INVITATION FOR BIDS

(RE-ADVERTISEMENT #1)

PROJECT PH21-V99; WA12-23

CONSTRUCTION OF WATER SYSTEM WELL NO. 4

EAST COCOPAH INDIAN RESERVATION

YUMA COUNTY, ARIZONA

JUNE 2023

CONSTRUCTION OF WATER SYSTEM WELL NO. 4
EAST COCOPAH INDIAN RESERVATION
YUMA COUNTY, ARIZONA

TABLE OF CONTENTS

ADVERTISEMENT FOR BIDS **1**

INSTRUCTIONS TO BIDDERS **1**

ARTICLE 1— DEFINED TERMS 1
ARTICLE 2— BIDDING DOCUMENTS 1
ARTICLE 3— QUALIFICATIONS OF BIDDERS 2
ARTICLE 4— PRE-BID CONFERENCE 2
ARTICLE 5— SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE 3
ARTICLE 6— BIDDER'S REPRESENTATIONS AND CERTIFICATIONS 5
ARTICLE 7— INTERPRETATIONS AND ADDENDA 5
ARTICLE 8— BID SECURITY 6
ARTICLE 9— CONTRACT TIMES 6
ARTICLE 10— SUBSTITUTE AND "OR EQUAL" ITEMS 6
ARTICLE 11— SUBCONTRACTORS, SUPPLIERS, AND OTHERS 7
ARTICLE 12— PREPARATION OF BID 8
ARTICLE 13— BASIS OF BID 9
ARTICLE 14— SUBMITTAL OF BID 9
ARTICLE 15— MODIFICATION AND WITHDRAWAL OF BID 10
ARTICLE 16— OPENING OF BIDS 10
ARTICLE 17— BIDS TO REMAIN SUBJECT TO ACCEPTANCE 11
ARTICLE 18— EVALUATION OF BIDS AND AWARD OF CONTRACT 11
ARTICLE 19— BONDS AND INSURANCE 11
ARTICLE 20— SIGNING OF AGREEMENT 12
ARTICLE 21— SALES AND USE TAXES [DELETED] 12
ARTICLE 22— CONTRACTS TO BE ASSIGNED [DELETED] 12
ARTICLE 23— FEDERAL REQUIREMENTS 12

BID FORM FOR CONSTRUCTION CONTRACT **1**

ARTICLE 1— OWNER AND BIDDER 1
ARTICLE 2— ATTACHMENTS TO THIS BID 1
ARTICLE 3— BASIS OF BID—UNIT PRICES 1
ARTICLE 4— TIME OF COMPLETION 3
ARTICLE 5— BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA 3
ARTICLE 6— BIDDER'S REPRESENTATIONS AND CERTIFICATIONS 3

BID BOND (PENAL SUM FORM) **1**

NOTICE OF AWARD **1**

AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE) **1**

ARTICLE 1— WORK 1

ARTICLE 2— THE PROJECT 1
ARTICLE 3— ENGINEER. 1
ARTICLE 4— CONTRACT TIMES 1
ARTICLE 5— CONTRACT PRICE 2
ARTICLE 6— PAYMENT PROCEDURES 4
ARTICLE 7— CONTRACT DOCUMENTS 5
ARTICLE 8— REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS 6
PERFORMANCE BOND 1

PAYMENT BOND 1

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT 1

ARTICLE 1— DEFINITIONS AND TERMINOLOGY 1
ARTICLE 2— PRELIMINARY MATTERS 8
ARTICLE 3— CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE 10
ARTICLE 4— COMMENCEMENT AND PROGRESS OF THE WORK 13
ARTICLE 5— SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS 15
ARTICLE 6— BONDS AND INSURANCE 24
ARTICLE 7— CONTRACTOR'S RESPONSIBILITIES 30
ARTICLE 8— OTHER WORK AT THE SITE 44
ARTICLE 9— OWNER'S RESPONSIBILITIES 47
ARTICLE 10— ENGINEER'S STATUS DURING CONSTRUCTION 48
ARTICLE 11— CHANGES TO THE CONTRACT 50
ARTICLE 12— CLAIMS 55
ARTICLE 13— COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK 57
ARTICLE 14— TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK 62
ARTICLE 15— PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD 66
ARTICLE 16— SUSPENSION OF WORK AND TERMINATION 74
ARTICLE 17— FINAL RESOLUTION OF DISPUTES 77
ARTICLE 18— MISCELLANEOUS 77
SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT 1

ARTICLE 1— DEFINITIONS AND TERMINOLOGY 1
ARTICLE 2— PRELIMINARY MATTERS 1
ARTICLE 3— CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE 1
ARTICLE 4— COMMENCEMENT AND PROGRESS OF THE WORK 1
ARTICLE 5— SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS 2
ARTICLE 6— BONDS AND INSURANCE 2
ARTICLE 7— CONTRACTOR'S RESPONSIBILITIES 3
ARTICLE 8— OTHER WORK AT THE SITE 4
ARTICLE 9— OWNER'S RESPONSIBILITIES 4
ARTICLE 10— ENGINEER'S STATUS DURING CONSTRUCTION 4
ARTICLE 11— CHANGES TO THE CONTRACT 7
ARTICLE 12— CLAIMS 7
ARTICLE 13— COST OF WORK; ALLOWANCES, UNIT PRICE WORK 7
ARTICLE 14— TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCCEPTANCE OF DEFECTIVE WORK 8
ARTICLE 15— PAYMENTS TO CONTRACTOR, SET OFFS; COMPLETIONS; CORRECTION PERIOD 8
ARTICLE 16— SUSPENSION OF WORK AND TERMINATION 8
ARTICLE 17— FINAL RESOLUTIONS OF DISPUTES 8

ARTICLE 18— MISCELLANEOUS 8
ARTICLE 19— FEDERAL REQUIREMENTS 8
WORK CHANGE DIRECTIVE NO.: **1**
CHANGE ORDER NO.: **1**
EXHIBIT A (TECHNICAL SPECIFICATIONS): **1**
EXHIBIT B (INDIAN ENTERPRISE QUALIFICATION STATEMENT FORM): **1**

ADVERTISEMENT FOR BIDS

(RE-ADVERTISEMENT #1)

COCOPAH INDIAN TRIBE
YUMA COUNTY, ARIZONA
CONSTRUCTION OF WATER SYSTEM WELL NO. 4
GENERAL NOTICE

The Cocopah Indian Tribe (Owner) is requesting Bids for the construction of the following Project:

Construction of Water System Well No. 4
PH21-V99; WA12-23

Bids for the construction of the Project will be received at the **Cocopah Indian Tribe's Tribal Headquarters located at 14515 S. Veterans Drive, Somerton, AZ 85350 within the Cocopah West Reservation**, until **Monday, June 26th at 4:00 PM** local time. At that time the Bids received will be publicly opened and read at the Cocopah Indian Tribe's Tribal Headquarters in the Cultural Center Conference Room located at **14515 S. Veterans Drive, Somerton, AZ 85350. The location coordinates for the Cocopah Tribal Headquarters is** 32.615840478594, -114.767627433186.

The Project includes the following Work:

The installation of one potable water well (Well No. 4) by drilling a nominal 16-inch diameter borehole to approximately 305 feet below land surface in a single pass using direct mud rotary, dual rotary, or flooded reverse circulation rotary drilling methods. Formation samples will be collected during drilling, and a geophysical survey will be performed in the completed borehole. An approximately 8-inch diameter stainless steel cased well will be constructed with annular materials per the final well design provided by OWNER'S CONSULTANT. The constructed well will be developed by airlifting and swabbing, followed by pump development and aquifer testing. Final well completion activities include plumbness and alignment surveys and a color downhole video.

Bids are requested for the following Contract: **PH21-V99; WA12-23, Construction of Water System Well No. 4.**

The Project has a performance period of 45 days. The construction performance period shall commence no later than October 1, 2023.

Information and Bidding Documents named "PH21-V99: WA12-23, Construction of Water System Well No. 4" for the Project can be found at the following Owner website:

https://www.cocopah.com/business-opportunities.html

Pre-bid Conference

No additional pre-bid conference will be held.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

Instructions to Bidders.

ADDENDUM #1 (DATED May 22, 2023) is now fully incorporated into these bid documents. Addendum #1 is attached to the end of these bid documents.

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

This Advertisement is issued by:

Owner: **Cocopah Indian Tribe**
By: **Rudy Alcala**
Title: **Cocopah Public Works Director**
Date: **June 9, 2023**

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

INSTRUCTIONS TO BIDDERS

ARTICLE 1—DEFINED TERMS

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

A. *Issuing Office*—The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered. For this project, a bid package may be obtained by contacting Rudy Alcala, Cocopah Public Works Department, at (928) 672-0616 Ext. 7504 or by email at alcalar@cocopah.com.

ARTICLE 2—BIDDING DOCUMENTS

2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder's responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.

2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or re. Printed documents may not be re-sold under any circumstances.

2.03 *Electronic Documents*

A. When the Bidding Requirements indicate that electronic (digital) copies of the Bidding Documents are available, such documents will be made available to the Bidders as Electronic Documents in the manner specified.

1. Bidding Documents will be provided in Adobe PDF (Portable Document Format) (.pdf) that is readable by Adobe Acrobat Reader Version **2020** or later. It is the intent of the Engineer, Owner and Owner's Consultant (Matrix New World Engineering) that such Electronic Documents are to be exactly representative of the paper copies of the documents. However, because the Owner, Engineer and Owner's Consultant cannot totally control the transmission and receipt of Electronic Documents nor the Contractor's means of re of such documents, the Owner, Owner's Consultant and Engineer cannot and do not guarantee that Electronic Documents and res prepared from those versions are identical in every manner to the paper copies.

B. Unless otherwise stated in the Bidding Documents, the Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

Paragraph 2.03.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and res prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.

ARTICLE 3—QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, after submitting its Bid and within **15** days of Owner's request, Bidder must submit the following information:

A. Written evidence establishing its qualifications such as financial data, previous experience, and present commitments.

B. A written statement that Bidder is authorized to do business in the state where the Project is located, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.

C. Bidder's state or other contractor license number, if applicable.

D. Subcontractor and Supplier qualification information.

E. Other required information regarding qualifications.

3.02 [DELETED]

3.03 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.

3.04 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

ARTICLE 4—PRE-BID CONFERENCE

4.01 A non-mandatory pre-bid conference will be held at the time and location indicated in the Advertisement or invitation to bid. Representatives of Owner, Owner's Consultant and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference; however, attendance at this conference is not required to submit a Bid.

4.02 Information presented at the pre-Bid conference does not alter the Contract Documents. Owner will issue Addenda to make any changes to the Contract Documents that result from discussions

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

at the pre-Bid conference. Information presented, and statements made at the pre-bid conference will not be binding or legally effective unless incorporated in an Addendum.

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

5.01 *Site and Other Areas*

A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

5.02 *Existing Site Conditions*

A. *Subsurface and Physical Conditions; Hazardous Environmental Conditions*

1. The Supplementary Conditions identify the following regarding existing conditions at or adjacent to the Site:

a. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data.

b. Those drawings known to Owner of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data.

c. Reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.

d. Technical Data contained in such reports and drawings.

2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

5.03 *Other Site-related Documents*

A. In addition to the documents regarding existing Site conditions referred to in Paragraph 5.02.A, the following other documents relating to conditions at or adjacent to the Site are known to Owner and made available to Bidders for reference:

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

1. [DELETED]

Owner will make copies of these other Site-related documents available to any Bidder on request.

B. Owner has not verified the contents of these other Site-related documents, and Bidder may not rely on the accuracy of any data or information in such documents. Bidder is responsible for any interpretation or conclusion Bidder draws from the other Site-related documents.

C. The other Site-related documents are not part of the Contract Documents.

D. Bidders are encouraged to review the other Site-related documents, but Bidders will not be held accountable for any data or information in such documents. The requirement to review and take responsibility for documentary Site information is limited to information in (1) the Contract Documents and (2) the Technical Data.

E. No other Site-related documents are available.

5.04 *Site Visit and Testing by Bidders*

A. Bidder is required to visit the Site and conduct a thorough visual examination of the Site and adjacent areas. During the visit the Bidder must not disturb any ongoing operations at the Site.

B. A Site visit is scheduled following the pre-bid conference. Maps to the Site will be available at the pre-Bid conference.

C. A Site visit is not scheduled. Arrangements for a site visit may be made by interested bidders by contacting **Rudy Alcala (928) 627-0616 ext. 7504 or by email at alcalar@cocopah.com.**

D. Maps to the Site will be made available upon request.

E. Bidders visiting the Site are required to arrange their own transportation to the Site.

F. All access to the Site, other than during a regularly scheduled site visit, must be coordinated through the following Owner or Engineer. The contacts for visiting the Site are: **Rudy Alcala, Public Works Director, (928) 627-0616 ext. 7504 or by email at alcalar@cocopah.com, or Ailyn Brizo, IHS, (480) 217-0950 or by email at ailyn.brizo@ihs.gov**. Bidder must conduct the required Site visit during normal working hours.

G. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.

H. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder general access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site. Bidder is responsible for establishing access needed to reach specific selected test sites.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

I. Bidder must comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.

J. Bidder must fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

5.05 *Owner's Safety Program*

A. Site visits and work at the Site may be governed by an Owner safety program. If an Owner safety program exists, it will be noted in the Supplementary Conditions.

5.06 *Other Work at the Site*

A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

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

A. The Bid Form that each Bidder will submit contains express representations regarding the Bidder's examination of Project documentation, Site visit, and preparation of the Bid, and certifications regarding lack of collusion or fraud in connection with the Bid. Bidder should review these representations and certifications, and assure that Bidder can make the representations and certifications in good faith, before executing and submitting its Bid.

B. If Bidder is awarded the Contract, Bidder (as Contractor) will make similar express representations and certifications when it executes the Agreement.

ARTICLE 7—INTERPRETATIONS AND ADDENDA

7.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.

7.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to Owner's Consultant and Engineer in writing. Contact information and submittal procedures for such questions are as follows:

A. All requests for information (RFI), questions and submittals should be directed through email to Rudy Alcala, Cocopah Public Works Director (alcalar@cocopah.com) and a copy sent to Dylan Easthouse, Matrix New World Engineering (deasthouse@mnwe.com), and Ailyn Brizo, Indian Health Service Field Engineer (ailyn.brizo@ihs.gov).

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

7.03 Interpretations or clarifications considered necessary by Owner's Consultant and Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than seven days prior to the date for opening of Bids may not be answered.

7.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

ARTICLE 8—BID SECURITY

8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of **five** percent of Bidder's maximum Bid price and in the form of a Bid bond issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions. Such Bid bond will be issued in the form included in the Bidding Documents.

8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited, in whole in the case of a penal sum bid bond, and to the extent of Owner's damages in the case of a damages-form bond. Such forfeiture will be Owner's exclusive remedy if Bidder defaults.

8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.

8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within 7 days after the Bid opening.

ARTICLE 9—CONTRACT TIMES

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

9.02 Provisions for liquidated damages, if any, for failure to timely attain Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 10—SUBSTITUTE AND "OR EQUAL" ITEMS

10.01 The Contract for the Work, as awarded, basis of materials and equipment specified or described in the Bidding Documents, and those "or-equal" or substitute materials and equipment

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

subsequently approved by Engineer, with assistance from Owner's Consultant, prior to submittal of Bids and identified by Addendum. No item of material or equipment will be considered by Engineer as an "or-equal" or substitute unless written request for approval has been submitted by Bidder and has been received by Engineer at least 15 days prior to the date for receipt of Bids in the case of a proposed substitute and 5 days prior in the case of a proposed "or-equal." Each such request shall comply with the requirements of Paragraphs 7.05 and 7.06 of the General Conditions. The burden of proof of the merit of the proposed item is upon the Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. If Engineer approves any such proposed item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner. Substitutes and "or-equal" materials and equipment may be proposed by Contractor in accordance with Paragraphs 7.05 and 7.06 of the General Conditions after the Effective Date of the Contract.

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

10.03 If an award is made, Contractor shall be allowed to submit proposed substitutes and "or-equals" in accordance with the General Conditions.

ARTICLE 11—SUBCONTRACTORS, SUPPLIERS, AND OTHERS

11.01 [DELETED]

11.02 The apparent Successful Bidder, and any other Bidder so requested, must submit to Owner a list of the Subcontractors or Suppliers proposed for the following portions of the Work within five days after Bid opening:

A. [DELETED]

11.03 If requested by Owner, such list must be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor or Supplier. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor or Supplier, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder will submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

11.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors and Suppliers. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor or Supplier, so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.07 of the General Conditions.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

11.05 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

11.06 The Contractor shall not award work to Subcontractor(s) in excess of the limits stated in SC 7.07.N.

ARTICLE 12—PREPARATION OF BID

12.01 The Bid Form is included with the Bidding Documents.

A. All blanks on the Bid Form must be completed in ink and the Bid Form signed in ink. Erasures or alterations must be initialed in ink by the person signing the Bid Form. A Bid price must be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.

B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."

12.02 If Bidder has obtained the Bidding Documents as Electronic Documents, then Bidder shall prepare its Bid on a paper copy of the Bid Form printed from the Electronic Documents version of the Bidding Documents. The printed copy of the Bid Form must be clearly legible, printed on 8½ inch by 11-inch paper and as closely identical in appearance to the Electronic Document version of the Bid Form as may be practical. The Owner reserves the right to accept Bid Forms which nominally vary in appearance from the original paper version of the Bid Form, providing that all required information and submittals are included with the Bid.

12.03 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown.

12.04 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown.

12.05 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown.

12.06 A Bid by an individual must show the Bidder's name and official address.

12.07 A Bid by a joint venture must be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must be shown.

12.08 All names must be printed in ink below the signatures.

12.09 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

12.10 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.

12.11 The Bid must contain evidence of Bidder's authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority within the time for acceptance of Bids and attach such certification to the Bid.

12.12 If Bidder is required to be licensed to submit a Bid or perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder's licensure, or Bidder must certify in writing that it will obtain such licensure within the time for acceptance of Bids and attach such certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.

ARTICLE 13—BASIS OF BID

13.01 *Unit Price*

A. Bidders must submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.

B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity", which Owner or its representative has set forth in the Bid Form, for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

ARTICLE 14—SUBMITTAL OF BID

14.01 The Bidding Documents include one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 2 of the Bid Form.

14.02 A Bid must be received no later than the date and time prescribed and at the place indicated in the Advertisement or invitation to bid and must be enclosed in a plainly marked package with the Project title, and, if applicable, the designated portion of the Project for which the Bid is submitted, the name and address of Bidder, and must be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid must be enclosed in a separate package plainly marked on the outside with the

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

notation "BID ENCLOSED." A mailed Bid must be addressed to the location designated in the Advertisement.

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

ARTICLE 15—MODIFICATION AND WITHDRAWAL OF BID

15.01 An unopened Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.

15.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 15.01 and submit a new Bid prior to the date and time for the opening of Bids.

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

ARTICLE 16—OPENING OF BIDS

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

ARTICLE 17—BIDS TO REMAIN SUBJECT TO ACCEPTANCE

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

ARTICLE 18—EVALUATION OF BIDS AND AWARD OF CONTRACT

18.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.

18.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.

18.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner will reject the Bid as nonresponsive.

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

18.05 *Evaluation of Bids*

A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

B. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.

18.06 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.

18.07 *In evaluation of the bids, the Owner may, within funding limitations, give preference in the amount of five (5) percent above the lowest total bid, to qualified Indian owned firms*

ARTICLE 19—BONDS AND INSURANCE

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

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

ARTICLE 20—SIGNING OF AGREEMENT

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

ARTICLE 21—SALES AND USE TAXES [DELETED]

ARTICLE 22—CONTRACTS TO BE ASSIGNED [DELETED]

ARTICLE 23—FEDERAL REQUIREMENTS

23.01 *Federal requirements at Article 19 of the Supplementary Conditions apply to this Contract.*

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

BID FORM FOR CONSTRUCTION CONTRACT

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

ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to:

Cocopah Indian Tribe
ATTN: Rudy Alcala
Address: 14515 S. Veterans Drive, Somerton, AZ 85350

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

ARTICLE 2—ATTACHMENTS TO THIS BID

1.03 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security;

B. A copy of a valid CONTRACTOR's license for the state in which the work resides, at the time of bidding or Certification of Renewal;

C. Bidders claiming Indian Preference must attach a properly completed "Indian Owned Economic Enterprise Qualification Statement" to this bid. Failure to submit this form will void the Bidder's claim for Indian Preference. The "Indian Enterprise Qualification Statement" form is available in Exhibit B of this bid package.

D. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;

E. A copy of the foreman's resume, including years of experience using the direct mud rotary and/or reverse circulation rotary drilling methods in the installation of large capacity production wells.

