Units compensated for based on unit cost as proposed for concrete and asphalt removal. Restoration of the remaining project site and each private property is to be considered incidental to performance of the task as needed. No additional payment to be considered for miscellaneous restoration beyond that of concrete and asphalt as proposed.

- Group F. Cable/Conductor Installation. This unit includes the costs associated with installing all OWNER provided conductor as per the specifications at the locations shown on the contract drawings.
- Group F-A. Payment. A Construction Unit consists of all labor, equipment and materials associated with the installation of Utility supplied conductor as specified in the drawings, utility standards and Specifications.
- Group G. Mobilization/Demobilization. This unit includes the costs associated with mobilizing to the site and demobilization from the site.
- Group G-A. Payment. The lump sum bid price for this Bid Item, Mobilization, shall include all work necessary for the CONTRACTOR to fully mobilize for the project. Not more than two (2) percent of the project total amount shall be paid during the initial project start-up period. If this bid item exceeds two (2) percent of the project total amount, any amount greater than two (2) percent shall be paid incrementally through the first half of the project, based on payment, so that the full amount of this bid item has been paid when at least 50 percent of the project total amount has been paid.
- Group H. Traffic Control. This section consist of furnishing all labor, equipment and materials necessary to maintain traffic control including, flagging, barricades, signs, markers and all incidentals as required by the City of Page.
- Traffic control shall conform to the Manual of Uniform Traffic Control Devices. The Contractor shall submit in writing a traffic control plan delineating configuration and signing for Engineer's review.
- Traffic control shall include written notification and signage indicating where trenching will prevent parking and/or access to driveways. The Contractor shall contact homeowners well in advance of and digging in front of their residence.
- Group H-A. Payment. The lump sum bid price for this Bid Item, Traffic Safety, shall include all labor and equipment necessary for the CONTRACTOR to fully complete the scope of work as outlined in the construction drawings for unit item complete and approved. Payout shall be based on percent complete at time of billing.
- Group I. Time and Materials. As part of the bid package submittal the CONTRACTOR shall submit cost for the various classes of labor on all pieces of equipment to be used on the job. These cost, together with the supplier's materials cost submittals, shall be used in the event of an unforeseen requirement, to establish the draw from this bid item.
- The CONTRACTOR shall present possible time and material work to the Owner for approval and authorization prior to beginning work on that item.
- The Owner shall have the sole right to determine allowable Time and Materials cost.
- Group I-A. Payment. **The agreed upon actual percentage draw from the lump sum bid price for Group I, Time and Materials, shall be used in the event of an unforeseen requirement. The price for any proposed work shall include all necessary labor, equipment, material and incidentals necessary to perform the work, complete and in place.**

PAGE ELECTRIC UTILITY "Page Utility Enterprises Bid #230- Facilities Upgrade for FY 2018-2019".

UNIT NO.	NAME AND DESCRIPTION OF CONSTRUCTION UNIT	NO. OF UNITS	UNIT PRICE			EXTENDED PRICE LABOR AND MATERIAL
			LABOR EQUIP	CONTRACTOR FURNISHED MATERIAL	TOTAL LABOR AND MATERIALS	
<u>GROUP A</u>	<u>CONCRETE ASPHALT REMOVAL</u>					
A1	CONCRETE SQ FT	1,200 +/-				
A2	ASPHALT LINEAR FT	1,000 +/-				
TOTAL GROUP A						
<u>GROUP B</u>	<u>BORING and-or TRENCHING</u>					
B1	JOINT BORE OR TRENCH PRIMARY AND/OR SECONDARY @ 4' DEEP LF	4,420 +/-				
B4	SECONDARY 2" LATERALS & ST LTS BORE OR TRENCH @ 2' DEEP LF	8,460 +/-				
TOTAL GROUP B						
<u>GROUP C</u>	<u>DUCTBANK CONDUIT INSTALLATION</u>					
C1	CONDUIT 2" @ 4' DEEP- JOINT INSTALLATION -HDPE Red in Color LF	6,980 +/-				
C2	CONDUIT 3" @ 2'- 4' DEEP- JOINT OR SINGLE INSTALLATION -HDPE Red in Color LF	4,020 +/-				
C3	CONDUIT 2" @ 2' DEEP- SECONDARY LATERALS & St Lights -SAME TYPE LF	4,610 +/-				
C4	SECONDARY J-BOXES (OWNER PROVIDED MATERIALS) EA	80 +/-				
C5	CONDUIT 2" SWEEPS, 3' RADIUS EA	106 +/-				
C6	CONDUIT 2" SWEEPS, 2' RADIUS EA	282 +/-				
C7	CONDUIT 3" SWEEPS, 3' RADIUS EA	196 +/-				
C8	CONDUIT 2" TRANSITION COUPLINGS EA	310 +/-				
C9	CONDUIT 3" TRANSITION COUPLINGS EA	198 +/-				
C10	TRANSFORMER TIE IN EA	15 +/-				
TOTAL GROUP C						
<u>GROUP D</u>	<u>BACKFILL/COMPACTION</u>					
D1	BACKFILL AND COMPACTION (Where Applicable) CU YD	20				
D2	AGGREGATE BASE MATERIAL TON	50				
D3	COMPACTION TEST EA	10				
TOTAL GROUP D						
<u>GROUP E</u>	<u>RESTORATION</u>					
E1	CONCRETE SQ FT	1,200 +/-				
E2	ASPHALT LINEAR FT	1,000 +/-				
TOTAL GROUP E						

PAGE ELECTRIC UTILITY "Page Utility Enterprises Bid #230- Facilities Upgrade for FY 2018-2019".