ARTICLE 3—BASIS OF BID—UNIT PRICES

1.04 *Unit Price Bids*

A. Bidder will perform the following Work at the indicated unit prices:

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

BID TABLE

Cocopah Indian Tribe

Construction of Water System Well No. 4, Yuma County, Arizona

PH21-V99; WA12-23

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1	Mobilization / Demobilization	ea	1		
2	Surface casing construction	ea	1		
3	16-inch borehole	lf	266		
4	Geophysical logging	ea	1		
5	8.625-inch OD 304 stainless steel (SS) Schedule 40 blank well casing (A778), bull nose bottom cap	lf	180		
6	8.7-inch OD (8P), Hi-Flow 304 SS wire-wrap screen casing, 0.080-in. slots	lf	120		
7	2.375-inch (OD) 304 SS Schedule 10 gravel feed tube	lf	160		
8	Installation of blank and screen casing	lf	300		
9	Installation of gravel tube	lf	160		
10	Bentonite seal(s)	cf	12		
11	6x9 silica sand filter pack	tn	10		
12	Filter pack disinfection	ea	1		
13	Cement grout	cy	7		
14	Clay dispersant sit time (24 hours)	ea	1		
15	Swab and airlift rig development	hr	40		
16	Furnish pump/motor, installation, and removal test pumping, monitoring, and ancillary equipment	ea	1		
17	Pump development	hr	24		
18	Aquifer testing	hr	40		
19	Plumbness survey (gyroscope) and alignment test	ea	1		
20	Well video survey	ea	1		
21	Lost circulation (Owner contingency)	hr	24		
22	16-inch borehole abandonment (Owner contingency)	lf	305		
			TOTAL BASE BID AMOUNT: (Total of All Unit Price Bid Items)		

ea - each
lf - linear feet
cf - cubic feet
cy - cubic yards
hr - hour

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

B. Bidder acknowledges that:

1. Each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and

2. Estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

1.05 Total Bid Price Unit Prices

Total Bid Price (Total of Unit Price Bids)	$

ARTICLE 4—TIME OF COMPLETION

1.06 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

1.07 Bidder accepts the provisions of the Agreement as to liquidated damages.

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

1.08 *Bid Acceptance Period*

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

1.09 *Instructions to Bidders*

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

1.10 *Receipt of Addenda*

A. Bidder hereby acknowledges receipt of the following Addenda: **[Bidder is to complete table.]**

Addendum Number	Addendum Date

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

1.11 *Bidder's Representations*

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.

4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.

5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.

6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.

7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

1.12 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.

2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.

3. Bidder has not solicited or induced any individual or entity to refrain from bidding.

4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:

   a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.

   b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.

   c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.

   d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

BIDDER hereby submits this Bid as set forth above:

Bidder:

_____

(typed or printed name of organization)

By: _____

(individual's signature)

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Date: _____

(typed or printed)

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

Attest: _____

(individual's signature)

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Date: _____

(typed or printed)

Address for giving notices:

_____

_____

Bidder's Contact:

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Phone: _____

Email: _____

Address:

_____

_____

_____

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

BID BOND (PENAL SUM FORM)

Bidder Name: Address *(principal place of business)*:	**Surety** Name: Address *(principal place of business)*:
Owner Name: **Cocopah Indian Tribe** Address *(principal place of business)*: **14515 S. Veterans Drive, Somerton, AZ 85350**	**Bid** Project *(name and location)*: **Construction of Water System Well No. 4 PH21-V99; WA12-23, East Cocopah Indian Reservation, Yuma County, AZ** Bid Due Date:
Bond Penal Sum: Date of Bond:	
Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.	

Bidder	Surety
_____ *(Full formal name of Bidder)*	_____ *(Full formal name of Surety) (corporate seal)*
By: _____ *(Signature)*	By: _____ *(Signature) (Attach Power of Attorney)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
Title: _____	Title: _____
Attest: _____ *(Signature)*	Attest: _____ *(Signature)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
Title:	Title:

Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond will be Owner's sole and exclusive remedy upon default of Bidder.

2. Default of Bidder occurs upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation will be null and void if:

    3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

    3.2. All Bids are rejected by Owner, or

    3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions does not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.

6. No suit or action will be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety, and in no case later than one year after the Bid due date.

7. Any suit or action under this Bond will be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder must be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Postal Service registered or certified mail, return receipt requested, postage pre-paid, and will be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond will be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute governs and the remainder of this Bond that is not in conflict therewith continues in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

NOTICE OF AWARD

Date of Issuance:	
Owner:	**Cocopah Indian Tribe**
Engineer:	**Indian Health Service**
Project No.:	**PH21-V99; WA12-23**
Contract Name:	**Construction of Water System Well No. 4**
Bidder:	
Bidder's Address:	

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

The installation of one potable water well (Well No. 4) by drilling a nominal 16-inch diameter borehole to approximately 305 feet below land surface in a single pass using direct mud rotary, dual rotary, or flooded reverse circulation rotary drilling methods. Formation samples will be collected during drilling, and a geophysical survey will be performed in the completed borehole. An approximately 8-inch diameter stainless steel cased well will be constructed with annular materials per the final well design provided by OWNER'S CONSULTANT. The constructed well will be developed by airlifting and swabbing, followed by pump development and aquifer testing. Final well completion activities include plumbness and alignment surveys and a color downhole video.

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

Two (2) unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically.

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

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

1. Deliver to Owner counterparts of the Agreement, signed by Bidder (as Contractor).
2. Deliver with the signed Agreement(s) the Contract security (such as required performance and payment bonds) and insurance documentation, as specified in the Instructions to Bidders and in the General Conditions, Articles 2 and 6.
3. Other conditions precedent (if any): **[Describe other conditions that require Successful Bidder's compliance]**

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

Owner: **[Full formal name of Owner]**
By *(signature)*: _____
Name *(printed)*: _____
Title: _____
Copy: Engineer

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

This Agreement is by and between **Cocopah Indian Tribe** ("Owner") and **[name of contracting entity]** ("Contractor").

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

Owner and Contractor hereby agree as follows:

ARTICLE 1—WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: **The installation of one potable water well (Well No. 4) by drilling a nominal 16-inch diameter borehole to approximately 305 feet below land surface in a single pass using direct mud rotary, dual rotary, or flooded reverse circulation rotary drilling methods. Formation samples will be collected during drilling, and a geophysical survey will be performed in the completed borehole. An approximately 8-inch diameter stainless steel cased well will be constructed with annular materials per the final well design provided by OWNER'S CONSULTANT. The constructed well will be developed by airlifting and swabbing, followed by pump development and aquifer testing. Final well completion activities include plumbness and alignment surveys and a color downhole video.**

ARTICLE 2—THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: **Cocopah East Water System Improvements. Cocopah Public Works has identified a need to provide additional water supply to support the Cocopah East Public Water System. This project involves developing additional water sources to serve the community water needs.**

ARTICLE 3—ENGINEER.

3.01 *The Owner has signed a Memorandum of Agreement with the Indian Health Service to provide engineering and other technical advisory services. As a sovereign entity, Owner retains decision making authority in the execution of this Contract.*

3.02 The part of the Project that pertains to the Work has been designed by the OWNER's Consultant with consultation from Indian Health Service.

ARTICLE 4—CONTRACT TIMES

4.01 *Time is of the Essence*

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

**EJCDC® C-520, Agreement between Owner and Contractor for Construction Contract (Stipulated Price).
Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.**

4.03 *Contract Times: Days*

A. The Work will be substantially complete within **45** *calendar* days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **60** *calendar* days after the date when the Contract Times commence to run.

4.05 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. *Substantial Completion:* Contractor shall pay Owner $**800** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for Substantial Completion, until the Work is substantially complete.

2. *Completion of Remaining Work:* After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner $**500** for each day that expires after such time until the Work is completed and ready for final payment.

3. Liquidated damages for failing to timely attain Milestones, Substantial Completion, and final completion are not additive, and will not be imposed concurrently.

B. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner's sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.

ARTICLE 5—CONTRACT PRICE

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

B. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item).

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

BID TABLE

Cocopah Indian Tribe

Construction of Water System Well No. 4, Yuma County, Arizona

PH21-V99; WA12-23

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1	Mobilization / Demobilization	ea	1		
2	Surface casing construction	ea	1		
3	16-inch borehole	lf	266		
4	Geophysical logging	ea	1		
5	8.625-inch OD 304 stainless steel (SS) Schedule 40 blank well casing (A778), bull nose bottom cap	lf	180		
6	8.7-inch OD (8P), Hi-Flow 304 SS wire-wrap screen casing, 0.080-in. slots	lf	120		
7	2.375-inch (OD) 304 SS Schedule 10 gravel feed tube	lf	160		
8	Installation of blank and screen casing	lf	300		
9	Installation of gravel tube	lf	160		
10	Bentonite seal(s)	cf	12		
11	6x9 silica sand filter pack	tn	10		
12	Filter pack disinfection	ea	1		
13	Cement grout	cy	7		
14	Clay dispersant sit time (24 hours)	ea	1		
15	Swab and airlift rig development	hr	40		
16	Furnish pump/motor, installation, and removal test pumping, monitoring, and ancillary equipment	ea	1		
17	Pump development	hr	24		
18	Aquifer testing	hr	40		
19	Plumbness survey (gyroscope) and alignment test	ea	1		
20	Well video survey	ea	1		
21	Lost circulation (Owner contingency)	hr	24		
22	16-inch borehole abandonment (Owner contingency)	lf	305		
			TOTAL BASE BID AMOUNT: (Total of All Unit Price Bid Items)		

ea - each
lf - linear feet
cf - cubic feet
cy - cubic yards
hr - hour

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.

C. Total of Unit Price Work (subject to final Unit Price adjustment) $**[number]**.

D. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6—PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

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

6.02 *Progress Payments; Retainage*

A. Owner shall make progress payments on the basis of Contractor's Applications for Payment (**e.g. - EJCDC C620 App for Payment (2018)**) on or about the **5th** day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract.

a. **90** percent of the value of the Work completed (with the balance being retainage).

1) If 50 percent or more of the Work has been completed, as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and

b. **90** percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to **100** percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less **200** percent of

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

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

6.04 *Consent of Surety*

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

ARTICLE 7—CONTRACT DOCUMENTS

7.01 *Contents*

A. The Contract Documents consist of all of the following:

1. This Agreement.
2. Bonds:
    a. Performance bond (together with power of attorney).
    b. Payment bond (together with power of attorney).
3. General Conditions.
4. Supplementary Conditions.
5. Specifications as listed in the table of contents of the project manual (copy of list attached).
6. Addenda (numbers **[number]** to **[number]**, inclusive).
7. Exhibits to this Agreement (enumerated as follows):
    a. **Bid Form with attachments**
8. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
    a. Notice to Proceed.
    b. Work Change Directives.
    c. Change Orders.
    d. Field Orders.
    e. Warranty Bond, if any.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 7.

D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract.

ARTICLE 8—REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS

8.01 *Contractor's Representations*

A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:

1. Contractor has examined and carefully studied the Contract Documents, including Addenda.

2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

3. Contractor is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.

4. Contractor has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.

5. Contractor has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.

6. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (c) Contractor's safety precautions and programs.

7. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price,

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

within the Contract Times, and in accordance with the other terms and conditions of the Contract.

8. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

9. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

10. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

11. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

8.02 *Contractor's Certifications*

A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.02:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

8.03 *Standard General Conditions*

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies,
and American Society of Civil Engineers. All rights reserved.

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

This Agreement will be effective on **[indicate date on which Contract becomes effective]** (which is the Effective Date of the Contract).

Owner:	Contractor:
_____ *(typed or printed name of organization)*	_____ *(typed or printed name of organization)*
By: _____ *(individual's signature)*	By: _____ *(individual's signature)*
Date: _____ *(date signed)*	Date: _____ *(date signed)*
Name: _____ *(typed or printed)*	Name: _____ *(typed or printed)*
Title: _____ *(typed or printed)*	Title: _____ *(typed or printed)* *(If **[Type of Entity]** is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)*
Attest: _____ *(individual's signature)*	Attest: _____ *(individual's signature)*
Title: _____ *(typed or printed)*	Title: _____ *(typed or printed)*
Address for giving notices:	Address for giving notices:
_____	_____
_____	_____
_____	_____
Designated Representative:	Designated Representative:
Name: _____ *(typed or printed)*	Name: _____ *(typed or printed)*
Title: _____ *(typed or printed)*	Title: _____ *(typed or printed)*
Address:	Address:
_____	_____
_____	_____
_____	_____
Phone: _____	Phone: _____
Email: _____	Email: _____
*(If **[Type of Entity]** is a corporation, attach evidence of authority to sign. If **[Type of Entity]** is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)*	License No.: _____ *(where applicable)* State: _____

EJCDC® C-520, Agreement between Owner and Contractor for Construction Contract (Stipulated Price).
Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

PERFORMANCE BOND

Contractor Name: Address *(principal place of business)*:	**Surety** Name: Address *(principal place of business)*:
Owner Name: **Cocopah Indian Tribe** Address *(principal place of business)*: **14515 S. Veterans Drive, Somerton, AZ 85350**	**Contract** Description *(name and location)*: **Construction of Water System Well No. 4 PH21-V99; WA12-23, East Cocopah Indian Reservation, Yuma County, AZ** Contract Price: Effective Date of Contract:

Bond

Bond Amount:

Date of Bond:

(Date of Bond cannot be earlier than Effective Date of Contract)

Modifications to this Bond form:

☐ None ☐ See Paragraph 16

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

Contractor as Principal	Surety
_____ *(Full formal name of Contractor)*	_____ *(Full formal name of Surety) (corporate seal)*
By: _____ *(Signature)*	By: _____ *(Signature)(Attach Power of Attorney)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
Title: _____	Title: _____
Attest: _____ *(Signature)*	Attest: _____ *(Signature)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
Title: _____	Title: _____

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond will arise after:

    3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice may indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 will be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement does not waive the Owner's right, if any, subsequently to declare a Contractor Default;

    3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

    3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

    5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

    5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

    5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment, or the Surety has denied liability, in whole or in part, without further notice, the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner will not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety will not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.

12. Notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted therefrom and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

14. Definitions

    14.1. *Balance of the Contract Price*—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

    14.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

    14.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

    14.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

    14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.

16. Modifications to this Bond are as follows: **None**

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

PAYMENT BOND

Contractor	**Surety**
Name:	Name:
Address *(principal place of business)*:	Address *(principal place of business)*:
Owner	**Contract**
Name: **Cocopah Indian Tribe**	Description *(name and location)*: **Construction of Water System Well No. 4 PH21-V99; WA12-23, East Cocopah Indian Reservation, Yuma County, AZ**
Address *(principal place of business)*: **14515 S. Veterans Drive, Somerton, AZ 85350**	Contract Price:
	Effective Date of Contract:

Bond

Bond Amount:

Date of Bond:

(Date of Bond cannot be earlier than Effective Date of Contract)

Modifications to this Bond form:

☐ None ☐ See Paragraph 18

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

Contractor as Principal	Surety
(Full formal name of Contractor)	*(Full formal name of Surety) (corporate seal)*
By: _____ *(Signature)*	By: _____ *(Signature)(Attach Power of Attorney)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
Title: _____	Title: _____
Attest: _____ *(Signature)*	Attest: _____ *(Signature)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
Title: _____	Title: _____

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond will arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.

4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.

5. The Surety's obligations to a Claimant under this Bond will arise after the following:

    5.1. Claimants who do not have a direct contract with the Contractor

        5.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

        5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).

    5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).

6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.

7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

    7.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

    7.2. Pay or arrange for payment of any undisputed amounts.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

8. The Surety's total obligation will not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond will be credited for any payments made in good faith by the Surety.

9. Amounts owed by the Owner to the Contractor under the Construction Contract will be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfying obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.

11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

12. No suit or action will be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit will be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, will be sufficient compliance as of the date received.

14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted here from and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. Definitions

    16.1. *Claim*—A written statement by the Claimant including at a minimum:

        16.1.1. The name of the Claimant;

        16.1.2. The name of the person for whom the labor was done, or materials or equipment furnished;

        16.1.3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;

        16.1.4. A brief description of the labor, materials, or equipment furnished;

        16.1.5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;

        16.1.6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;

        16.1.7. The total amount of previous payments received by the Claimant; and

        16.1.8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

    16.2. *Claimant*—An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond is to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

    16.3. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

    16.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

    16.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.

18. Modifications to this Bond are as follows: **None**

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.

3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

5. *Bidder*—An individual or entity that submits a Bid to Owner.

6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.

7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.

8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.

9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

10. *Claim*

    a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.

    b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.

    c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.

    d. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.

13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.

14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.

15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.

16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.

17. *Cost of the Work*—See Paragraph 13.01 for definition.

18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.

20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.

21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. *Engineer*—The individual or entity named as such in the Agreement.

23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.

24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.

    a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.

    b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.

    c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.

25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.

27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.

29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.

30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.

31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.

32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.

34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.

35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals.

36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.

39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.

41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.

42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion of such Work.

43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.

44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.

45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.

46. *Technical Data*

    a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.

    b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.

c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.

47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.

48. *Unit Price Work*—Work to be paid for on the basis of unit prices.

49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives*: The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.

C. *Day*: The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective*: The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

1. does not conform to the Contract Documents;

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

3. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).

E. *Furnish, Install, Perform, Provide*

1. The word "furnish," when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.

4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words "furnish," "install," "perform," or "provide," then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

F. *Contract Price or Contract Times*: References to a change in "Contract Price or Contract Times" or "Contract Times or Contract Price" or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term "or both" is not expressed.

G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

ARTICLE 2—PRELIMINARY MATTERS

2.01 Delivery of Performance and Payment Bonds; Evidence of Insurance

A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).

B. *Evidence of Contractor's Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.

C. *Evidence of Owner's Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 Copies of Documents

A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of re.

B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 Before Starting Construction

A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 Preconstruction Conference; Designation of Authorized Representatives

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 Acceptance of Schedules

A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 Electronic Transmittals

A. Except as otherwise stated elsewhere in the Contract, the Owner, Owner's Consultant, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.

B. If the Contract does not establish protocols for Electronic Means, then Owner, Owner's Consultant, Engineer, and Contractor shall jointly develop such protocols.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 Intent

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

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.

C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.

D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.

E. Engineer, with assistance of Owner's Consultant, will issue clarifications and interpretations of the Contract Documents as provided herein.

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

G. Nothing in the Contract Documents creates:

1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or

2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 Reference Standards

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

1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 Reporting and Resolving Discrepancies

A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements*: Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents*: If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, with the assistance of Owner's Consultant, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:

a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or

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

3.04 Requirements of the Contract Documents

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

B. Engineer will, with assistance of the Owners Consultant, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.

C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 Reuse of Documents

A. Contractor and its Subcontractors and Suppliers shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or

2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 Commencement of Contract Times; Notice to Proceed

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

4.02 Starting the Work

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

4.03 Reference Points

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

4.04 Progress Schedule

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.

B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

4.05 Delays in Contractor's Progress

A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.

B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.

C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:

1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;

2. Abnormal weather conditions;

3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and

4. Acts of war or terrorism.

D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:

1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.

2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.

3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:

1. The circumstances that form the basis for the requested adjustment;

2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;

3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;

4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and

5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.

Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.

F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.

G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

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

5.01 Availability of Lands

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

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

5.02 Use of Site and Other Areas

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

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

B. *Removal of Debris During Performance of the Work*: During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.

C. *Cleaning*: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

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

5.03 Subsurface and Physical Conditions

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

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;

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

3. Technical Data contained in such reports and drawings.

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

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

D. *Limitations of Other Data and Documents*: Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;

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

3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or

4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

5.04 Differing Subsurface or Physical Conditions

A. *Notice by Contractor*: If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:

1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;

2. is of such a nature as to require a change in the Drawings or Specifications;

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

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

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

B. *Engineer's Review*: After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.

C. *Owner's Statement to Contractor Regarding Site Condition*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.

D. *Early Resumption of Work*: If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

E. *Possible Price and Times Adjustments*

1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

    a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;

    b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

    c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:

    a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;

    b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or

    c. Contractor failed to give the written notice required by Paragraph 5.04.A.

3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.

4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

F. *Underground Facilities; Hazardous Environmental Conditions*: Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

5.05 Underground Facilities

A. *Contractor's Responsibilities*: Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:

1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;

2. complying with applicable state and local utility damage prevention Laws and Regulations;

3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;

4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and

5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.

B. *Notice by Contractor*: If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.

C. *Engineer's Review*: Engineer will:

1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;

2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;

3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and

4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.

During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

D. *Owner's Statement to Contractor Regarding Underground Facility*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.

E. *Early Resumption of Work*: If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.

F. *Possible Price and Times Adjustments*

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

    a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;

    b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and

    c. Contractor gave the notice required in Paragraph 5.05.B.

2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.

3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

5.06 Hazardous Environmental Conditions at Site

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

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;

2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and

3. Technical Data contained in such reports and drawings.

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

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;

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

3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.

D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.

E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3)

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer and Owner's Consultant, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.

G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.

H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 Performance, Payment, and Other Bonds

A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.

B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.

C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or Regulations, and must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.

E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.

F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.

G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.

H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 Insurance—General Provisions

A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.

B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.

C. Alternative forms of insurance coverage, including but not limited to self-insurance and "Occupational Accident and Excess Employer's Indemnity Policies," are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.

D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.

E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.

F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.

G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

H. Contractor shall require:

1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and

2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.

I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.

J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.

K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.

M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.

N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 Contractor's Insurance

A. *Required Insurance*: Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.

B. *General Provisions*: The policies of insurance required by this Paragraph 6.03 as supplemented must:

1. include at least the specific coverages required;

2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;

3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;

4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and

5. include all necessary endorsements to support the stated requirements.

C. *Additional Insureds*: The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:

1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;

2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

4. not seek contribution from insurance maintained by the additional insured; and

5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 Builder's Risk and Other Property Insurance

A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.

B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.

C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.

D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.

E. *Insurance of Other Property; Additional Insurance*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 Property Losses; Subrogation

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

1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.

2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.

B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.

1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.

C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.

D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 Receipt and Application of Property Insurance Proceeds

A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.

C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.01 Contractor's Means and Methods of Construction

A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 Supervision and Superintendence

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.

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

7.03 Labor; Working Hours

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

B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.

C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.04 Services, Materials, and Equipment

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.

B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

7.05 "Or Equals"

A. *Contractor's Request; Governing Criteria*: Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.

1. If Engineer, with the assistance of the Owner's Consultant, in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:

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

        1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

        2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;

        3) has a proven record of performance and availability of responsive service; and

        4) is not objectionable to Owner.

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

        1) there will be no increase in cost to the Owner or increase in Contract Times; and

        2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.

B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.

C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.

E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 Substitutes

A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.

1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.

2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

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

a. will certify that the proposed substitute item will:

1) perform adequately the functions and achieve the results called for by the general design;

2) be similar in substance to the item specified; and

3) be suited to the same use as the item specified.

b. will state:

1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

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

c. will identify:

1) all variations of the proposed substitute item from the item specified; and

2) available engineering, sales, maintenance, repair, and replacement services.

d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.

B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.

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

D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.

F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 Concerning Subcontractors and Suppliers

A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.

B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.

C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.

D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.

E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.

F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.

G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.

J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.

K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.

L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.

M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 Patent Fees and Royalties

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.

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

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.09 Permits

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

7.10 Taxes

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

7.11 Laws and Regulations

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.

C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

7.12 Record Documents

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

7.13 Safety and Protection

A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.

B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.

C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

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

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

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.

G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.

H. Contractor shall inform Owner, Owner's Consultant and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).

J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 Hazard Communication Programs

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

7.15 Emergencies

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

7.16 Submittals

A. *Shop Drawing and Sample Requirements*

1. Before submitting a Shop Drawing or Sample, Contractor shall:

a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

b. determine and verify:

1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;

2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;

c. confirm that the Submittal is complete with respect to all related data included in the Submittal.

2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.

B. *Submittal Procedures for Shop Drawings and Samples*: Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.

1. *Shop Drawings*

a. Contractor shall submit the number of copies required in the Specifications.

b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

2. *Samples*

    a. Contractor shall submit the number of Samples required in the Specifications.

    b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.

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

C. *Engineer's Review of Shop Drawings and Samples*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.

3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.

6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.

7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

D. *Resubmittal Procedures for Shop Drawings and Samples*

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

2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.

3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

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

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:

   a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.

   b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.

   c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.

   d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.

2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03. 2.04, and 2.05.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 Contractor's General Warranty and Guarantee

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.

B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:

1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and

2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.

C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:

1. Observations by Engineer;

2. Recommendation by Engineer or payment by Owner of any progress or final payment;

3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. Use or occupancy of the Work or any part thereof by Owner;

5. Any review and approval of a Shop Drawing or Sample submittal;

6. The issuance of a notice of acceptability by Engineer;

7. The end of the correction period established in Paragraph 15.08;

8. Any inspection, test, or approval by others; or

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

9. Any correction of defective Work by Owner.

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

7.18 Indemnification

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

B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 Delegation of Professional Design Services

[Deleted]

ARTICLE 8—OTHER WORK AT THE SITE

8.01 Other Work

A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.

C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.

D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

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

F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 Coordination

A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:

1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;

2. An itemization of the specific matters to be covered by such authority and responsibility; and

3. The extent of such authority and responsibilities.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

8.03 Legal Relationships

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

B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.

1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.

2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.

C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.01 Communications to Contractor

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

9.02 Replacement of Engineer

A. In the event a new engineer is appointed to replace Engineer, the replacement engineer's status under the Contract Documents will be that of the former Engineer.

9.03 Furnish Data

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

9.04 Pay When Due

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

9.05 Lands and Easements; Reports, Tests, and Drawings

A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.

B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.

C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 Insurance

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

9.07 Change Orders

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

9.08 Inspections, Tests, and Approvals

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

9.09 Limitations on Owner's Responsibilities

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

9.10 Undisclosed Hazardous Environmental Condition

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

9.11 Evidence of Financial Arrangements

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

9.12 Safety Programs

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

B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.01 Owner's Representative

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

10.02 Visits to Site

A. Engineer and Owner's Consultant will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer and Owner's Consultant, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 Resident Project Representative

A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.

B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

10.04 Engineer's Authority

A. Engineer has the authority to reject Work in accordance with Article 14.

B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.

C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.

D. Engineer's authority as to changes in the Work is set forth in Article 11.

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

10.05 Determinations for Unit Price Work

A. Engineer, with assistance from Owner's Consultant, will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.06 Decisions on Requirements of Contract Documents and Acceptability of Work

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.07 Limitations on Engineer's Authority and Responsibilities

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

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

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

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

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

10.08 Compliance with Safety Program

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

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 Amending and Supplementing the Contract

A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.

B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 Change Orders

A. Owner and Contractor shall execute appropriate Change Orders covering:

1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;

2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;

3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and

4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.

B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 Work Change Directives

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

B. If Owner has issued a Work Change Directive and:

1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

11.04 Field Orders

A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.

B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.05 Owner-Authorized Changes in the Work

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.

B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.

C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.06 Unauthorized Changes in the Work

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

11.07 Change of Contract Price

A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.

B. An adjustment in the Contract Price will be determined as follows:

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);

2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or

3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).

C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit will be determined as follows:

1. A mutually acceptable fixed fee; or

2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;

b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;

c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;

d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;

e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and

f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 Change of Contract Times

A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.

B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 Change Proposals

A. *Purpose and Content*: Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.

B. *Change Proposal Procedures*

1. *Submittal*: Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.

2. *Supporting Data*: The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.

    a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.

    b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

3. *Engineer's Initial Review*: Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.

4. *Engineer's Full Review and Action on the Change Proposal*: Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 Notification to Surety

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

ARTICLE 12—CLAIMS

12.01 Claims

A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:

1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;

3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and

4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.

B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.

D. *Mediation*

1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.

2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.

E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.

F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.

G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

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

13.01 Cost of the Work

A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.

B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.

5. Other costs consisting of the following:

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

    b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

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

    c. *Construction Equipment Rental*

        1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment,

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

machinery, or parts must cease when the use thereof is no longer necessary for the Work.

2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.

3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.

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

e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

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

h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.

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

C. *Costs Excluded*: The term Cost of the Work does not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.

2. The cost of purchasing, renting, or furnishing small tools and hand tools.

3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

6. Expenses incurred in preparing and advancing Claims.

7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee*

1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:

a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.

b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:

1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.

2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.

2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

E. *Documentation and Audit*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

13.02 Allowances

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances*: Contractor agrees that:

1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.

C. *Owner's Contingency Allowance*: Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:

a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.

2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.

3. Adjusted unit prices will apply to all units of that item.

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

14.01 Access to Work

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

14.02 Tests, Inspections, and Approvals

A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.

B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:

1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;

2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;

3. by manufacturers of equipment furnished under the Contract Documents;

4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and

5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

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

E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.

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

14.03 Defective Work

A. *Contractor's Obligation*: It is Contractor's obligation to assure that the Work is not defective.

B. *Engineer's Authority*: Engineer has the authority to determine whether Work is defective, and to reject defective Work.

C. *Notice of Defects*: Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.

D. *Correction, or Removal and Replacement*: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated,

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.

E. *Preservation of Warranties*: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

F. *Costs and Damages*: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 Acceptance of Defective Work

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

14.05 Uncovering Work

A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.

2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 Owner May Stop the Work

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

14.07 Owner May Correct Defective Work

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.

C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

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

15.01 Progress Payments

A. *Basis for Progress Payments*: The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

B. *Applications for Payments*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.

2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

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

    a. the Work has progressed to the point indicated;

    b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and

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

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

    a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or

    b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

    a. to supervise, direct, or control the Work;

    b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;

    c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;

    d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.

6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:

    a. the Work is defective, requiring correction or replacement;

    b. the Contract Price has been reduced by Change Orders;

    c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

    d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

    e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due*

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

E. *Reductions in Payment by Owner*

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:

    a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

    b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;

    c. Contractor has failed to provide and maintain required bonds or insurance;

    d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;

    e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

f. The Work is defective, requiring correction or replacement;

g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

h. The Contract Price has been reduced by Change Orders;

i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;

j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;

k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or

l. Other items entitle Owner to a set-off against the amount recommended.

2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 Contractor's Warranty of Title

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

15.03 Substantial Completion

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.

F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 Partial Use or Occupancy

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.

2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

15.05 Final Inspection

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

15.06 Final Payment

A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.

2. The final Application for Payment must be accompanied (except as previously delivered) by:

a. all documentation called for in the Contract Documents;

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

b. consent of the surety, if any, to final payment;

c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

d. a list of all duly pending Change Proposals and Claims; and

e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Engineer's Review of Final Application and Recommendation of Payment*: If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Notice of Acceptability*: In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.

D. *Completion of Work*: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

E. *Final Payment Becomes Due*: Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

15.07 Waiver of Claims

A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim, appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

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

15.08 Correction Period

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. correct the defective repairs to the Site or such adjacent areas;

2. correct such defective Work;

3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.

B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.

C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.

D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

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

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.01 Owner May Suspend Work

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

16.02 Owner May Terminate for Cause

A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);

2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;

3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or

4. Contractor's repeated disregard of the authority of Owner or Engineer.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:

1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and

2. enforce the rights available to Owner under any applicable performance bond.

C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.

D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.

E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.

G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

16.03 Owner May Terminate for Convenience

A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and

3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.

B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 Contractor May Stop Work or Terminate

A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 Methods and Procedures

A. *Disputes Subject to Final Resolution*: The following disputed matters are subject to final resolution under the provisions of this article:

1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and

2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.

B. *Final Resolution of Disputes*: For any dispute subject to resolution under this article, Owner or Contractor may:

1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;

2. agree with the other party to submit the dispute to another dispute resolution process; or

3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18—MISCELLANEOUS

18.01 Giving Notice

A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:

1. in person, by a commercial courier service or otherwise, to the recipient's place of business;

2. by registered or certified mail, postage prepaid, to the recipient's place of business; or

3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 Computation of Times

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

18.03 Cumulative Remedies

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

18.04 Limitation of Damages

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

18.05 No Waiver

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

18.06 Survival of Obligations

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

18.07 Controlling Law

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

18.08 Assignment of Contract

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

18.09 Successors and Assigns

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

18.10 Headings

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

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

SC-1.01.A.3 Application for Payment

Amend the definition as follows:

Application for Payment—The form acceptable to Owner, which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

SC-1.01.A.31 Progress Schedule

Amend the definition as follows:

Progress Schedule—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the time authorized under the Agreement.

SC – 1.01.A.51. Add the following new paragraph after Article 1.01.A.50:

Agency – This project is financed in whole or in part by the Indian Health Service Sanitation Facilities construction Program (IHS) pursuant to, 42 U.S.C. 2004a, Public Law 86-121, Indian Sanitation Facilities Act. The Agency for these documents is the Indian Health Service (IHS).

ARTICLE 2—PRELIMINARY MATTERS

No suggested Supplementary Conditions in this Article.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

No suggested Supplementary Conditions in this Article.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

SC – 4.01 Delete Paragraph 4.01.A in its entirety and insert the following:

A. The Contract Times will commence to run on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than October 1, 2023.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

SC-5.06 Hazardous Environmental Conditions at Site

Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:

A. No reports or drawings of Hazardous Environmental Conditions at or contiguous to the Site are known to the Owner or Engineer.

B. Not used.

ARTICLE 6—BONDS AND INSURANCE

SC-6.03 Contractor's Insurance

Add the following new paragraph immediately after Article 6.03.C:

D. The limits of liability for insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverage under Paragraphs 6.03.A of the General Conditions:

a. State: Statutory
b. Applicable Federal
c. Employer's Liability
Bodily Injury, each Accident {$ 500,000}
Bodily Injury By Disease, each Employee {$ 100,000}
Bodily Injury/Disease Aggregate {$100,000}

2. Contractor's General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions which shall include completed operations and product liability coverage's and eliminate the exclusion with respect to property under the care, custody, and control of the Contractor:

a. General Liability {$ 250,000}
b. Each Occurrence
(Bodily Injury and
Property Damage) {$ 500,000}
c. Property Damage liability
Insurance will provide
Explosion, Collapse, and
Underground coverage's where applicable.

3. Automobile Liability under Paragraph 6.03.D of the General Conditions:

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

a. Bodily Injury:
   Each Person {$ 200,000}
   Each Accident {$ 500,000}
b. Property Damage:
   Each Accident {$ 20,000}
c. Combined Single Limit of {$ 500,000}

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

SC – 7.05.A. Or Equals

Amend the third sentence of Paragraph 7.05.A by striking out the following words:

Unless the specification or description contains or is followed by words reading that no like, equivalent, or 'or-equal' item is permitted.

SC – 7.07.B. *Or Equals*

Delete Paragraph 7.07.B in its entirety and insert the following its place:

[Deleted]

SC – 7.07.E. Or Equals

Amend the second sentence of Paragraph 7.07.E by striking out the following words:

Owner also may require Contractor to retain specific replacements; provided, however, that

SC – 7.07.N. Or Equals

Add the following new Paragraph immediately after Paragraph 7.07.M:

Contractor is required to perform at least 33 1/3% of the Work, measured as a percentage of the Contract Price, using their employees and equipment. Copies of Subcontract agreements may be required by the Engineer to verify the amount of work performed.

SC-7.15.B Emergencies

Add a new paragraph immediately after Article 7.15.A:

A. If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the Engineer and Owner. In addition, the Contractor must promptly report in writing to appropriate authorities and the Owner's representative all accidents whatsoever arising out of, or in connection with, the performance of the Work whether on, or adjacent to, the site, giving full details and statements of witnesses. If a claim is made by anyone against the Contractor or any SubContractor on account of any accident, the Contractor shall promptly report the facts in writing to the Owner giving full details of the claim.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

ARTICLE 8—OTHER WORK AT THE SITE

No suggested Supplementary Conditions in this Article.

ARTICLE 9—OWNER'S RESPONSIBILITIES

SC – 9.01.A. Communications to Contractor

Amend the Paragraph 9.01.A to read as follows:

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

SC – 9.12.B. Safety Program

Add the following new Article immediately after Paragraph 9.12.B:

9.13 Owner's Site Representative

A. Owner will furnish an "Owner's Site Representative" to represent Owner at the Site and assist Owner in observing the progress and quality of the Work. The Owner's Site Representative is not Engineer's consultant, agent, or employee. Owner's Site Representative will be **Matrix New World Engineering**.

9.14 Owner's Authority

A. Owner has the authority to reject Work if Contractor fails to perform Work in accordance with the Contract Documents.

B. Owner will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work.

C. Owner will seek technical advice of Engineer prior to making any decisions regarding the design, technical matters, or the Contract Documents."

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

SC – 10.01. Owner's Representative

Delete article 10.01.A in its entirety and insert in its place the following:

The Engineer, with assistance from Owner's Consultant, shall act as owner's technical advisor during the construction period of this Contract. If directed by the Owner, Contractor may submit copies (originals sent to the Owner) of information such as submittals, progress payments, change order requests, etc., to the appropriate IHS office when technical assistance is required and requested by the Owner. The Engineer will submit any and all recommendations to the Owner for its decision. All direction to the Contractor shall come from the Owner with the technical advice of IHS.

SC – 10.01. Owner's Representative

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

Add the following new paragraph immediately after Paragraph 10.01.A:

B. At the request of the Owner, IHS will provide oversight and technical assistance on Contractor submittals, progress payments, change order requests, and other project related information submitted by the Contractor and make recommendations to the Owner.

SC – 10.02. Visit to Site

Add the following new paragraphs immediately after Paragraph 10.06.A:

C. All discussions about the Contract with the Owner's Contractor that includes IHS employees and Owner's Consultant shall be conducted by and with direct participation of Owner's employees. The IHS may not make commitments or give direction to the Owner's Contractor. IHS employees cannot represent the Owner and Owner's employees cannot represent the IHS.

D. The IHS and Owner, with assistance from Owner's Consultants, shall inspect all sanitation facilities constructed through Tribal procurement to ensure construction meets contract specifications. The procurement documents shall also note that the IHS inspector does not have authority to modify the Contract or issue direction to the Contractor. Following construction inspection, the IHS will advise the Owner on whether the construction meets the IHS interpretation of the Contract requirements."

SC – 10.03. Resident Project Representative

Add the following language immediately after Paragraph 10.03.B:

C. The Resident Project Representative (RPR) will be Engineer's representative at the Site. RPR's dealings in matters pertaining to the Work in general will be with Engineer and Owner. RPR's dealings with Contractor will only be through or in presence of and with the full knowledge and approval of Owner. RPR's dealings with Subcontractors will only be through or in presence of and with the full knowledge and approval of Owner and Contractor. The RPR will:

1. Conferences and Meetings: Attend meetings with Owner and Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.

2. Safety Compliance: Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.

3. Liaison

   a. Serve as Engineer's liaison with Owner and Contractor. Working principally through Owner's authorized representative or designee, assist

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

in providing information regarding the provisions and intent of the Contract Documents.

b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.

c. Assist in obtaining from Owner additional details or information, when required for Contractor's proper execution of the Work.

4. Review of Work; Defective Work

a. Conduct on-Site observations of the Work to assist Engineer in determining, to the extent set forth in Paragraph 10.02, if the Work is in general proceeding in accordance with the Contract Documents.10.03

5. *Inspections and Tests*

a. Observe Contractor-arranged inspections required by Laws and Regulations, including but not limited to those performed by public or other agencies having jurisdiction over the Work.

b. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Work.

6. *Payment Requests:* Review Applications for Payment with Contractor.

7. *Completion*

a. Participate in Engineer's visits regarding Substantial Completion.

b. Assist in the preparation of a punch list of items to be completed or corrected.

c. Participate in Engineer's visit to the Site in the company of Owner and Contractor regarding completion of the Work, and prepare a final punch list of items to be completed or corrected by Contractor.

d. Observe whether items on the final punch list have been completed or corrected.

D. The RPR will not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).

2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.

3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.

4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

5 Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.

6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.

7. Authorize Owner to occupy the Project in whole or in part.

8. Represent the Owner.

E. Contractor should be advised of the fact that his Contract is with the Owner, with Federal oversight to ensure the Work complies with all applicable Federal requirements. IHS inspection will only confirm quality assurance for the Federal government and the Owner but their presence will not be inferred as quality control for the Contractor nor is implying any contractual relationship. IHS inspection of facilities constructed through Tribal procurement is only part of the Federal oversight responsibility."

SC – 10.04. Engineer's Authority

Delete Paragraph 10.04.A in its entirety and insert in its place the following:

[Deleted]

SC – 10.06. Decisions on Requirements of Contract Documents and Acceptability of Work

Amend Paragraph 10.06.A to read as follows:

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

ARTICLE 11—CHANGES TO THE CONTRACT

No suggested Supplementary Conditions in this Article.

ARTICLE 12—CLAIMS

No suggested Supplementary Conditions in this Article.

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

No suggested Supplementary Conditions in this Article.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

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

SC – 14.03. Defective Work

Amend Paragraph 14.03.B to read as follows:

Owner's Authority: Owner has the authority to determine whether Work is defective, and to reject defective Work, with technical advice of Engineer with assistance from Owner's Consultant.

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

No suggested Supplementary Conditions in this Article

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

No suggested Supplementary Conditions in this Article.

ARTICLE 17—FINAL RESOLUTIONS OF DISPUTES

No suggested Supplementary Conditions in this Article.

ARTICLE 18—MISCELLANEOUS

SC-18.07 Controlling Law

Amend Paragraph 18.07.A to read as follows:

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

SC-18.11 Tribal Sovereignty

Add the following new paragraph after Article 18.11:

Tribal Sovereignty

No provision of this Agreement will be construed by any of the signatories as abridging or any sovereign powers of the Tribe; affecting the trust-beneficiary relationship between the Secretary of the Interior, Tribe, and Indian Land Owner(s); or interfering with the government-to-government relationship between the United States and the Tribe.

SC – 19. Add the following language immediately after Article 18:

ARTICLE 19—FEDERAL REQUIREMENTS

SC-19.01 IHS Not a Party.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

A. This Contract is expected to be funded in part with funds provided by the IHS. Neither the IHS, nor any of its departments, entities, or employees is a party to this contract.

B. IHS employees cannot represent the Owner and Owner's employees cannot represent the IHS.

SC-19.02 Contract Approval.

A. Approval by the IHS of the proposed Contract documents and costs is required before this contract is effective.

B. Approval by the IHS of proposed contract changes is required before they are effective.

SC-19.03 Conflict of Interest.

A. Owner's officers, employees, or agents shall not engage in the award or administration of this Contract if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when: (i) the employee, officer or agent; (ii) any member of their immediate family; (iii) their partner or (iv) an organization that employs, or is about to employ, any of the above, has a financial interest or other interest in or a tangible personal benefit from the Contractor. Owner's officers, employees, or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from Contractor or subcontractors.

SC-19.04 Small, Minority, and Women's Businesses

A. Contracting with small and minority businesses, women's business enterprises, and labor surplus area firms. If Contractor intends to let any subcontracts for a portion of the work, Contractor must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible. Affirmative steps must include:

1. Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

2. Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

3. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;

4. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises; and

5. Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

SC-19.05 Anti-Kickback

A. Contractor shall comply with the Copeland Anti-Kickback Act (40 U.S.C 3145) as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Buildings or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that Contractor or subcontractor must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. Owner shall report all suspected or reported violations to IHS.

SC-19.06 Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended

A. Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

SC-19.07 Equal Employment Opportunity

A. The Contract is considered a federally assisted construction contract. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

SC-19.08 Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)

A. Contractors that apply or bid for an award exceeding $100,000 must file the required certification. The Contractor certifies to the Owner and every subcontractor certifies to the Contractor that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining the Contract if it is covered by 31 U.S.C. 1352. The Contractor and every subcontractor must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the Owner.

SC-19.09 Environmental Requirements. When constructing a Project involving trenching and/or other related earth excavations, Contractor shall comply with the following environmental conditions:

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

A. Waters of the U.S. –When disposing of excess, spoil, or other construction materials on public or private property, Contractor shall not fill in or otherwise convert wetlands or other Waters of the U.S.

B. Historic Preservation – Any excavation by Contractor that uncovers an historical or archaeological artifact or human remains shall be immediately reported to Owner and a representative of IHS. Construction shall be temporarily halted pending the notification process and further directions issued by IHS after consultation with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO).

C. Endangered Species – Contractor shall comply with the Endangered Species Act, which provides for the protection of endangered and/or threatened species and critical habitat. Should any evidence of the presence of endangered and/or threatened species or their critical habitat be brought to the attention of Contractor, Contractor will immediately report this evidence to Owner and a representative of IHS. Construction shall be temporarily halted pending the notification process and further directions issued by IHS after consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service.