UNIT NO.	NAME AND DESCRIPTION OF CONSTRUCTION UNIT	NO. OF UNITS	UNIT PRICE			EXTENDED PRICE LABOR AND MATERIAL
			LABOR EQUIP	CONTRACTOR FURNISHED MATERIAL	TOTAL LABOR AND MATERIALS	
<u>GROUP F</u>	<u>CABLE INSTALLATION</u>					
F1	INSTALL OWNER FURNISHED 25kV CABLE LF	0 +/-	0	0	0	0
F2	INSTALL OWNER FURNISHED 350 MCM SECONDARY CABLE LF	0 +/-	0	0	0	0
F3	INSTALL OWNER FURNISHED 600V CABLE (1-0 TRIPLEX SECONDARY LATERALS) LF	0 +/-	0	0	0	0
TOTAL GROUP F						
<u>GROUP G</u>	<u>MOBILIZATION COSTS</u>					
G1	MOBILIZATION LOT	1		0		
G2	DEMOBILIZATION LOT	1		0		
TOTAL GROUP G						
<u>GROUP H</u>	<u>DAILY TRAFFIC CONTROL / OTHER</u>					
H1	DAILY TRAFFIC CONTROL PER DAY	120				
	OTHER DESCRIPTION _____					
TOTAL GROUP H						
TOTAL ALL GROUPS (A - G)						
<u>GROUP I</u>	<u>TIME AND MATERIALS</u>					
I1	TIME AND MATERIALS	TBD	0	0	0	\$20,000
TOTAL GROUP I						

BID SUMMARY – RFP #230, Facilities Upgrade 12th Avenue - North - Phase II for FY 2018-2019 (Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona

		LABOR (\$)	MATERIALS (\$)	TOTAL LABOR AND MATERIALS (\$)
Group A:	Concrete/Asphalt Removal	_____	_____	_____
Group B:	Boring	_____	_____	_____
Group C:	Duct bank Conduit Installation	_____	_____	_____
Group D:	Backfill/Compaction	_____	_____	_____
Group E:	Restoration	_____	_____	_____
Group F:	Primary and Secondary Cable Installation	_____	_____	_____
Group G:	Mobilization/Demobilization	_____	_____	_____
Group H:	Traffic Control	_____	_____	_____
Group I:	Time and Materials	0	0	\$20,000
	1. TOTAL BASE BID			_____

CERTIFICATION OF SIMILAR WORK/CONSTRUCTION FOREMAN

CERTIFICATION OF SIMILAR WORK

Contractor has built at least three similar subdivisions in the last three years and has included a description of these projects and contact information in the proposal.

YES

NO

Contractor Certification for the Qualified Lineman and each additional Lineman on site performing terminations per Industry Standards for High voltage construction.

YES

NO

CONSTRUCTION FOREMAN

Contractor will use _____
as Construction Foreman on this project. This person has at least three years of experience constructing similar projects and has a one page resume included in the proposal.

YES

NO

ACCEPTANCE

Page Utility Enterprises hereby accepts the foregoing Proposal of the Bidder, _____ for "Page Utility Enterprises RFP #230, Facilities Upgrade 12th Avenue - North - Phase II for FY 2018-2019 (Subdivision Underground Infrastructure Upgrade) Project, Page, Arizona" for the amount itemized below and for completion on or before _____. Owner to fill in Bidder's price proposal for all accepted Groups:

BASE BID

Group A	_____
Group B	_____
Group C	_____
Group D	_____
Group E	_____
Group F	_____
Group G	_____
Group H	_____
Group I	_____

PAGE UTILITY ENTERPRISES

By _____

SECRETARY

DATE OF CONTRACT

CONTRACTOR REQUEST FOR PAYMENT

Payment No.: _____

Page ____ of ____

Date: _____

Contract No.: _____

Schedule No.: _____

	PREVIOUS PAYMENT	THIS REQUEST	TOTAL TO DATE
Total			
Sub-Total			
Less Retained			
Payment Amount			

We hereby represent that the above Request for Payment is a true estimate of work completed under the above contract to the above date, except for units of construction partially completed for which no Request for Payment has been made.

Amounts Verified

Field Engineer

Remit to: _____
Contractor

Recommended for Payment

Address

City State

Project Engineer

Contractor _____

By _____

Title _____

Date _____

CONTRACTOR REQUEST FOR PAYMENT

Payment No.: _____

Page ____ of ____

Date: _____

Contract No.: _____

Schedule No.: _____

CONSTRUCTION UNITS INSTALLED

CONSTRCTN UNIT NO.	DESCRIPTION	QTY	LAB & MAT'L UNIT PRICE	EXTENDED PRICE	ENGINEER APPROVAL
Total This Request					