D. [DELETED]

SC-19.10 Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708)

A. Where applicable, for contracts awarded by the Owner in excess of $100,000 that involve the employment of mechanics or laborers, the Contractor must comply with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, the Contractor must compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

SC-19.11 Debarment and Suspension (Executive Orders 12549 and 12689)

A. A contract award (see 2 CFR 180.220) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

SC-19.12 Davis – Bacon Act, as amended (40 U.S.C. 3141-3148)

A. If this contract is in excess of $2,000, the Contractor must comply with the requirements of the Davis – Bacon Act (40 U.S.C. 3141-3144 and 3146-3148) as supplemented by Department of Labor regulations (29 CFR part 5). In accordance with the statute, the Contractor must pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, the Contractor must be required to pay wages not less than once a week. The Owner must place a copy of the current prevailing wage determination issued by the Department of Labor in the solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination.

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

WORK CHANGE DIRECTIVE NO.: [Number of Work Change Directive]

Owner:	Cocopah Indian Tribe
Engineer:	Indian Health Service
Contractor:	
Project No:	PH21-V99; WA12-23
Contract Name:	Construction of Water System Well No. 4
Date Issued:	Effective Date of Work Change Directive:

Contractor is directed to proceed promptly with the following change(s):

Description:

[Description of the change to the Work]

Attachments:

[List documents related to the change to the Work]

Purpose for the Work Change Directive:

[Describe the purpose for the change to the Work]

Directive to proceed promptly with the Work described herein, prior to agreeing to change in Contract Price and Contract Time, is issued due to:

Notes to User—Check one or both of the following

☐ Non-agreement on pricing of proposed change. ☐ Necessity to proceed for schedule or other reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price: $ _____ **[increase] [decrease] [not yet estimated]**.
Contract Time: _____ days **[increase] [decrease] [not yet estimated]**.

Basis of estimated change in Contract Price:

☐ Lump Sum ☐ Unit Price ☐ Cost of the Work ☐ Other

	Recommended by Engineer	Authorized by Owner
By:		
Title:		
Date:		

EJCDC® C-940, Work Change Directive.
Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

CHANGE ORDER NO.: [Number of Change Order]

Owner: Cocopah Indian Tribe
Engineer: Indian Health Service
Contractor:
Project No: PH21-V99; WA12-23
Contract Name: Construction of Water System Well No. 4
Date Issued: Effective Date of Change Order:

The Contract is modified as follows upon execution of this Change Order:

Description:

[Description of the change]

Attachments:

[List documents related to the change]

Change in Contract Price	**Change in Contract Times [State Contract Times as either a specific date or a number of days]**
Original Contract Price: $ _____	Original Contract Times: Substantial Completion: _____ Ready for final payment: _____
[Increase] [Decrease] from previously approved Change Orders No. 1 to No. **[Number of previous Change Order]**: $ _____	**[Increase] [Decrease]** from previously approved Change Orders No.1 to No. **[Number of previous Change Order]**: Substantial Completion: _____ Ready for final payment: _____
Contract Price prior to this Change Order: $ _____	Contract Times prior to this Change Order: Substantial Completion: _____ Ready for final payment: _____
[Increase] [Decrease] this Change Order: $ _____	**[Increase] [Decrease]** this Change Order: Substantial Completion: _____ Ready for final payment: _____
Contract Price incorporating this Change Order: $ _____	Contract Times with all approved Change Orders: Substantial Completion: _____ Ready for final payment: _____

Recommended by Engineer (if required)	Authorized by Owner
By: _____	_____
Title: _____	_____
Date: _____	_____
Authorized by Contractor	Approved by Funding Agency (if applicable)
By: _____	_____
Title: _____	_____
Date: _____	_____

EJCDC® C-941, Change Order.
Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies and American Society of Civil Engineers. All rights reserved.

TECHNICAL SPECIFICATIONS
EAST COCOPAH RESERVATION
CONSTRUCTION OF WATER SYSTEM WELL NO. 4
PH21-V99; WA# 12-23
YUMA COUNTY, ARIZONA

PREPARED FOR:

Owner

Cocopah Indian Tribe
9803 W. Veterans Place
Somerton, Arizona 85350

PREPARED BY:

Owner's Consultant

Matrix New World Engineering, Land Surveying and Landscape Architecture, PC
123 E Goodwin Street, Ste 200
Prescott, AZ 86303

DATE:

March 30, 2023

MATRIX PROJECT NO.:

22-0672

MATRIXNEWORLD
Engineering Progress

TECHNICAL SPECIFICATIONS
EAST COCOPAH RESERVATION
CONSTRUCTION OF WATER SYSTEM WELL NO. 4
PH21-V99; WA# 12-23
YUMA COUNTY, ARIZONA

PREPARED FOR:

Cocopah Indian Tribe
9803 W. Veterans Place
Somerton, Arizona 85350

DATE:

March 30, 2023

March 30, 2023

Kevin Hebert, RG — Date
Senior Hydrogeologist
Matrix New World Engineering



March 30, 2023

Dylan Easthouse, RG — Date
Senior Hydrogeologist
Matrix New World Engineering

MATRIXNEWORLD
Engineering Progress

TABLE OF CONTENTS

PAGE NO.

TABLE OF CONTENTS i

LIST OF FIGURES iv

LIST OF TABLES v

LIST OF APPENDICES vi

1.0 INTRODUCTION 1

1.1 General Overview 1
1.2 Location and Geologic Setting 1
1.3 Definitions 2
1.4 Scope of Work 2
1.5 Performance of Work 3
1.5.1 Contractor Qualifications 3
1.5.2 Operations 3
1.5.3 Confidentiality 4
1.5.4 Health and Safety 4

2.0 PROTECTION OF SITE 5

2.1 General 5
2.2 Cuttings Containment and Disposal 5
2.3 Discharge 6
2.4 Discharge Permit 6
2.4.1 Erosion and Sedimentation Control Plan 6

3.0 UTILITIES 8

3.1 Water 8
3.2 Electricity 8
3.3 Underground Utilities 8
3.4 Sanitary Facilities 8

4.0 EQUIPMENT 9

5.0 REPORTS, LOGS, AND RECORDS 10

5.1 General 10

5.2 Penetration Rate Log 10
5.3 Daily Driller's Report 10
5.4 Driller's Logs 10
5.5 Drilling Fluid Record 11
6.0 DRILLING FLUID CONTROL PROGRAM 12
6.1 General Requirements 12
6.2 Drilling Fluid Control Plan 12
6.3 Specific Conditions 12
6.4 Lost Circulation 13
7.0 WELL DRILLING AND INSTALLATION 14
7.1 General Drilling Methods 14
7.2 Surface Casing Installation 14
7.2.1 Drilling 14
7.2.2 Materials 14
7.2.2.1 Casing 14
7.2.2.2 Cement Grout Seal 14
7.2.3 Casing Installation 15
7.2.4 Cement Grout Installation 15
7.3 Well Borehole 16
7.3.1 Lithologic Samples 16
7.3.2 Geophysical Logging 17
7.3.3 Borehole Abandonment 17
7.4 Well Construction 17
7.4.1 Materials 17
7.4.1.1 Well Casing 17
7.4.1.2 Well Screen 18
7.4.1.3 Gravel Feed Tube 18
7.4.1.4 Filter Pack 18
7.4.1.5 Bentonite Seal 19
7.4.1.6 Cement Grout 19
7.4.2 Casing and Gravel Feed Tube Installation 19
7.4.2.1 Joints in the Well Casing and Gravel Feed Tube 20
7.4.3 Filter Pack Disinfection 20

7.4.4 Annular Materials Installation 21
7.4.4.1 Filter Pack 21
7.4.4.2 Bentonite Seal 22
7.4.4.3 Grout Seal 22
7.5 Rig Development 22
7.5.1 Swab and Airlift Procedures 22
8.0 PUMP DEVELOPMENT AND TESTING 24
8.1 General 24
8.2 Test Equipment 24
8.2.1 Equipment Decontamination 25
8.2.2 Equipment Disinfection 25
8.3 Pump Discharge 25
9.0 FINAL WELL COMPLETION 27
9.1 Well Plumbness and Alignment 27
9.2 Well Video Survey 27
9.3 Surface Completion 28
10.0 VISITATION AND INSPECTION 29
11.0 MEASUREMENT AND PAYMENT 30
FIGURES
TABLES
APPENDICES

MATRIXNEWORLD
Engineering Progress

LIST OF FIGURES

FIGURE NO.	DESCRIPTION
1	Well Location Map
2	Site Map
3	Preliminary Well Design

MATRIXNEWORLD
Engineering Progress

LIST OF TABLES

TABLE NO.	DESCRIPTION
1	Schedule of CONTRACTOR Deliverables

MATRIXNEWORLD
Engineering Progress

LIST OF APPENDICES

APPENDIX NO.	DESCRIPTION
A	Area Well Driller Reports and Logs

1.0 INTRODUCTION

1.1 GENERAL OVERVIEW

Work performed under the following specifications includes drilling and testing of one potable well for Cocopah Indian Tribe (Tribe) in Yuma County, Arizona. The Tribe will serve as the contracting entity. Items of utmost importance to the Tribe that require special attention and consideration by CONTRACTOR are outlined below:

- Health and Safety Plan – Section 1.5.4
- Mud Tanks, Discharge, and Cuttings – Section 2.2
- Borehole Drilling – Section 7.3
- Aquifer Testing – Section 8.0

Information regarding proposed well sites and subsurface conditions described in the following sections is an overview. CONTRACTOR shall be responsible to verify and confirm actual drill site conditions prior to submittal of a bid. CONTRACTOR shall design a drilling program for the project that conforms to these specifications. CONTRACTOR should not submit a bid unless the items listed above are clearly understood and accounted for in the project Bid Table. A list of deliverables and associated schedules that are required to be submitted by the CONTRACTOR during performance of the work specified herein is provided in **Table 1**.

1.2 LOCATION AND GEOLOGIC SETTING

Work performed under the following specifications includes drilling and testing of a potable water supply well to serve the East Cocopah Reservation approximately 9 miles south of Yuma, Arizona and 3 miles east of Somerton, Arizona. East Cocopah Water System Well No. 4 (Well No. 4) is planned on the site of the existing Water Treatment Plant at 17900 South Park Way. Cadastral coordinates of Well No. 4 are the southeast ¼ of the southwest ¼ of the southeast ¼ of Section 12, Township 10 South, Range 24 West [C(10-24) 12DCD]. The well location is shown on **Figure 1**.

Groundwater level beneath the site is estimated to be approximately 40 feet below land surface (ft bls). The well is situated approximately 60 feet from the cut bank of the East Main Canal. Site topography is generally flat. The Site Plan is shown on **Figure 2**. Primary lithologies expected to be encountered during drilling include silt and clay, sand, and gravel. Well Driller Logs for existing wells in the area are provided in **Appendix A**.

1.3 DEFINITIONS

Throughout this specification, the term OWNER shall be understood to represent Cocopah Indian Tribe (Tribe). The term ENGINEER shall be understood to represent the Indian Health Service (IHS). The term CONSULTANT shall be understood to represent Matrix New World Engineering (Matrix). CONTRACTOR shall be the person, firm, or corporation with whom OWNER will sign an agreement setting forth the terms and conditions for the work to be performed, as specified herein. The term SUBCONTRACTOR will apply to any person, firm, or corporation with whom CONTRACTOR signs a secondary agreement for a portion of the scope of work.

1.4 SCOPE OF WORK

The installation a new water production well as specified herein consists of the CONTRACTOR drilling a borehole to the specified depth using direct mud rotary, dual rotary, or flooded reverse circulation rotary drilling methods. The completed borehole must be drilled in a single pass. Lithologic cutting samples and geophysical logging will be conducted in the borehole as specified herein.

Following completion of the borehole, OWNER reserves the right to cancel the remainder of the drilling program if it is deemed by OWNER that subsurface conditions do not meet expectations or proposed objectives for installation and operation of a production well at the site. If that determination is made, CONTRACTOR will abandon the borehole in accordance with Arizona Department of Water Resources (ADWR) regulations and shall restore the site, as nearly as is practical, to pre-drilled conditions.

If OWNER opts to complete the production well at the site, a Final Well Design will be developed by CONSULTANT based on the information obtained from the borehole drilling and testing program and will be provided to CONTRACTOR within 1 day following collection of the geophysical logging data. CONTRACTOR will then complete the water production well pursuant to the Final Well Design. For bidding purposes only, a Preliminary Well Design is presented on **Figure 3**.

OWNER reserves the right to drill beyond the depths specified, or to stop at lesser depths, depending on subsurface conditions. The dimensions of the well may also be modified based on information obtained during drilling and testing of the borehole. Borehole drilling, well installation, well development, well completion, and aquifer testing by CONTRACTOR shall be conducted under the oversight of the CONSULTANT, OWNER, and ENGINEER.

1.5 PERFORMANCE OF WORK

1.5.1 Contractor Qualifications

CONTRACTOR shall have no less than five years of experience using the reverse circulation rotary drilling method under similar aquifer conditions (Basin and Range physiographic province in Arizona) and shall have recent experience with installing large capacity potable water production wells having similar dimensions. CONTRACTOR shall assign a foreman to oversee all work required by this specification. CONTRACTOR shall provide with its bid submittal a resume of the foreman, including years of experience using the direct mud rotary and/or reverse circulation rotary drilling methods in the installation of large capacity production wells. CONTRACTOR shall hold a valid ADWR Well Driller's License in the reverse circulation or mud rotary category, a Register of Contractor License type A, A-4, A-16, or L-53, and any other licenses or permits required by State, County, Tribe, or Federal regulations.

1.5.2 Operations

CONTRACTOR shall employ only competent employees for the execution of work and shall always maintain at least a three-person crew and a minimum of two employees on site while the drilling rig is in operation. CONTRACTOR shall construct the production well in accordance with the Rules and Regulations of ADWR, Article 8, Well Construction and Licensing of Well Drillers, as amended June 18, 1990. Well construction shall also comply with the guidelines of the Arizona Department of Health Services (ADHS) Engineering Bulletin No. 10 (1978), and all other applicable State, County, or local regulations.

Should the well be lost due to any fault on the part of CONTRACTOR, the well shall be abandoned at no cost to OWNER, in accordance with ADWR Article 8, Rule R12-15-816, and a replacement well shall be constructed in the immediate area. OWNER will select the location for the replacement well. Payment for the replacement well will begin once the depth and status at which the original well was terminated has been reached per the bid tab. The replacement well shall be completed in accordance with all the terms and conditions stated herein. However, if the inability to complete the well is not due to any fault of the CONTRACTOR, CONSULTANT (with approval of OWNER) may designate a replacement well location and OWNER shall provide reasonable reimbursement.

Rejection of any materials, work, or equipment by CONSULTANT is at CONTRACTOR's expense, and at no cost to OWNER. If a work delay is caused by CONTRACTOR failing to comply with any item of these specifications, CONTRACTOR will bear the burden of additional expenses, including any additional CONSULTANT charges assessed to OWNER as a direct result of the delay.

1.5.3 Confidentiality

CONTRACTOR shall not disclose any information relating to this project or the well site to anyone other than OWNER or CONSULTANT without written permission from OWNER, except as may be required by law. At all times during the conduct of the CONTRACTOR'S services, CONTRACTOR and its employees and agents shall treat the work conducted by CONTRACTOR and its SUBCONTRACTORS and the results thereof as confidential and proprietary to OWNER. Photographs may be taken throughout the project by CONSULTANT and OWNER.

Any questions regarding the purpose or scope of work directed to CONTRACTOR from individuals or entities other than representatives of OWNER, ENGINEER, or CONSULTANT while work is being conducted for this project should be directed by CONTRACTOR to OWNER.

CONTRACTOR shall inform its employees of this provision and shall obtain non-disclosure agreements from all SUBCONTRACTORS who will be involved in the performance of any of the work and provide OWNER with copies of the executed non-disclosure agreements. This provision shall survive the termination of the contracted work tasks.

1.5.4 Health and Safety

CONTRACTOR is responsible for assuring that CONTRACTOR and SUBCONTRACTOR personnel conform to all state and federal health and safety rules and regulations. CONTRACTOR must provide a Site Safety Plan for this project in accordance with applicable Occupational Safety and Health Administration (OSHA) requirements. CONTRACTOR must assure that all CONTRACTOR personnel and SUBCONTRACTORS at the well site are thoroughly familiar with the Site Safety Plan for the proposed work. The Site Safety Plan must be provided to CONSULTANT and OWNER at least 5 days prior to mobilization to the well site. A copy of the Site Safety Plan must be always on site and easily accessible. In addition, CONTRACTOR personnel must be trained in the use of any personal protective equipment required by the Site Safety Plan. CONTRACTOR shall meet the requirements of the Site Safety Plan at its own cost.

CONTRACTOR shall have hearing protection available for authorized visitors (OWNER, ENGINEER, and CONSULTANT).

2.0 PROTECTION OF SITE

2.1 GENERAL

Access to Well No. 4 shall be from South Park Way via County 18th Street South and Salt Cedar Street (**Figure 1**). If necessary, CONTRACTOR will provide 'track-out' rock or other suitable fill material approved by OWNER where CONTRACTOR vehicles routinely access South Park Way. CONTRACTOR shall provide temporary ramp(s) as may be required to protect the pavement from damage and provide easy access to the site. CONTRACTOR shall be responsible for replacing any damaged items at no additional cost.

CONTRACTOR shall prepare the site including establishing access as required to perform the work and may include temporary removal of existing chain link fencing. CONTRACTOR must be aware of the potential for theft and vandalism of its equipment and materials. CONTRACTOR is solely responsible for well site security for the duration of the project. Staging of equipment and materials outside of the existing fenced perimeter of the water treatment site is prohibited. Removal of any existing fencing may require CONTRACTOR to install temporary fencing for site safety and security.

Immediately upon mobilization, CONTRACTOR shall place a plastic sheeting or tarp beneath the drilling rig and auxiliary air compressor to protect the site against oil or hydraulic fluid spills or leaks; the plastic will remain beneath the equipment until demobilization. Significant spills must be reported to CONSULTANT. CONTRACTOR shall be solely responsible to properly remove and dispose of all oil-stained soils from the site at a landfill in accordance with all Town, County, Tribe, and State regulations. CONTRACTOR shall clean up all litter and debris daily and place it in containers for off-site disposal in a legal manner.

2.2 CUTTINGS CONTAINMENT AND DISPOSAL

CONTRACTOR shall use above ground tanks for the drilling fluid program. CONSULTANT shall approve the location of the tanks or mud system. CONTRACTOR shall use steel storage tanks to store any excess drilling fluids and drilling fluids mixed with water prior to offsite disposal. The total capacity of the storage tanks shall contain the drilling fluids and drilling fluids mixed with water, as required. CONTRACTOR shall dispose of fluids in the tanks in a timely manner and as necessary to maintain available capacity. CONTRACTOR is responsible maintaining the steel tanks, conveyances, and piping.

CONTRACTOR shall dispose of drill cuttings from the borehole by evenly distributing them on the site in an area designated by OWNER so that no stockpiles remain. CONTRACTOR shall dispose of drill fluids

and excess soil from the mud tanks by transporting and disposing the material at a landfill in accordance with all Town, County, Tribe, State, and Federal regulations.

2.3 DISCHARGE

CONTRACTOR may discharge water free of drilling fluids (including discharge from well development and pump testing) to natural drainage located on the east side of South Park Way as shown on **Figure 2**. CONTRACTOR is responsible to ensure the water meets minimum quality requirements (clear and free of drill fluids and suspended sediment). If discharge water fails to meet quality requirements, CONTRACTOR shall cease discharge and modify operations accordingly.

CONTRACTOR is responsible to determine the appropriate method and location for disposal of the discharge water with approval of OWNER, ENGINEER, and CONSULTANT. CONTRACTOR is also responsible for coordination of any permits and other requirements, such as traffic barriers, and/or signs that may be necessary. CONSULTANT will verify that disposal of test waters is in accordance with State, County, Tribe, or Federal regulations.

2.4 DISCHARGE PERMIT

If necessary, CONTRACTOR is responsible to obtain the EPA Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES) permit. CONTRACTOR shall have a Best Management Practices Plan (BMPP) for the project. CONTRACTOR shall be responsible for the installation, implementation, and maintenance, of all Best Management Practices (BMPs) throughout the life of the project, and for all discharge monitoring requirements of the NPDES permit. A combination of BMPs to address erosion and sediment control, and the control of wastes and other construction site pollutants may be required to fully meet the requirements of the NPDES permit. CONTRACTOR shall meet the requirements of this section at its own expense.

2.4.1 Erosion and Sedimentation Control Plan

CONTRACTOR shall prepare and implement an Erosion and Sedimentation Control Plan (ESCP) to prevent storm water pollution due to project construction activities. CONTRACTOR shall prepare an ESCP for review and approval by OWNER, ENGINEER, and CONSULTANT prior to mobilization. A copy of the ESCP shall be kept on the site for the duration of the project.

To minimize erosion, CONTRACTOR shall preserve the natural vegetation of the area, and locations adjacent to and outside the work areas as indicated. All earthwork, grading, moving of equipment and

other operations likely to cause disturbed soil conditions and erosion and siltation and tracking of sediments, shall be performed in a sequence as to avoid or reduce pollution in adjacent areas.

CONTRACTOR shall furnish all labor, materials, equipment, and incidentals and perform installation, maintenance, removal, and area cleanup related to erosion and sedimentation control work as required by the ESCP and to comply with all AZPDES Construction General Permit requirements. The work shall include, but not necessarily be limited to the following:

- Installation of temporary access ways and staging areas, silt fences, inlet protection, sediment removal and disposal, device maintenance,
- Removal of temporary devices, temporary mulching, erosion control installation; and
- Final cleanup.

3.0 UTILITIES

3.1 WATER

A potable water source for well drilling activities is available from a hydrant located near Well No. 4 (**Figure 2**). CONTRACTOR shall be responsible for obtaining the necessary permits and meters to obtain water and properly monitor usage from the source. CONTRACTOR shall also be responsible for traffic crossings (if required) and any other connections or ancillary equipment required for the use of the water at the site. CONTRACTOR is responsible to estimate the quantity of water necessary for the project.

3.2 ELECTRICITY

CONTRACTOR shall provide, at its own expense, all power required for its operations under the contract.

3.3 UNDERGROUND UTILITIES

Location of all subsurface utilities at the borehole site shall be the responsibility of CONTRACTOR. Utility damage, caused by negligent actions of CONTRACTOR, shall be repaired at the CONTRACTOR'S expense in accordance with the Utility specifications. CONTRACTOR shall notify Arizona 811 (Bluestake) prior to drilling and confirm the absence of any underground utilities.

3.4 SANITARY FACILITIES

CONTRACTOR shall provide and maintain an onsite portable toilet consistent with Occupational Safety and Health Administration (OSHA) regulations (Code of Federal Regulations Title 29, Part 1926.51(c)(1)). The toilet shall be maintained consistent with the service schedule in American National Standards Institute (ANSI) Standard Z4.3-1995, Section 3. The ANSI standard calls for a toilet used by up to 10 people to be serviced a minimum of once per week.

4.0 EQUIPMENT

CONTRACTOR shall furnish and maintain in safe and efficient working condition all equipment necessary to perform the specified work, including a drilling rig or rigs capable of performing the specified operations to the specified depths; and, pumping, testing, sampling, and auxiliary equipment as specified or required to complete the described tasks. The drilling rig, pumping equipment, and auxiliary equipment used for this project shall meet OSHA standards for safety. All high-pressure hoses must have a safety chain for protection in the event of hose failure. Compressed air introduced to the borehole or well must first pass through a high-volume carbon or coalescing filter to remove organic contaminants (e.g., compressor lubrication oil). The drilling rig shall have a derrick rating and hook load capacity capable of lifting no less than 50,000 pounds or 1.5 times the total casing weight (**Figure 3**), whichever is greater. CONTRACTOR must provide a compressor capable of supplying a minimum of 750 cubic feet per minute (cfm) at 350 pounds per square inch (psi).

Prior to the start of drilling, CONTRACTOR shall decontaminate the drill rig and downhole tools by steam cleaning. CONSULTANT must approve the method and extent of steam cleaning. CONTRACTOR will provide a letter of certification to CONSULTANT of the decontamination of CONTRACTOR'S equipment, prior to utilization. CONTRACTOR may certify, in writing, the decontamination of critical (downhole) pieces of drilling equipment in lieu of actual steam cleaning, provided the downhole pieces of drilling equipment have not been in contact with any potential contaminants, hazardous or toxic materials since the last decontamination. Cost of the necessary steam cleaning is at CONTRACTOR'S expense.

5.0 REPORTS, LOGS, AND RECORDS

5.1 GENERAL

CONTRACTOR shall keep accurate and legible logs as described below. The penetration rate log, daily driller's report, and drilling fluid control log must be approved by CONSULTANT. CONSULTANT and OWNER will visit the site periodically to log cuttings, collect field notes regarding the drilling process to observe that drilling operations are proceeding in accordance with specifications. During well casing and screen construction and annular material emplacement, CONSULTANT will be on site full time to document well construction activities.

5.2 PENETRATION RATE LOG

During drilling of the borehole, a time log shall be kept showing the actual penetration time required to drill each foot of the borehole using a drilling recorder (Geolograph Recorder, or equivalent). The types and diameters of bits used in each interval of the borehole shall be noted in this log and whether designed for soft, medium, or hard formations, including approximate weight of the drill string and weight on the bit, as measured by the weight indicator on the drill rig, in addition to the rotation speed of the bit during drilling of the various types of formation in the various sections of the borehole. This log shall be available for review by CONSULTANT throughout the drilling program and provided to CONSULTANT upon completion of drilling.

5.3 DAILY DRILLER’S REPORT

During drilling and construction of the well, CONTRACTOR shall keep a detailed daily driller's report and make copies available to CONSULTANT. The daily driller's report forms must be International Association of Drilling Contractors (IADC) or equal approved by CONSULTANT. The report shall give a complete description of all formations encountered including number of feet drilled, number of hours on the job, shutdown due to breakdown, type of bit used, weight of the collars included in the drill string, weight on the bit, amount and type of drilling fluids used, plumbness test results at each 100-foot interval, and length and type of casing set; and other pertinent data as may be requested by CONSULTANT. CONTRACTOR personnel will submit the log to CONSULTANT for approval daily.

5.4 DRILLER’S LOGS

During drilling of the pilot borehole, CONTRACTOR shall prepare a detailed Well Driller's lithologic log in compliance with ADWR requirements. The lithologic log shall include the reference point for all depth measurement, and a description of each formation, the depth each formation was encountered, and the

thickness of each formation. A lithologic log prepared by CONSULTANT will be made available to the CONTRACTOR to assist in preparation of the Well Driller's log. CONTRACTOR must provide a copy of the Well Driller's Log to CONSULTANT and OWNER.

5.5 DRILLING FLUID RECORD

During drilling of the borehole, CONTRACTOR shall maintain a log of drilling fluid properties. The drilling fluid record must be on an American Petroleum Institute (API)-approved form and document all items listed in Section 6.1. The drilling fluid log shall be available for review by CONSULTANT throughout the course of drilling. Copies of the fluid logs will be provided to CONSULTANT upon completion of each day's work activities.

6.0 DRILLING FLUID CONTROL PROGRAM

6.1 GENERAL REQUIREMENTS

CONTRACTOR shall maintain frequent and routine records to show: 1) the time, depth, and results of all drilling fluid tests; 2) all materials added to the system, i.e., kind, amount, time, and depth; and 3) variances or modifications from the agreed upon fluid program such as time, depth, reason, and authorization. CONTRACTOR is responsible for maintaining an adequate supply of drilling fluid additives (including lost circulation material) at the drilling site, and for the removal of all drilling fluids and additives from the borehole during development of the well.

6.2 DRILLING FLUID CONTROL PLAN

Drilling fluid tests must be performed during periods when drilling fluid additives are being circulated in the borehole. Physical and chemical properties of the drilling fluid are to be measured in accordance with the procedures of the API Standard RP 13B "Standard Procedures for Testing Drilling Fluids". Samples tested are those collected at the rig pump discharge line, with care taken to assure a true and representative sample.

Drilling fluid tests shall be conducted a minimum of 1) every 24 circulating-hours, 2) when significant changes to the drilling fluid are made, 3) whenever conditions appear to have changed or when problems arise, or 4) at the request of CONSULTANT. A Marsh-type viscosity funnel and a mud scale will be available at the well site during all drilling operations, and upon request, will be made available to CONSULTANT.

CONTRACTOR shall provide a drilling fluid control plan to CONSULTANT at least 2 days prior to drilling. The plan will outline specific drilling fluids CONTRACTOR plans to use, how anticipated changes in drilling conditions will affect the drilling fluid control plan, fluid testing procedures, and equipment. The CONSULTANT must approve the drilling fluid control plan.

6.3 SPECIFIC CONDITIONS

During drilling of the borehole and the installation of the well, extra care will be required to minimize chemical and biological disturbance of the vadose zone and saturated alluvial matrix. The use of organic drilling fluid materials (such as starch, guar, or cottonseed hulls) will not be accepted for drilling. Material Safety Data Sheets (MSDS) from the manufacturer for all drilling fluid additives must be provided to CONSULTANT for review prior to their use. CONTRACTOR shall be responsible for maintaining the quality of the drilling fluid to assure:

1. Protection of water bearing and potential water bearing formations exposed to the borehole
2. Collection of representative samples of the formation material
3. Maximum development capability and optimum potential yield of the completed well
4. Mitigation of formation-caused drilling problems (e.g., heaving sands, swelling clays, lost circulation)
5. Protection of the integrity of the boring during drilling operations
6. Ability to conduct thorough and accurate geophysical logging of the borehole.

6.4 LOST CIRCULATION

During drilling of the production well, if there is no return of circulated drilling fluid for a period of at least two continuous hours, OWNER will compensate CONTRACTOR for the period of drilling under lost circulation conditions at CONTRACTOR'S hourly rate. Also, OWNER will provide compensation including CONTRACTOR’S percent markup (not to exceed 5%) for all drilling fluid materials and additives used during the period of lost circulation. The conditions of this Section shall apply from the beginning of the period of total lost circulation, with no returns at the land surface, and shall continue only until such time as drilling fluid circulation is regained, with full or partial returns of drilling fluid at the land surface. After an initial lost circulation event has occurred, should circulation be lost again, the conditions of this paragraph will go into effect immediately, and continue until such time as drilling fluid circulation is regained with full or partial returns of drilling fluid at the land surface.

CONTRACTOR will notify CONSULTANT if it experiences lost circulation and intends to invoke the lost circulation clause. Notification must be within the hour of observed lost circulation. CONSULTANT must provide CONTRACTOR with a written field order to continue, or no compensation for lost circulation will be made.

7.0 WELL DRILLING AND INSTALLATION

7.1 GENERAL DRILLING METHODS

The drilling of the boring will be conducted by direct mud rotary, dual rotary, or reverse circulation rotary drilling methods. The borehole diameters of these specifications should be considered the minimum allowable. CONTRACTOR shall be responsible for designing and controlling a drilling program that conforms to this specification.

7.2 SURFACE CASING INSTALLATION

7.2.1 Drilling

The surface casing borehole for this production well shall be drilled to a minimum 24-inch diameter, to a depth of no less than 39 ft bls. CONSULTANT reserves the right to direct drilling of the surface casing borehole to a greater depth depending on geologic formations and other subsurface conditions. During drilling of the surface casing, CONTRACTOR shall collect and preserve for CONSULTANT, two duplicate samples of the drill cuttings at 10-foot intervals. The surface casing boring may be drilled using a rotary drilling method or by use of the bucket auger (solid stem auger) drilling method.

7.2.2 Materials

7.2.2.1 Casing

The surface casing for this production well (**Figure 3**) shall be new and manufactured in accordance with ASTM Specification A53 Grade B low carbon steel. This casing shall be 18-inches outside diameter and have a minimum 0.375-inch wall thickness. The minimum length of the surface casing shall be 40 feet, to allow for a minimum 1-foot stickup above land surface. The casing shall be factory assembled in not less than 20-foot lengths.

Prior to casing installation, CONTRACTOR shall submit certified test reports to CONSULTANT to demonstrate compliance with the physical and chemical properties of the surface casing steel that are specified herein.

7.2.2.2 Cement Grout Seal

The surface casing cement grout seal material shall consist of a cement slurry containing 5.2 to 6.0 gallons of water per 94-pound sack of Portland cement. The Portland cement shall conform to ASTM Standard C150, Type II. The cement grout weight shall be measured prior to installation, as an indicator

of the cement-water mix ratio. The cement grout slurry may contain sand or aggregate, which shall not exceed 50 percent by volume of the cement. The aggregate used should be clean and washed sand and gravel with no organic matter and not coarser than 1-inch minus. Water shall be added with the sand additive as required. Bentonite, as an additive, must be in powder form and shall not exceed five percent by weight of the cement, or cement and sand. Water added for bentonite shall not exceed 1.3 gallons per 1.88 pounds of bentonite (two percent by weight in cement). Accelerator additives, such as calcium chloride, shall not exceed two percent by weight of the cement. Sodium chloride, as an additive, shall not exceed two percent by weight of the water used to prepare the grout slurry. Water used for preparing the grout slurry shall be potable. CONSULTANT must approve the water source and the specific constituents of the cement grout.

If the cement grout mixed off site, CONTRACTOR must provide the specific constituents of the cement grout to CONSULTANT prior to placement of the grout. The cement grout slurry shall be mixed thoroughly and must be free of lumps to the satisfaction of CONSULTANT. Cement grout that does not comply with this specification will be rejected.

7.2.3 Casing Installation

Surface casing, conforming to Section 7.2.2.1, shall be furnished, and placed from one foot above the ground surface to a minimum of 39 ft bls as shown on **Figure 3**.

Joints in the surface casing shall be field welded in accordance with applicable provisions of the American Water Works Association (AWWA) Standard C206 for welded joints. Alignment straps, or a CONSULTANT-approved equal may be used to align the well casing sections prior to welding. Prior to welding, the ends of each casing section shall be free of grease, paint, cement, dirt, oil, scale, slag, heavy rust, or any other foreign material. The ends of the casing sections shall be sufficiently oriented to assure 100% penetration of the weld, and adequate welding passes shall be made to provide for complete filling of the joined casing ends. Each welding pass shall be smooth and free of blisters, scale, bubbles, cracks, and imperfections that could contribute to a lack of strength of the overall welded joint. All well casing joints or overlaps shall be made water-tight to prevent degradation of the water supply by the migration of poor-quality water. An experienced welder shall perform all welding.

7.2.4 Cement Grout Installation

The cement grout slurry conforming to the specification in Section 7.2.2.2 shall be placed from the base of the surface casing to the ground surface utilizing a positive action cement pump and tremie pipe. Care shall be taken to maintain an equalization of pressures to the extent necessary to prevent collapse of the

surface casing. The grout seal shall completely fill the annular space and form a continuous seal between the surface casing and the wall of the borehole. The surface casing grout seal may be placed in two separate installations to completely extend the top of the seal to the ground surface. The surface casing shall be maintained centered in the hole before the occurrence of the initial set of the cement grout. The CONSULTANT must approve the method of grout installation. CONTRACTOR shall maintain the surface casing centered in the hole for a minimum curing time of 12 hours or until the seal obtains a compressive strength of 5,000 pounds per square inch (psi).

7.3 WELL BOREHOLE

The well shall be completed by drilling a minimum 16-inch diameter borehole to approximately 305 ft bls. OWNER reserves the right to direct drilling of the borehole to a greater or lesser depth, depending on geologic formations and other subsurface conditions. The borehole shall be drilled using the method described in Section 7.1, and in compliance with the drilling fluid testing and reporting requirements of Section 6.0. During drilling of the borehole all operations shall be conducted on a minimum 12-hour per day, 7-day per week basis.

7.3.1 Lithologic Samples

CONTRACTOR shall collect and preserve for CONSULTANT, two duplicate samples of the drill cuttings. The samples shall be collected at 10-foot intervals from the base of the surface borehole to the bottom of the well borehole. CONTRACTOR shall provide an acceptable means of sampling the drilled cuttings at the discharge pipe. Catching the drilled cutting samples in sieves or strainers will not be allowed. A sump-type or baffle-type sample catching device shall be provided by CONTRACTOR. Each cutting sample shall be collected from the sampling point, and the sample catching device shall be cleaned of all cuttings after each sample is taken.

The samples shall be placed in labeled (well identification, date, depth interval) sealable 1-liter plastic bags furnished by CONTRACTOR (two bags per sample interval). In addition, as an onsite visual record of the borehole stratigraphy, each sample shall be laid out in a sample storage area on a waterproof tarp or ground cloth for each sampled interval in descending order. The storage area and ground cloth must allow samples to be maintained in sequence and unmixed with surface material or other samples until they have been examined and logged by CONSULTANT. CONTRACTOR shall submit details of the proposed formation sampling method including the sampling equipment to be used to CONSULTANT prior to the start of drilling. CONSULTANT must approve the sampling program.

7.3.2 Geophysical Logging

CONTRACTOR will provide geophysical logging services following completion of the borehole. Analyses to be conducted include caliper, spontaneous potential, single point resistivity, 64-inch, 16-inch, and 8-inch normal resistivity, dual guard, sonic, gamma ray, gyroscope (or magnetic survey), and temperature logs.

7.3.3 Borehole Abandonment

If the pilot borehole is to be abandoned, CONTRACTOR shall do so according to ADWR requirements (per R12-15-186). This includes submittal of a Notice of Intent to Abandon a Well form. Within 30 days after well abandonment CONTRACTOR shall submit an ADWR well abandonment completion report. For cost estimating purposes, pilot borehole abandonment consists of:

- Filling the borehole (and surface casing) with neat cement up to 10 ft bls.
- Removing (i.e., excavate) the surface casing from 10 ft bls to ground surface.
- Back fill and compaction of the excavation with native soil.

7.4 WELL CONSTRUCTION

7.4.1 Materials

The anticipated materials to be installed in the production well are described below. A Preliminary Well Design (for bidding purposes only; not for construction) is shown on **Figure 3**. CONSULTANT will determine the final depths of blank interval, screen interval, and perforation size based on analysis of the data collected from the borehole including the results of cuttings sieve analysis. CONSULTANT will provide CONTRACTOR with Final Well Design within 48 hours after completion of geophysical logging. No stand-by time will be allowed during this period. CONTRACTOR shall be responsible for the timely delivery of all well casing and screen materials necessary to complete the well as determined by CONSULTANT.

Prior to casing installation, CONTRACTOR shall submit certified test reports or manufacturer provided specifications sheets to CONSULTANT to demonstrate compliance with the physical and chemical properties of the casings that are specified herein.

7.4.1.1 Well Casing

Blank well casing shall be new Type 304 stainless steel manufactured in accordance with ASTM Specification A778. The casing shall have an 8.625-inch outside diameter (OD) and have a minimum 0.322-inch wall thickness (i.e., Schedule 40). The total length of blank well casing including a bottom

sump is approximately 180 feet. Finished elevation of the casing shall be a minimum 2-foot stickup above land surface. A 10-foot section of blank casing will be placed at the bottom of the well (i.e, beneath the screen casing) to serve as a sump. The bottom well casing will be welded with a bull nose. The casing shall be factory assembled in not less than 20-foot-long sections. Ends of casing lengths shall be as described in Section 7.4.2.1.

7.4.1.2 Well Screen

Screen casing shall be new Type 304 stainless steel that is manufactured with a continuous wire-wrap design that has an 8.7-inch OD, a 7.9-inch ID, and with 0.080-inch-wide slots that results in an open area of 174 in^2/ft. The screen casing shall include an 8-inch welded ring (blank casing) on both ends. The total length of blank well casing is approximately 120 feet (**Figure 3**).

7.4.1.3 Gravel Feed Tube

A 2.375-inch OD gravel feed tube (Schedule 10 stainless steel) shall be installed from 2 feet above land surface to a depth of approximately 158 ft bls **(Figure 3**). The joints between sections of the tube shall have welded connections in accordance with applicable provisions of the AWWA Standard C206 for welded joints (see Section 7.D.iii.a).

7.4.1.4 Filter Pack

The filter pack shall consist of clean, well-rounded grains that are smooth and uniform. The filter pack shall be siliceous with a limit of five percent, by weight, calcareous material. The filter pack material shall be obtained from a source approved by CONSULTANT and shall consist of well-rounded particles with an average density of not less than 2.5 grams per cubic centimeter. Not more than one percent, by weight, of the material shall have a density of 2.25 grams per cubic centimeter or less. The filter pack shall contain no more than two percent, by weight, of thin, flat, or elongated pieces (pieces in which the largest dimension exceeds three times the smallest dimension) determined by hand-packing. The filter pack material shall be free of shale, mica, clay, dirt, loam, and organic impurities of any kind and shall contain no iron or manganese in a form or quantity that may adversely affect the water quality. Filter pack material will consist of 6 x 9 mesh silica sand. The filter pack grain size may be modified by the CONSULTANT after drilling the borehole based on results of a sieve analysis of the cuttings.

The gradation of the filter pack, including sieve analysis, shall be submitted to CONSULTANT for approval a minimum of three days prior to delivery of the filter pack to the site. A suitable storage area for the filter pack shall be provided by CONTRACTOR. The filter pack shall be delivered to the site directly from the supplier to minimize contamination. Filter pack material must be bagged (bulk bags are acceptable) and

shall be contained and temporarily stored on site in such a manner as to prevent contamination. Un-bagged delivery of filter pack material will not be accepted.

7.4.1.5 Bentonite Seal

The bentonite seal material shall consist of sodium bentonite pellets, bentonite chips, or a bentonite slurry. The bentonite seal material shall contain no hazardous materials or gypsum. A sample of the bentonite material shall be provided to CONSULTANT for approval no less than three days prior to installation. The bentonite seal shall be allowed to hydrate for a minimum of four (4) hours prior to emplacement of the cement seal.

7.4.1.6 Cement Grout

The cement grout seal material shall consist of a cement slurry containing 5.2 to 6.0 gallons of water per 94-pound sack of Portland cement. The Portland cement shall conform to ASTM Standard C150, Type II. The cement grout weight shall be measured prior to installation, as an indicator of the cement-water mix ratio. The cement grout slurry may contain pozzolanic (fly ash) material as an additive, which complies to ASTM Standard C618, and which shall not exceed 50 percent by volume of the cement. Water shall be added for the pozzolan as required. Sand or aggregate material additives shall not be used. Bentonite, as an additive, must be in powder form and shall not exceed five percent by weight of the cement, cement and sand, or cement and pozzolan. Water added for bentonite shall not exceed 1.3 gallons per 1.88 pounds of bentonite (two percent by weight in cement). Accelerator additives, such as calcium chloride or sodium chloride shall not be used. Water used for preparing the grout slurry shall be potable. CONSULTANT must approve the water source and the specific constituents of the cement grout.

If the cement grout is not mixed onsite, CONTRACTOR must provide the specific constituents of the cement grout to the CONSULTANT three days prior to placement of the grout. The cement grout slurry shall be mixed thoroughly and must be free of lumps to the satisfaction of CONSULTANT. Cement grout which is not properly mixed will be rejected by CONSULTANT due to possibilities of the slurry bridging during placement. CONTRACTOR must provide a cement mix design, the mix water source, and the specific constituents of the cement grout to CONSULTANT at least three days prior to the start of cementing operations.

7.4.2 Casing and Gravel Feed Tube Installation

During installation of the well casing and gravel feed tube, the boring shall be kept full of drilling fluids of the types specified in Section 6.0 and free from any obstructions detrimental to complete casing installation. The well casing shall be set centered in the hole so as not to interfere in any way with the

grout seal, filter pack, well installation, or maximum efficient operation of a 6-inch diameter submersible pump. CONTRACTOR will be required to work continuously, on a 24-hour per day, 7-day per week basis while installing and completing the well.

This well casing shall be set by CONTRACTOR in the open borehole with the casing and well screen set at depth intervals specified by CONSULTANT. Stainless steel casing centralizers shall be secured to the steel well casing and screen, respectively, at intervals of not greater than 80 feet. The casing shall be hung in suspension until the filter pack and cement grout seal are installed.

The gravel feed tube shall be hung freely in suspension within the annulus and shall not be welded to the well casing. CONTRACTOR is responsible to ensure the gravel feed tube is installed without crimps, obstructions, or other damage. After its installation CONTRACTOR shall pass a 2-inch OD 3-foot long "dummy" through the entire length of the gravel feed tube to ensure it is open, and to remove any burrs or obstructions that may be in the tube. The top of the gravel feed tube shall be equipped with a watertight threaded cap and the bottom shall remain uncapped.

7.4.2.1 Joints in the Well Casing and Gravel Feed Tube

Joints in the steel well casing and well screen shall be field welded in accordance with applicable provisions of the AWWA Standard C220-17 for welded joints. All well casing joints shall be aligned with alignment straps or other means as approved by CONSULTANT prior to welding. A welding sequence will be followed which will avoid excessive distortion. The ends of the casing lengths shall be ground, or sufficiently scarfed, to remove sharp edges or burrs, and be free of all oil, grease, dirt, paint, cement, scale, slag or rust, or other foreign material. Section ends shall either be installed with joint collars or be beveled to a 30° angle, perpendicular to the axis of the casing, to facilitate proper alignment of joined casing sections, and shall not vary more than 0.010 inches at any point from a true plane at right angles to the axis of the casing. An experienced welder shall perform all welds. Each weld must penetrate 100% of each beveled pipe end and completely fill the bevel to be watertight.

7.4.3 Filter Pack Disinfection

Simultaneous with installation of the filter pack sand, a granular or liquid hypochlorite or similar disinfectant shall be added to the filter pack sand at the rate of 0.5-pounds per cubic yard of filter material, based on 70 percent chlorine content. If a lesser strength hypochlorite or other chlorine product is used, the quantity shall be adjusted accordingly.

CONTRACTOR is responsible for application of the disinfecting agent uniformly throughout the entire portion of the well below the water table, without relying on subsequent mechanical surging action for

dispersing the disinfectant. The specific method used to disinfect the filter pack must be approved by CONSULTANT.

7.4.4 Annular Materials Installation

7.4.4.1 Filter Pack

Filter pack sand, conforming to the specifications of Section 7.4.1.4 shall be placed from the bottom of the well to the specified depth using a tremie pipe, and shall completely fill the annulus in the specified interval. The filter pack interval must extend at least 20 feet above the perforated interval (**Figure 3)**. Drilling fluid shall be maintained to the full depth of the well and the well casing, and screen shall be maintained in suspension until the filter material placement has been completed to the specified level. Care must be taken to avoid bridging during installation of the sand. CONTRACTOR shall keep a tally of all annulus material installed.

The filter pack shall be installed simultaneous with swabbing and/or reverse circulation of drilling fluids down the annulus at a rate of no less than 100 gpm. At no time shall the bottom of the tremie pipe be located at a distance greater than 30 feet above the interval being filled during filter pack placement. The level of the filter pack shall be measured periodically during placement, as required by CONSULTANT. CONSULTANT must approve the method of filter pack level measurement. Placement of the filter pack will be continuous, except when additional precautions are necessary to prevent bridging, or measurements of the filter pack level are being conducted. The filter pack placement will proceed until the height of the filter pack is at least five feet above the bottom of the permanent gravel feed tube or at least forty feet above the top of the screen.

Because a swabbing tool is to be used during filter pack installation to prevent bridging, it is imperative that CONTRACTOR take extreme caution to prevent pressure differences, screen collapse or borehole collapse.

The quantity of filter pack material placed in the annulus shall not be less than that of the volume computed based on the results of the caliper log. Upon completion of the filter pack placement, excess filter material will be judged as an indication of voids in the sand envelope, and corrective measures shall be undertaken at CONTRACTOR'S expense. CONSULTANT must approve the specific method of placement and material.

7.4.4.2 Bentonite Seal

The bentonite seal(s) complying to Section 7.4.1.5 shall be installed in the well annulus through a tremie pipe. The bentonite seal(s) will be placed directly above filter pack (**Figure 3**). CONSULTANT must approve the specific installation procedure and the bentonite product prior to its installation.

7.4.4.3 Grout Seal

The well casing grout seal shall consist of a cement slurry conforming to the specification in Section 7.4.1.6. The grout shall be placed to completely fill the annular space between the well casing and the wall of the borehole from the top of the bentonite seal to land surface (**Figure 3**).

The grout shall be placed by pumping through a tremie pipe. Prior to pumping the cement grout through the tremie pipe into the annulus, the cement grout shall be passed through a 2-inch slotted bar strainer, to remove any unmixed lumps. When installing the grout, the discharge end of the tremie shall remain submerged until the zone to be grouted is filled.

The well casing and gravel feed tube shall be suspended in the borehole to maintain tension on the pipe throughout the grouting operation. The grout seal shall be placed in as few lifts as possible without compromising the stability of the well casing. CONSULTANT must approve the specific method of installation. The minimum curing time for the cement grout seal is 24 hours.

7.5 RIG DEVELOPMENT

CONTRACTOR shall accomplish well development by simultaneously swabbing and airlift pumping. CONTRACTOR must use extreme caution to prevent pressure differences, screen collapse or borehole collapse during rig development. CONTRACTOR shall be required to have equipment conforming to Section 4.0 to produce a minimum of 150 gpm of airlift discharge if the formation allows. CONTRACTOR shall provide a method to safely collect a sample of the airlift discharge and to measure the airlift discharge rate such as a graduated 1,000-gallon discharge box with a valve on the discharge box which can be closed to measure the accumulation of flow over time. Specific methods and equipment proposed by CONTRACTOR must be approved by CONSULTANT prior to start of rig development.

7.5.1 Swab and Airlift Procedures

Prior to the start of airlift development, CONTRACTOR will add filter pack material (conforming to Section 7.4.1.4) to the gravel feed tube until its level inside the tube reaches a minimum height of 10 feet above the bottom of the tube, up to a maximum of 20 feet above the bottom of the tube. During swab and airlift

development, CONTRACTOR shall periodically measure the top of the filter pack in the gravel feed tube and maintain a record of settling and the amount of filter pack added. CONTRACTOR shall continuously pump clean water down the gravel feed tube to avoid bridging of the filter pack inside the tube. The top of the filter pack in the gravel feed tube will be monitored and maintained between 10 and 30 feet above the bottom the gravel feed tube. If the top of the gravel falls to less than 10 feet from the bottom of the gravel feed tube, CONSULTANT shall direct airlifting to stop until filter pack is added, and the level is restored.

CONTRACTOR shall provide a nominal six-inch diameter swabbing tool which will consist of a 20-foot-long section of perforated steel casing attached to a minimum 6-inch drill pipe. The lower end of the sampling tool shall be plugged with a welded steel plate. Rig development shall begin with removal of thick drilling fluids beginning from the top of the perforations and proceeding to the bottom of the well at a rate of no less than 3 minutes per foot, unless otherwise directed by CONSULTANT.

At the bottom of the well a suitable (NSF approved for water well use) chemical additive (clay dispersant) shall be installed to breakdown the residual drilling mud. The dispersant shall be evenly distributed throughout the well screen interval by pouring through the drill pipe per the manufacturer recommended dose starting at the bottom and proceeding up the well to the top of the screen. CONTRACTOR will wash the dispersant down the drill pipe after each joint, and then gently swab 3 to 4 times to distribute the dispersant throughout the screen interval. After swabbing each interval, CONTRACTOR will pull one joint and repeat the process to the top of the well screen. Following addition of dispersant to the well, clay dispersant will be added to the gravel feed tube. CONTRACTOR must allow dispersant to “sit” no less than 24 hours before airlift development begins. During this time CONTRACTOR shall lower the swabbing tool back to bottom of the well screen. Time to introduce the dispersant shall not count as development time.

Airlift development shall begin at the bottom of the screen casing and proceed to the top of the well screen at a rate of 8 minutes per foot. A final development pass consisting of swabbing and airlifting from the top of the well screen to the bottom of the well will be completed at a rate of 4 minutes per foot. The duration of rig development will be based on results and not time. For bid purposes, a total of 40 hours of development is assumed. The well development period may be extended by CONSULTANT with approval by OWNER.

8.0 PUMP DEVELOPMENT AND TESTING

8.1 GENERAL

CONTRACTOR shall furnish, install, and operate a submersible pump to perform pump and surge development, step testing, and constant rate testing. The pump and motor shall have a minimum rating for development and testing of the well. The pump and motor shall be a variable speed type capable of sustained pumping at a steady rate. The pump shall not be equipped with a check valve or any other device that restricts the free flow of water back down the column pipe when pumping is stopped.

CONSULTANT must approve the specific pump-and-surge development method. The pump-and-surge development program is anticipated to have a 24-hour duration with pumping rates ranging from 100 to 300 gallons per minute (gpm). The well development period could be extended (or shortened) to a length to be determined by CONSULTANT as is sufficient to meet the AWWA Standard for Water Wells (ANSI/AWWA A100-15), which requires a sand content of less than 5 milligrams per liter (mg/L) that is measured by a Rossum sand tester over a 2-hour period of pumping the well at its designed capacity. In addition, well development shall be conducted until water quality field parameters (pH, temperature, and specific conductance) have stabilized. Aquifer testing will consist of a 16-hour step-rate discharge test (with a minimum of 16 hours of recovery) and a 24-hour (minimum) constant-rate discharge aquifer test followed by a 24-hour water-level recovery period.

The step-rate discharge test pumping rates will vary incrementally from 100 to 300 gpm. The pumping rate of the 24-hour constant-rate discharge test is anticipated to be 150 gpm. This test will start a minimum of 16 hours following the completion of the step-rate discharge test. CONSULTANT and OWNER reserve the right to extend or shorten the test durations.

8.2 TEST EQUIPMENT

CONTRACTOR shall furnish pumping equipment capable of pumping up to 300 gpm and with satisfactory throttling devices and valves so that the discharge can be adjusted to various lesser rates. The set depth of the test pump shall be determined by CONSULTANT per the Final Well Design. For bidding purposes, the anticipated pump setting is 260 ft bls. The pumping unit shall be complete with an ample power source and shall be capable of running without interruption for a minimum period of 24 hours.

CONTRACTOR shall install two (2) 1-inch ID flush joint threaded PVC sounding tubes from the top of the casing to the pump intake. The sounding tubes shall be factory slotted on the bottom 60 feet, and be fitted with a bottom cap. The sounding tubes shall be installed in a manner as to avoid spiraling around

the column pipe. CONTRACTOR shall provide safe and unobstructed access to the sounding tubes for water level measurements. During all testing periods, the water level will be measured by CONSULTANT with a direct electric tape and/or pressure transducer.

CONTRACTOR shall provide ports in the discharge line at points acceptable to CONSULTANT for sand testing, water sampling and pressure monitoring. The sample port closest to the discharge will be equipped with a corporation cock for attaching a sand tester and other sample ports will be equipped with hose bibs. CONTRACTOR shall provide a Rossum centrifugal sand tester to measure sand production from the well during testing.

8.2.1 Equipment Decontamination

Prior to installation, all the down-well test pumping equipment, surface piping, fittings, valves, etc. will be decontaminated onsite using a high-pressure steam cleaner to the satisfaction of CONSULTANT.

8.2.2 Equipment Disinfection

Immediately following installation of the down-hole pumping equipment, a granular or liquid sodium hypochlorite (cannot be calcium hypochlorite) or similar disinfectant shall be added to the well at the rate of 0.5-pounds per vertical foot of submergence, based on 70 percent chlorine content. If a lesser strength hypochlorite or other chlorine product is used, the quantity shall be adjusted accordingly.

CONTRACTOR is responsible for application of the disinfecting agent uniformly throughout the entire portion of the well below the water table, without relying on subsequent mechanical surging action for dispersing the disinfectant. The specific method used to disinfect the well must be approved by CONSULTANT.

During the start of step-rate discharge testing, CONSULTANT shall collect a groundwater sample to be analyzed to determine the absence or presence of total coliform and Escherichia coli bacteria. If either of those constituents are present in the sample, CONTRACTOR shall re-add granular or liquid hypochlorite or similar disinfectant to the well during the recovery period and prior to the start of the constant-rate test at the rate of 0.5-pounds per vertical foot of submergence, based on 70 percent chlorine content.

8.3 PUMP DISCHARGE

CONTRACTOR shall operate the pump at discharge rate(s) directed by CONSULTANT. OWNER, OWNER'S REPRESENTATIVE and CONSULTANT will approve the point of discharge. Discharge from the pump shall be controlled by a gate valve and/or engine throttle. The discharge shall be controlled and

maintained at the specified rate for the entire test duration with an accuracy of plus or minus five percent. The pump discharge shall be measured by both an orifice plate and a calibrated flow meter (instantaneous and totalizer) installed on the discharge pipe. Documentation regarding the accuracy of the meter must be provided to CONSULTANT prior to testing.

The discharge pipe shall be oriented in such a manner as to ensure that the pipe remains full of water at the locations of the manometer and flow meter during pumping. CONTRACTOR shall provide for safe and dry access to the orifice installed at the end of the discharge piping. To this end, CONTRACTOR may, at the request of CONSULTANT, be required to provide a surge box and a high volume/low head booster pump to conduct the water a sufficient distance to provide safe and dry access for orifice reading.

Discharge water may be directed to natural drainage located approximately 500 feet from the well on the east side of S. Park Way as shown on **Figure 2**. Alternatively, water from aquifer testing activities may be directed to the East Main Canal (75 feet west) by obtaining a Temporary Use Permit from the U.S. Bureau of Reclamation (Form 7-2540). CONTRACTOR shall provide all piping and fittings required to discharge to the approved location. CONTRACTOR will be responsible to install berms or trenches to control the flow of development and aquifer testing water. CONTRACTOR is responsible for obtaining all applicable local, City, County, State, Tribe, or Federal permits, including an EPA Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES) permit (if required). CONTRACTOR must restore the property to is pre-construction condition upon completion of well development and aquifer testing.

9.0 FINAL WELL COMPLETION

9.1 WELL PLUMBNESS AND ALIGNMENT

The well shall meet the AWWA Standard A100-06 requirement for plumbness and alignment for the entire depth of the well for installation of a 7-inch nominal diameter pump assembly. Should the plumbness and alignment of the well not meet AWWA Standard A100-06, Section 4.7.9, CONTRACTOR, at its own expense, shall correct the plumbness and/or alignment of the well to the satisfaction of OWNER prior to acceptance and final payment for the well.

CONTRACTOR shall test the plumbness of borehole by the magnetic deviation survey or gyroscopic survey methods. At a minimum, the deviation tool shall measure plumbness at 20-foot intervals and the calculated horizontal deviation of each measurement from vertical. The borehole (and by extension, the well) is within tolerance for plumbness if it meets the requirement of AWWA Standard A100-06, Section 4.7.9.2 at total depth. The maximum allowable horizontal deviation of the well from vertical shall not exceed 0.67 times the inside diameter of the well per 100 feet of depth. Based on the Preliminary Well Design (**Figure 3**), plumbness tolerance for Well No. 4 is 1.35 feet at 300 feet deep.

If results of the magnetic deviation survey or gyroscopic survey indicate the borehole is out of alignment (e.g., a dog leg is present), CONTRACTOR shall test the final alignment of the cased well by the dummy tool method. The tool dummy method includes lowering a dummy tool to the bottom of the well; the well is within alignment tolerance if the dummy can freely pass the entire length of the well. The dummy shall consist of a 40-foot-long rigid spindle of extra heavy steel pipe with three rings rigidly fixed to the pipe so the rings cannot move longitudinally along the pipe. The outer diameter of the rings shall be 1.5 to 0.5 inches in diameter smaller than the ID of the well casing and each ring shall be at least one foot thick. The rings shall be truly cylindrical and shall be placed at each end of the dummy with one ring in the center. CONSULTANT must approve and verify the design of the dummy prior to the alignment test and must be present for the dummy test.

9.2 WELL VIDEO SURVEY

After completion of test pump operations, CONTRACTOR shall provide a well video survey. The survey shall be in color and the survey equipment shall have side scanning capabilities. CONSULTANT must be notified of the date of the scheduled well video survey. The quality and clarity of the down-view and side-view observation of the well video survey must be acceptable to CONSULTANT. CONTRACTOR shall provide CONSULTANT with two (2) flash drives each with digital copies of the well video survey, video files, and still images from the video.

9.3 SURFACE COMPLETION

Finished elevation of the well casing is a minimum of two feet above existing grade. Following completion of the well video survey, CONTRACTOR shall secure the top of the well casing by welding an 8.625-inch diameter stainless steel plate that is a minimum 0.250-inches thick. The completed well casing must be watertight. The gravel feed tube shall be secured by a stainless steel watertight threaded cap or plug.

10.0 VISITATION AND INSPECTION

CONTRACTOR agrees, at any reasonable time during the term of work, that CONSULTANT, OWNER, ENGINEER, or any of their duly authorized representatives, shall have access to CONTRACTOR facilities and have the right to examine books, documents, and records of CONTRACTOR involving transactions related to these specifications.

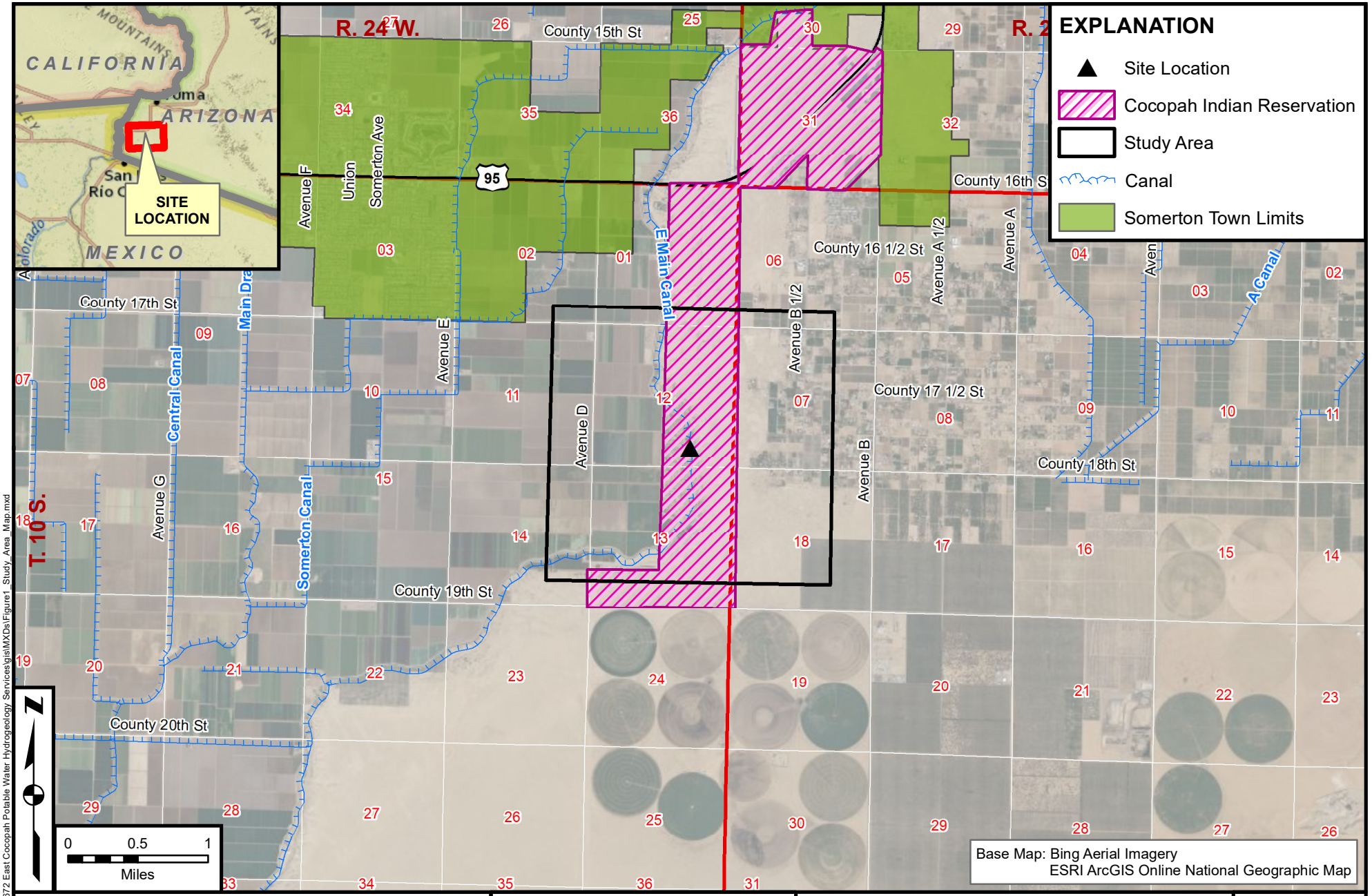
CONTRACTOR further agrees to include in all subcontracts hereunder, if any, a provision that the SUBCONTRACTOR agrees that CONSULTANT, OWNER, ENGINEER, or any of their duly authorized representatives, shall have access to SUBCONTRACTOR'S facilities, and have the right to examine any books, documents, and records of SUBCONTRACTOR involving transactions related to the subcontract and these specifications.

11.0 MEASUREMENT AND PAYMENT

Compensation for all work to be performed under this specification shall be made under the payment items presented in the Bid. The prices for the said payment items shall be full compensation for all labor, material, equipment, tax, bond, and insurance costs in connection therewith. Principal features of the work to be included under the various payment items will be on a linear foot, hourly, daily, per ton, per cubic yard, or lump sum basis, as designated. Quantities are not guaranteed. Final payment will be based on actual quantities installed; CONTRACTOR shall not be compensated for materials that are not installed such as excess filter pack. If the required quantities of the items listed above are increased or decreased by Change Order, the unit prices set forth above shall apply to such increased or decreased quantities.

MATRIXNEWORLD
Engineering Progress

FIGURES



S:\MyDocs\SGCPR.I\2022\22-0672 East Cocopah Potable Water Hydrogeology Services\gis\MXDs\Figure1_Study_Area_Map.mxd

COCOPAH INDIAN TRIBE
EAST COCOPAH RESERVATION
WATER SYSTEM WELL NO. 4
PH21-V99; WA# 12-23
YUMA COUNTY, ARIZONA

MATRIXNEWORLD
Engineering Progress
Matrix New World Engineering, PC
123 East Goodwin Street, Suite 200
Prescott, Arizona 86303
Tel: 928-771-0610
Fax: 602-955-7585
Certified WBE
www.mnwe.com

PROJECT LOCATION MAP
EAST WATER SYSTEM WELL NO. 4
[C(10-24) 12DCD]

DRAWN BY: AE	APPROVED BY: DE	PROJECT NUMBER: 22-0672
DATE: 03-30-2023	DATE: 03-30-2023	

FIGURE NUMBER: 1



COCOPAH INDIAN TRIBE
EAST COCOPAH RESERVATION
WATER SYSTEM WELL NO. 4
PH21-V99; WA# 12-23
YUMA COUNTY, ARIZONA

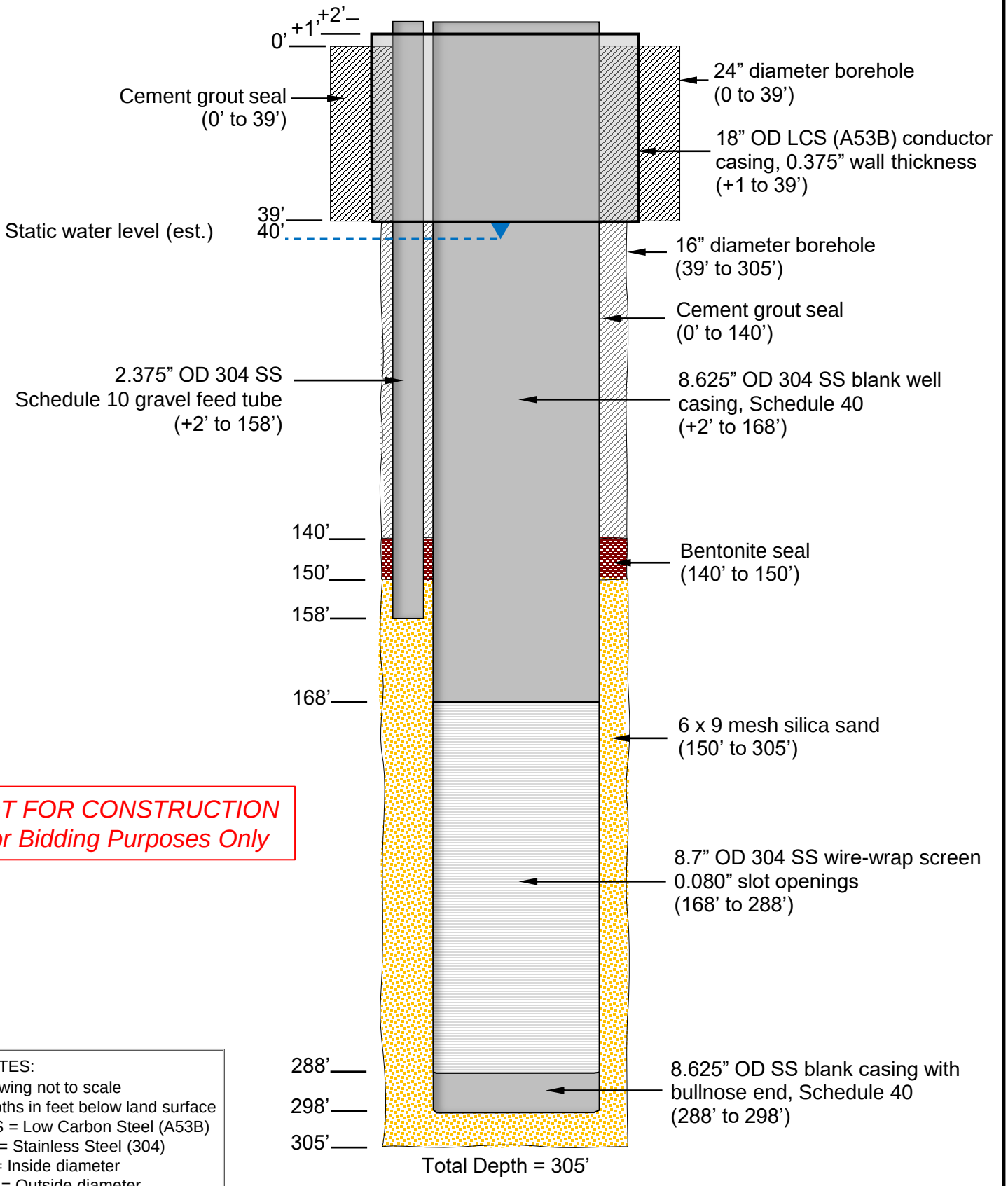
MATRIXNEWORLD
Engineering Progress
Matrix New World Engineering, PC
123 East Goodwin Street, Suite 200
Prescott, Arizona 86303
Tel: 928-771-0610
Fax: 602-955-7585
Certified WBE
www.mnwe.com

SITE MAP
EAST WATER SYSTEM WELL NO. 4
[C(10-24) 12DCD]

DRAWN BY: DJE	APPROVED BY: DJE	PROJECT NUMBER: 22-0672
DATE: 03-30-2023	DATE: 03-30-2023	1 in = 100 ft

FIGURE NUMBER: 2

C:\mydocs\sgcprj\22-0672 East Cocopah Potable Water Hydrogeology Services\gis\site map tech specs.mxd



NOT FOR CONSTRUCTION
For Bidding Purposes Only

NOTES:
- Drawing not to scale
- Depths in feet below land surface
- LCS = Low Carbon Steel (A53B)
- SS = Stainless Steel (304)
- ID = Inside diameter
- OD = Outside diameter
- Centralizers at 80 ft intervals

MATRIXNEWORLD
Engineering Progress

March 30, 2023 Project 22-0672

PRELIMINARY DESIGN
EAST WATER SYSTEM WELL NO. 4
PH21-V99; WA# 12-23
Cocopah Indian Tribe, Yuma County, Arizona

FIGURE NUMBER:
3

MATRIXNEWORLD
Engineering Progress

TABLES

TABLE 1 – Schedule of CONTRACTOR Deliverables

Task	Section	Delivery Schedule	Date
Site Safety Plan	1.4.4	5 days prior to mobilization	
CWA NPDES permit (if necessary)	2.4	2 days prior to discharge	
Erosion Sedimentation Control Plan	2.4.1	3 days prior to mobilization	
Arizona 811 Notification	3.3	2 days prior to mobilization	
Certification of Downhole Equipment Decontamination	4.0	2 days prior to mobilization	
Penetration Rate Log	5.2	Daily during drilling	
Daily Driller Report	5.3	Daily during drilling	
Lithologic Log	5.4	Within 30 days of well completion	
Drilling Fluid Log	5.5	Daily during drilling	
Drilling Fluid Control Plan	6.2	2 days prior to drilling	
Surface Casing Certification	7.2.2.1	3 days prior to installation	
Surface Seal Cement Mix Design	7.2.2.2	3 days prior to placement	
Drill Cuttings Sampling Plan	7.3.1	2 days prior to drilling	
Well Casing and Screen Certification	7.4.1.1	3 days prior to installation	
Filter Pack Sieve Analysis	7.4.1.4	3 days prior to installation	
Well Cement Design Mix	7.4.1.6	3 days prior to placement	
Pump Test Equipment Spec Sheets	8.2	2 days prior to mobilization	

MATRIXNEWORLD
Engineering Progress

APPENDICES

MATRIXNEWORLD
Engineering Progress

APPENDIX A

Selected Area Well Driller Logs

ARIZONA DEPARTMENT OF WATER RESOURCES
Records Management Section
500 N. 3rd Street * Phoenix, Arizona 85004
(602) 417-2405 * (800) 352-8488
www.water.az.gov

Well Driller Report and Well Log

East

* This report should be prepared by the driller in detail and filed with the Department within 30 days following completion of the well.

** PLEASE PRINT CLEARLY **

RECEIVED
DEC
Information Management

FILE NUMBER: C(10-24) 12 DCB
WELL REGISTRATION NUMBER: 55- 205530
PERMIT NUMBER (IF ISSUED)

SECTION 1. DRILLING AUTHORIZATION

Drilling Firm

NAME	DWR LICENSE NUMBER
SHUCK DRILLING COMPANY	244
ADDRESS	TELEPHONE NUMBER
18927 AVENUE 3E	928-726-5153
CITY/STATE/ZIP	FAX
YUMA, AZ 85365	

SECTION 2. REGISTRY INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION OR INDIVIDUAL: COCOPAH INDIAN TRIBE
MAILING ADDRESS: COUNTY 15 & AVENUE G
CITY / STATE / ZIP: SOMERTON, AZ 85350
CONTACT PERSON NAME AND TITLE: Edmund Domingues
TELEPHONE NUMBER: 928-627-2102
FAX:
WELL NAME: East Cocopah Reservation Well

Location of Well

WELL LOCATION ADDRESS (IF KNOWN):

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
10S	24W	12	SE 1/4	SW 1/4	NW 1/4

LATITUDE: ° ' "N
LONGITUDE: ° ' "W
LAND SURFACE ELEVATION AT WELL: Feet Above Sea Level
METHOD OF LATITUDE / LONGITUDE (CHECK ONE): ☐ Hand-Held ☐ USGS Quad Map ☐ Conventional Survey ☐ GPS : ☐ Survey-Grade
COUNTY ASSESSOR'S PARCEL ID NUMBER: BOOK 102 MAP 17 PARCEL 003B
COUNTY WHERE WELL IS LOCATED: Yuma

RECEIVED DEC 1 2004

SECTION 3. WELL CONSTRUCTION DETAILS

Drill Method (CHECK ONE)

- ☐ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☐ Dual Rotary
- ☒ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☐ Air Percussion / Odex Tubing
- ☐ Other (please specify)

Method of Well Development (CHECK ONE)

- ☒ Airlift
- ☐ Bail
- ☒ Surge Back
- ☐ Surge Pump
- ☐ Other (please specify)

Method of Sealing at Reduction Points (CHECK ONE)

- ☒ None
- ☐ Packed
- ☐ Swedged
- ☐ Welded
- ☐ Other (please specify)

Condition of Well (CHECK ONE)

- ☐ Capped
- ☒ Pump Installed

Condition of Well

DATE WELL CONSTRUCTION STARTED: 10-30-04
DATE WELL CONSTRUCTION COMPLETED: 11-3-04

I state that this notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief.

DRILLING FIRM	SIGNATURE OF QUALIFYING PARTY	DATE
Shuck Drilling Co	David Shuck	12-1-04

DWR-55-55-10/01 (Rev.)

Well Driller Report and Well Log

East

WELL REGISTRATION NUMBER
55- 205530

SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILT) (attach additional page if needed)

DEPTH OF BORING	DEPTH OF COMPLETED WELL
300 Feet Below Land Surface	295 Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL	DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION
42 Feet Below Land Surface	11-5-04		☐ Valve ☐ Other:

Borehole			Installed Casing														
DEPTH FROM SURFACE			DEPTH FROM SURFACE			MATERIAL TYPE (X)				PERFORATION TYPE (X)							
FROM (feet)	TO (feet)	BOREHOLE DIAMETER (inches)	FROM (feet)	TO (feet)	OUTER DIAMETER (inches)	STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
0	33	24	0	33	18	X				X						
0	175	17	0	175	10	X				X						
175	235	17	175	235	10				stainless		X					.040
235	255	17	235	255	10	X				X						
255	275	17	255	275	10				stainless		X					.040
275	295	17	275	295	10	X				X						

Installed Annular Material												
DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (X)								FILTER PACK		
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE GROUT	BENTONITE CHIPS	BENTONITE PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE
0	100			X								
100	110						X					
110	295										X	8-16

East

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55- 205530

SECTION 5. GEOLOGIC LOG OF WELL

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	DESCRIPTION Describe material, grain size, color, etc.	Check (X) every interval where water was encountered
0	20	Sand	
20	30	Fine Sand	
30	50	Fine Sand / Some Clay	
50	70	Clay / Some Fine Graud	
70	90	/ Sandy Clay	
90	110	Clay	
110	115	Fine Sand / clay	
115	150	Clay	
150	160	Sandy clay	
160	165	Clay / Graud	
165	198	/ Graud	
198	200	Graud / Trace of Clay	
200	280	Graud (Good)	
280	300	Sand & Graud	

DEPARTMENT OF WATER RESOURCES
99 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004

RECEIVED JUN 14 1982 DEPT. OF WATER RESOURCES

REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING
PRINT OR TYPE — FILE IN DUPLICATE

02

REGISTRATION FEE (CHECK ONE)	
EXEMPT WELL (NO CHARGE)	☒
NON-EXEMPT WELL — $10.00	☐

FOR OFFICE USE ONLY
REGISTRATION NO. 55-649100
FILE NO. C(10-24)12 dca
FILED 6-14-82 (DATE) AT 4:30 P (TIME)
INA
AMA

1. Name of Registrant:
COCOPAH INDIAN TRIBE
P.O. BOX BIN "G" (Address) SOMERTON (City) ARIZONA (State) 85350 (Zip)

2. File and/or Control Number under previous groundwater law:
(File Number) 35- (Control Number)

3. a. The well is located within the NE ¼ SW ¼ SE ¼, Section 12, of Township 10S N/S, Range R24W E/W, G & SRB & M, in the County of YUMA.
b. If in a subdivision: Name of subdivision EAST RESERVATION [NORTHWELL], Lot No. _____, Address SAME AS ABOVE.

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)
DOMESTIC

5. If for irrigation use, number of acres irrigated from well N/A.

6. Owner of land on which well is located. If same as Item 1, check this box ☒
(Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)
a. Depth of Well 205 feet
b. Diameter of casing 8" inches
c. Depth of casing 200 feet
d. Type of casing ¼" Steel
e. Maximum pump capacity 60 gallons per minute.
f. Depth to water 24 feet below land surface.
g. Date well completed Prior to 1976 (Month) (Day) (Year)

8. The place(s) of use of water. If same as Item 3, check this box ☐.
____¼ ____¼ ____¼, Section ____ Township ____ Range ____
____¼ ____¼ ____¼, Section ____ Township ____ Range ____
Attach additional sheet if necessary.

9. DATE 6/11/82 SIGNATURE OF REGISTRANT Robert A. D. Barclay
Chairman Cocopah Indian Tribe

ARIZONA DEPARTMENT OF WATER RESOURCES
Records Management Section
500 N. 3rd Street * Phoenix, Arizona 85004
(602) 417-2405 * (800) 352-8488
www.water.az.gov

Well Abandonment Completion Report

East

- Review instructions prior to completing form
- The drilling firm or single well licensee must file this report within 30 days of completion of abandonment (A.R.S. § 45-594, A.A.C. R12-15-816)

** PLEASE PRINT CLEARLY **

RECEIVED
DEC 6 2004
Information Management

FILE NUMBER: C(10-24) 12 DCB
WELL REGISTRATION NUMBER: 55- 649097

SECTION 1. REGISTRY INFORMATION

Location of Well

WELL LOCATION ADDRESS (IF ANY)

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
10S	24W	12	SE 1/4	SW 1/4	NW 1/4

COUNTY ASSESSOR'S PARCEL ID NUMBER

BOOK	MAP	PARCEL
102	17	003B

LATITUDE	LONGITUDE
32° 34. 8 "N	114° 40. 19 "W

LAND SURFACE ELEVATION AT WELL: Feet Above Sea Level

METHOD OF LATITUDE / LONGITUDE (CHECK ONE)
☐ Hand-Held
☐ USGS Quad Map ☐ Conventional Survey ☐ GPS : ☐ Survey-Grade

SECTION 2. OWNER INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION OR INDIVIDUAL: COCOPAH INDIAN TRIBE
MAILING ADDRESS: COUNTY 15 & AVE G
CITY / STATE / ZIP: SOMERTON, AZ 85350
CONTACT PERSON NAME AND TITLE: Edmund Dominguez
TELEPHONE NUMBER: 928-627-2102
FAX:

SECTION 3. ABANDONMENT AUTHORIZATION

Drilling Firm

NAME: SHUCK DRILLING COMPANY
DWR LICENSE NUMBER: 244
TELEPHONE NUMBER: 928-726-5153
FAX:

ANSWERED DEC ** 7 2004

SECTION 4.

Questions	Yes	No	Explanation :
1. To your knowledge, is there any information that exists which indicates that the water in this well has been, may be or is contaminated ?		X	IF YES, EXPLAIN (ATTACH ADDITIONAL PAGE IF NECESSARY)
2. Is there another well name or identification number associated with this well ?		X	IF YES, PLEASE STATE
3. Prior to abandonment, did the well have 20' of surface casing AND 20' of grout in the annular space surrounding the casing ?	X		If No , was the top 20' of casing removed prior to setting the cement plug ? ☐ Yes ☐ No
4. Was the well backfilled above the cement plug ?		X	
5. Was the well casing video logged ?		X	
6. Why was the well abandoned ?	Production Low		

Well Abandonment Completion Report

East

WELL REGISTRATION NUMBER
55- 649097

SECTION 5. ORIGINAL WELL CONSTRUCTION DESIGN (attach additional page if needed)

Existing Borehole

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	BOREHOLE DIAMETER (inches)
0	205	15

Existing Casing (to the best of your knowledge)

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	OUTER DIAMETER (inches)	MATERIAL TYPE (X) STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	PERFORATION TYPE (X) BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
0	165	8	X				X						
165	205	8						X					

Condition of casing: ☒ Good ☐ Fair ☐ Poor

Existing Annular Material (to the best of your knowledge)

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	ANNULAR MATERIAL TYPE (X) NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE GROUT	BENTONITE CHIPS	BENTONITE PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	FILTER PACK SAND	FILTER PACK GRAVEL	FILTER PACK SIZE
0	20		X									
20	205										X	

SECTION 6. ACTUAL WELL ABANDONMENT DESIGN (attach additional page if needed)

Refer to ADWR's Well Abandonment Handbook for additional information.

DEPTH TO WATER: 40 Feet Below Land Surface

DATE ABANDONMENT COMPLETED: 9-29-04

Casing Treatment

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	TREATMENT TYPE (X) SONAR JET	BRUSH OR SCRAPE	MILLS KNIFE	CASING REMOVAL (explain in Remarks)	IF OTHER TYPE, DESCRIBE OR IF CASING WAS PERFORATED, DESCRIBE SPACING AND SIZE OF PERFORATIONS THAT WERE ADDED

Sealing or Fill Material

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	MATERIAL TYPE (X) NEAT CEMENT	CONCRETE	CEMENT-BENTONITE GROUT	SAND-BENTONITE GROUT	HIGH SOLIDS BENTONITE GROUT	HIGH SOLIDS BENTONITE CHIPS	HIGH SOLIDS BENTONITE PELLETS	SAND	MIXING RATIO by (check one)	VOLUME OF MATERIAL USED (cubic feet)
0	40				X						
40	205						X			Volume	110

MIXING RATIO by (check one): ☐ Weight ☒ Volume

Actual Abandonment Method (See Well Abandonment Handbook)

CHECK ONE

- ☐ Standard Method
- ☒ Alternative 4:
  - ☐ Variance Option
- ☐ Other (please specify)
- ☐ Alternative 1
- ☐ Alternative 2
- ☐ Alternative 3
- ☐ Alternative 5:
  - ☐ Variance Option 1
  - ☐ Variance Option 2

Emplacement Method of Sealing or Fill Material

CHECK ONE

- ☐ Gravity
- ☐ Pressure Grouting
- ☒ Tremie Pumped
- ☐ Other (please specify)

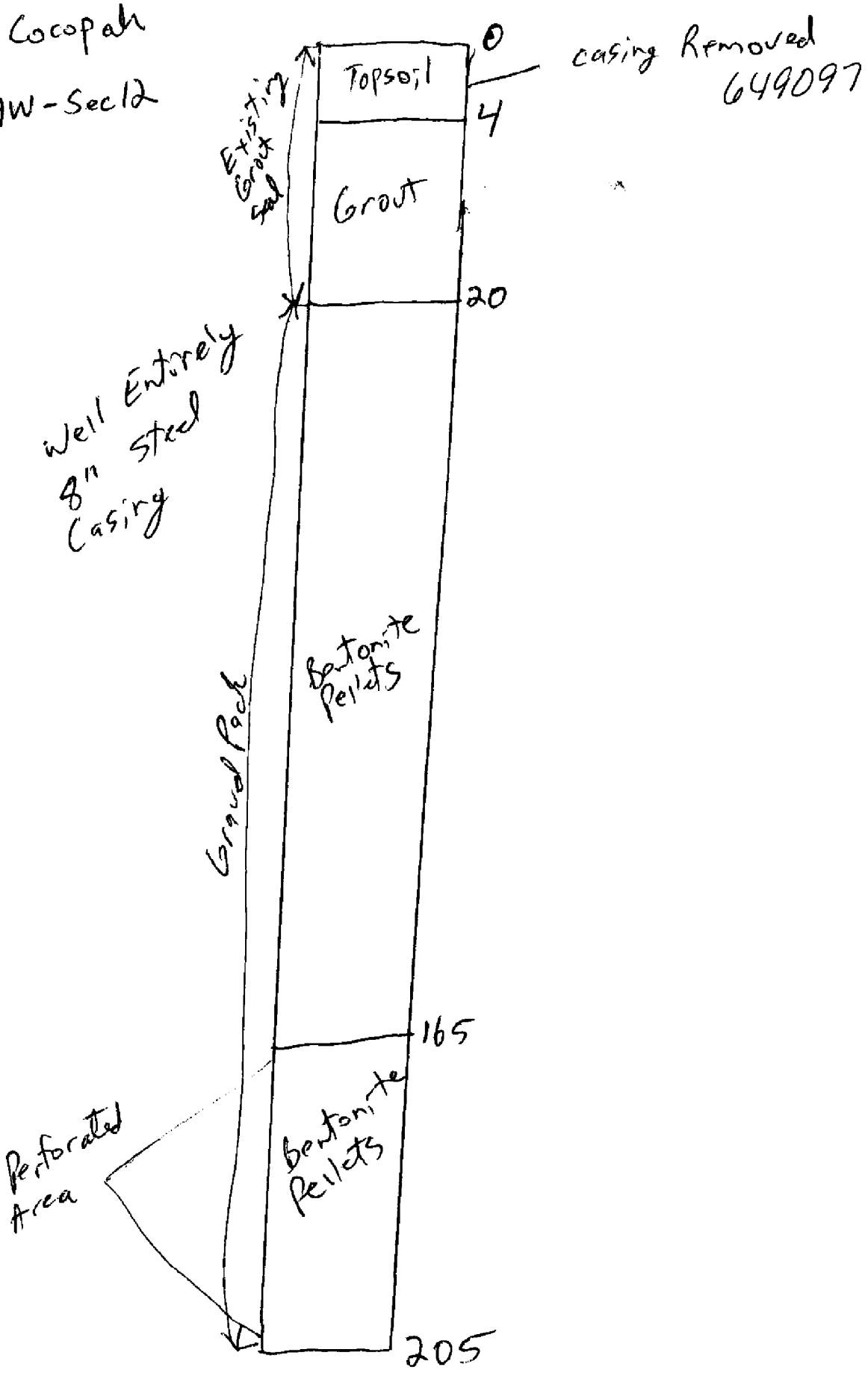
REMARKS

I state that this notice is filed in compliance with A.R.S. § 45-594 and A.A.C. R12-15-816 and is complete and correct to the best of my knowledge and belief.

TYPE OR PRINT NAME AND TITLE	SIGNATURE OF QUALIFYING PARTY	DATE
DAN Shuck	Dan Shuck	12-1-04

East Cocopah

10S-24W-Sec12



casing Removed
649097

DEPARTMENT OF WATER RESOURCES
99 EAST VIRGINIA AVENUE
PHOENIX, ARIZONA 85004



02

REGISTRATION OF EXISTING WELLS

READ INSTRUCTIONS ON BACK OF THIS FORM BEFORE COMPLETING
PRINT OR TYPE — FILE IN DUPLICATE

REGISTRATION FEE (CHECK ONE)	
EXEMPT WELL (NO CHARGE)	☒
NON-EXEMPT WELL — $10.00	☐

FOR OFFICE USE ONLY
REGISTRATION NO. 55- 649097
FILE NO. C(10-24)12 dca
FILED 6-14-82 (DATE) AT 4:30 P (TIME)
INA —
AMA

1. Name of Registrant:
COCOPAH INDIAN TRIBE

P.O. BOX BIN "G" (Address) SOMERTON (City) ARIZONA (State) 85350 (Zip)

2. File and/or Control Number under previous groundwater law:
(File Number) 35- (Control Number)

3. a. The well is located within the NE ¼ SW ¼ SE ¼, Section 12, of Township 10S N/S, Range R 24 W E/W, G & SRB & M, in the County of _____.

b. If in a subdivision: Name of subdivision EAST RESERVATION [SOUTHWELL], Lot No. _____, Address SAME AS ABOVE.

4. The principal use(s) of water (Examples: irrigation - stockwater - domestic - municipal - industrial)
DOMESTIC

5. If for irrigation use, number of acres irrigated from well _____.

6. Owner of land on which well is located. If same as Item 1, check this box ☐

(Address) (City) (State) (Zip)

7. Well data (If data not available, write N/A)
a. Depth of Well _____ feet Note: This is Auxiliary well
b. Diameter of casing _____ inches approx 300' from listed well.
c. Depth of casing _____ feet We don't have data on well but assume it to be same.
d. Type of casing _____.
e. Maximum pump capacity _____ gallons per minute.
f. Depth to water _____ feet below land surface.
g. Date well completed _____ (Month) (Day) (Year).

8. The place(s) of use of water. If same as Item 3, check this box ☐.
____¼ ____¼ ____¼, Section ____ Township ____ Range ____
____¼ ____¼ ____¼, Section ____ Township ____ Range ____
Attach additional sheet if necessary.

9. DATE 6/11/82 SIGNATURE OF REGISTRANT Robert A. Bradley
Chairman Cocopah Indian Tribe

5/25/16

Arizona Department of Water Resources
Information Management Unit
PO Box 36020 • Phoenix, Arizona 85067-36020
(602) 771-8527 • 602-771-8500

Well Driller Report and Well Log

FILE NUMBER: C(10-24) 12 CDD
WELL REGISTRATION NUMBER: 55 - 919096
PERMIT NUMBER (IF ISSUED):

THIS REPORT MUST BE FILED WITHIN **30 DAYS** OF COMPLETING THE WELL.

PLEASE PRINT CLEARLY USING BLACK OR BLUE INK

RECEIVED
APR 21 2016
ARIZONA DEPARTMENT OF WATER RESOURCES

SECTION 1. DRILLING AUTHORIZATION

Drilling Firm

Mail To:

NAME	DWR LICENSE NUMBER
U.S. BUREAU OF RECLAMATION - YUMA	367
ADDRESS	**TELEPHONE NUMBER**
7301 CALLE AGUA SALADA	928-343-8166
CITY / STATE / ZIP	**FAX**
YUMA, AZ, 85364-9763	

SECTION 1. REGISTRY INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL: BUREAU OF RECLAMATION

MAILING ADDRESS: 7301 CALLE AGUA SALADA

CITY / STATE / ZIP: YUMA, AZ, 85364-9763

CONTACT PERSON NAME AND TITLE: Robert Firasek, Foreman

TELEPHONE NUMBER: 928 343- 8548

FAX:

WELL NAME (e.g., MW-1, PZ-3, lot 25 Well, Smith Well, etc.): YV-25R2

Location of Well

WELL LOCATION ADDRESS (IF ANY):

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
10S	24W	12	SW 1/4	SE 1/4	SE 1/4

LATITUDE			LONGITUDE		
32 °	34 '	03.16 " N	114 °	40 '	37.03 " W

METHOD OF LATITUDE/LONGITUDE (CHECK ONE): ☒ *GPS: Hand-Held ☐ USGS Quad Map ☐ Conventional Survey ☐ *GPS: Survey-Grade

LAND SURFACE ELEVATION AT WELL: 102.5 Feet Above Sea Level

METHOD OF ELEVATION (CHECK ONE): ☒ *GPS: Hand-Held ☐ USGS Quad Map ☐ Conventional Survey ☐ *GPS: Survey-Grade

*IF GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (CHECK ONE): ☒ NAD-83 ☐ Other (please specify)

COUNTY: Yuma

ASSESSOR'S PARCEL ID NUMBER (MOST RECENT)

BOOK	MAP	PARCEL
753	37	201

SECTION 3. WELL CONSTRUCTION DETAILS

Drilling Method (CHECK ONE)

- ☒ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☒ Dual Rotary
- ☐ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☐ Air Percussion / Odex Tubing
- ☐ Other (please specify)

Method of Well Development (CHECK ONE)

- ☒ Airlift
- ☐ Bail
- ☐ Surge Block
- ☐ Surge Pump
- ☐ Other (please specify)

Condition of Well (CHECK ONE)

- ☐ Capped
- ☒ Pump Installed

Method of Sealing at Reduction Points (CHECK ONE)

- ☐ None
- ☒ Packed
- ☐ Swedged
- ☐ Welded
- ☐ Other (please specify)

Construction Dates

DATE WELL CONSTRUCTION STARTED: 2-25-16

DATE WELL CONSTRUCTION COMPLETED: 3-31-16

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

SIGNATURE OF QUALIFYING PARTY: Robert Firasek

DATE: 4/11/16

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 919096

SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILD) (attach additional page if needed)

Depth

DEPTH OF BORING	DEPTH OF COMPLETED WELL
~~20~~ 275 Feet Below Land Surface	275 Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL	DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION
21 Feet Below Land Surface			☐ Valve ☐ Other:

Borehole

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	BOREHOLE DIAMETER (inches)
0	20	24
20	275	20

Installed Casing

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	OUTER (inches)	MATERIAL TYPE (T): STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	PERFORATION TYPE (T): BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE (inches)
0	20	24	X				X						n/a
20	140	20	X				X						n/a
140	146.5	16	X					X					0.060
146.5	166.5	16	X					X					0.100
166.5	246.5	16	X					X					0.010
246.5	256.5	16	X					X					0.020
256.5	276.5	16	X					X					0.100

Installed Annular Material

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	ANNULAR MATERIAL TYPE (T): NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE: GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	FILTER PACK: SAND	GRAVEL	SIZE
0	20			X								

YV-25R2 Log and Well Design

Bureau of Reclamation
Yuma Area Office
Yuma, Arizona

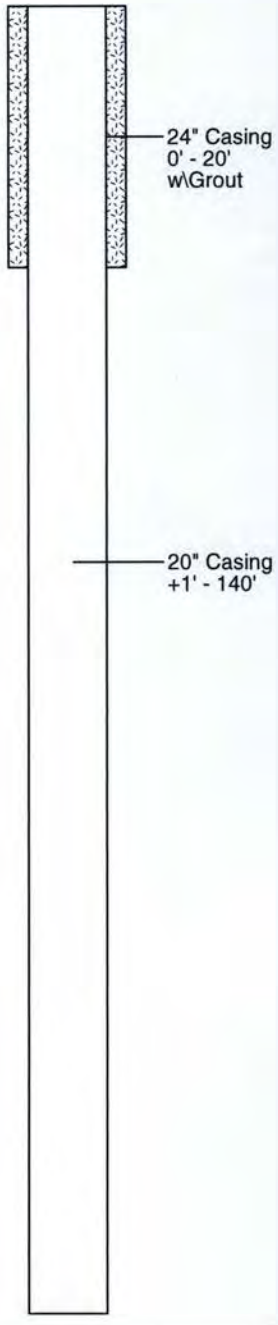
Drainage Well

Yuma Valley

Started	: February 25, 2016	Driller	: Bureau of Reclamation
Completed	: March 3, 2016	Northing	: 3605535 m (NAD 27)
Diameter	: 24" (0'-20'); 20" (20'-275')	Easting	: 718165 m (UTM Zone 11)
Drill Method	: Air rotary-casing advance	Location	: T.10S R.24W Sec. 12 cddc4
Log Method	: Cuttings and Drilling Character	Logged By	: A. Marshall & L. Upton

Depth in Feet	Surf. Elev. 102.5 ft	USCS	GRAPHIC	DESCRIPTION
0	102	AB		0 - 3' AB gravel fill with sand
		CL		3 - 13' Clay; brown to gray-brown, medium plasticity.
20	82	SP		13 - 97' Poorly Graded Sand (SP); fine to medium grained, light brown to gray.
40	62			
60	42			
80	22			
100		CH		97 - 113' Fat Clay (CH); gray, dense.

Well Design: YV-25R2
Surface Elevation: 121



SIEVE ANALYSIS

% D50	% Sand	% Gravel

03-25-2016 T:\2000\2230\Geology Well Logs\QuickLog\YV-25R2 with Well Design.bor

YV-25R2 Log and Well Design

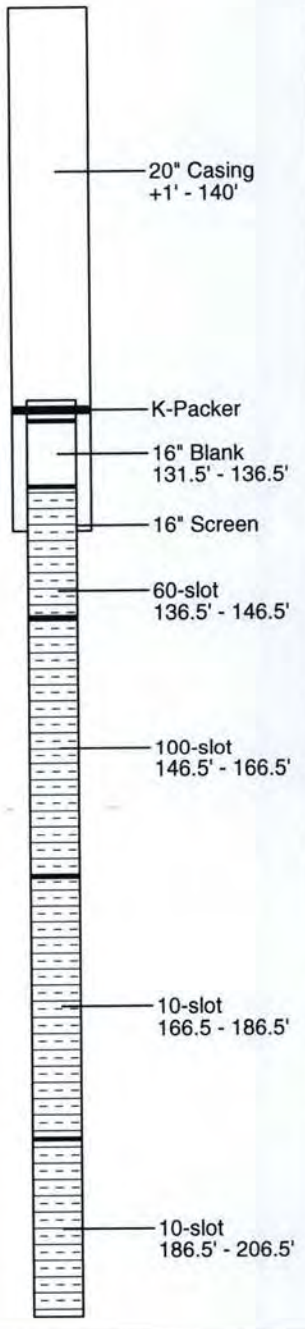
Bureau of Reclamation
Yuma Area Office
Yuma, Arizona

Drainage Well

Yuma Valley

Started	: February 25, 2016	Driller	: Bureau of Reclamation
Completed	: March 3, 2016	Northing	: 3605535 m (NAD 27)
Diameter	: 24" (0'-20'); 20" (20'-275')	Easting	: 718165 m (UTM Zone 11)
Drill Method	: Air rotary-casing advance	Location	: T.10S R.24W Sec. 12 cddc4
Log Method	: Cuttings and Drilling Character	Logged By	: A. Marshall & L. Upton

Depth in Feet	Surf. Elev. 102.5 ft	USCS	GRAPHIC	DESCRIPTION
100	2	CH		
		SP		113 - 134' Poorly Graded Sand (SP); fine to medium grained, moderately well sorted. Gravel at 125 ft, well rounded, up to 1.5".
120	-18			
		GW		134 - 165' Well Graded Gravel with Sand (GW); rounded gravel up to 2.5" with coarse sand. Wood at 140 ft, petrified wood at 145 ft.
140	-38			Samples of drill cuttings collected for each 10-foot interval from 135' - 275'.
160	-58			
		SP		165 - 245' Poorly Graded Sand with Gravel (SP); fine sand, gravels interbedded throughout, up to 2".
180	-78			
200				



SIEVE ANALYSIS		
% D50	% Sand	% Gravel
0.363	33.5	66.3
0.259	38.2	61.7
0.297	36.3	63.6
0.016	75.0	24.4
0.012	75.2	24.5
0.024	58.4	41.3

03-25-2016 T:\2000\2230\Geology Well Logs\QuickLog\YV-25R2 with Well Design.bor

YV-25R2 Log and Well Design

Bureau of Reclamation
Yuma Area Office
Yuma, Arizona

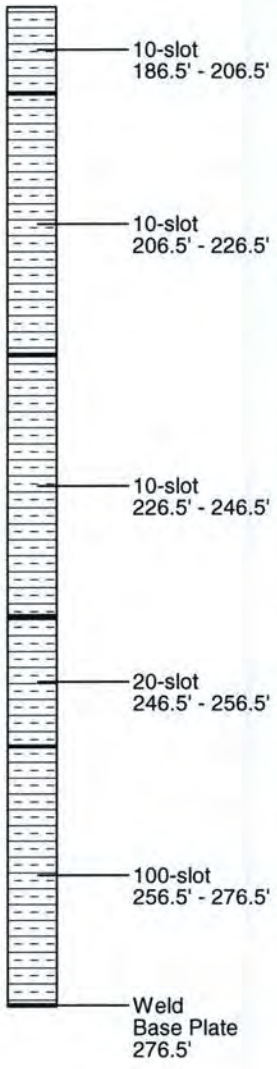
Drainage Well

Yuma Valley

Started	: February 25, 2016	Driller	: Bureau of Reclamation
Completed	: March 3, 2016	Northing	: 3605535 m (NAD 27)
Diameter	: 24" (0'-20'); 20" (20'-275')	Easting	: 718165 m (UTM Zone 11)
Drill Method	: Air rotary-casing advance	Location	: T.10S R.24W Sec. 12 cddc4
Log Method	: Cuttings and Drilling Character	Logged By	: A. Marshall & L. Upton

Depth in Feet	Surf. Elev. 102.5 ft	USCS	DESCRIPTION
200	-98	SP	
220	-118		
240	-138	SM	240 - 245' Silty Sand (SM); fine silty sand with caliche and hard clay chunks.
		GP	245 - 255' Poorly Graded Gravel with Sand (GP); fine to coarse sand and gravel beginning at 250'.
260	-158	GP	255 - 265' Poorly Graded Gravel with Sand (GP); fine to coarse rounded gravel with coarse sand.
		GW	265 - 276.5' Well Graded Gravel with Sand (GW)
			Bottom of Hole, 276.5'
280	-178		
300			

Well Design: YV-25R2
Surface Elevation: 121



SIEVE ANALYSIS		
% D50	% Sand	% Gravel
0.011	78.1	21.5
0.028	62.4	36.7
0.012	83.3	16.1
0.018	75.0	24.5
0.011	80.4	19.2
0.261	34.0	65.8
0.311	32.0	67.8
0.256	42.2	57.7

03-25-2016 T:\2000\2230\Geology Well Logs\QuickLog\YV-25R2 with Well Design.bor

1-8-15

Arizona Department of Water Resources
Water Management Division
P.O. Box 36020 Phoenix, Arizona 85067-6020
(602) 771-8627 • (602) 771-8690 fax
· www.azwater.gov ·

Well Driller Report and Well Log

FILE NUMBER

WELL REGISTRATION NUMBER
55 - 224028

PERMIT NUMBER (IF ISSUED)

THIS REPORT MUST BE FILED WITHIN **30 DAYS** OF COMPLETING THE WELL.

PLEASE PRINT CLEARLY USING BLACK OR BLUE INK.

RECEIVED
JAN 08 2015
ARIZONA DEPARTMENT OF WATER RESOURCES

SECTION 1. DRILLING AUTHORIZATION

Drilling Firm

Mail To:

NAME: U.S. BUREAU OF RECLAMATION – YUMA
DWR LICENSE NUMBER: 367
ADDRESS: 7301 CALLE AGUA SALADA
TELEPHONE NUMBER: 928-343-8100
CITY / STATE / ZIP: YUMA AZ 85364
FAX: 928-343-8320

SECTION 2. REGISTRY INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL: U.S. BUREAU OF RECLAMATION
MAILING ADDRESS: 7301 CALLE AGUA SALADA
CITY / STATE / ZIP CODE: YUMA AZ 85364
CONTACT PERSON NAME AND TITLE: RUSS PHELPS – SUPERVISOR
TELEPHONE NUMBER: 928-343-8100
FAX: 928-343-8320
WELL NAME (e.g., MW-1, PZ-3, Lot 25 Well, Smith Well, etc.): YM-9R

Location of Well

WELL LOCATION ADDRESS (IF ANY): S. AVE. C EXT. ¼ W. COUNTY 17½ ST.

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
10 S	24 W	12	NE ¼	SW ¼	SE ¼

LATITUDE			LONGITUDE		
32 ° Degrees	34 ' Minutes	28.91 "N Seconds	114 ° Degrees	40 ' Minutes	16.56 "W Seconds

METHOD OF LATITUDE/LONGITUDE (CHECK ONE)
☒ *GPS: Hand-Held ☐ *GPS: Survey-Grade

LAND SURFACE ELEVATION AT WELL: ~~150~~ 149 Feet Above Sea Level

METHOD OF ELEVATION (CHECK ONE)
☒ *GPS: Hand-Held ☐ *GPS: Survey-Grade

*GEOGRAPHIC COORDINATE DATUM (CHECK ONE)
☒ NAD-83 ☐ Other (*please specify*):

COUNTY: YUMA

ASSESSOR'S PARCEL ID NUMBER

BOOK	MAP	PARCEL
211	12	002

SECTION 3. WELL CONSTRUCTION DETAILS

Drill Method

CHECK ALL THAT APPLY
☐ Air Rotary
☐ Bored or Augered
☐ Cable Tool
☒ Dual Rotary
☐ Mud Rotary
☒ Reverse Circulation
☐ Driven
☐ Jetted
☐ Air Percussion / Odex Tubing
☐ Other (*please specify*):

Method of Well Development

CHECK ALL THAT APPLY
☒ Airlift
☐ Bail
☐ Surge Block
☒ Surge Pump
☐ Other (*please specify*):

Condition of Well

CHECK ONE
☐ Capped
☒ Pump Installed

Method of Sealing at Reduction Points

CHECK ONE
☐ None
☒ Packed
☐ Swedged
☐ Welded
☐ Other (*please specify*):

Construction Dates

DATE WELL CONSTRUCTION STARTED: 10/30/2014
DATE WELL CONSTRUCTION COMPLETED: 12/16/2014

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

SIGNATURE OF QUALIFYING PARTY
DATE: 1-5-15

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 224028

SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILT) (attach additional page if needed)

Depth

DEPTH OF BORING	DEPTH OF COMPLETED WELL
332.4 Feet Below Land Surface	327 Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL	DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION
70' Feet Below Land Surface	1-5-5	10:00 AM	☑ Valve ☐ Other:

Borehole

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	BOREHOLE DIAMETER (inches)
0	20	30
20	180	24
180	332.4	20

Installed Casing

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	OUTER DIAMETER (inches)	MATERIAL TYPE (T) STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	PERFORATION TYPE (T) BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
0	20	30	X				X						
+2	180	24	X				X						
177	182	16	X				X						
182	202	16	X					X					.010
202	212	16	X					X					.030
212	232	16	X					X					.120
232	252	16	X					X					.120
252	272	16	X					X					.010
272	277	16	X				X						
277	287	16	X					X					.010
287	297	16	X					X					.080
297	307	16	X					X					.120
307	327	16	X					X					.010

Installed Annular Material

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	ANNULAR MATERIAL TYPE (T) NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE GROUT	BENTONITE CHIPS	BENTONITE PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	FILTER PACK SAND	FILTER PACK GRAVEL	FILTER PACK SIZE
0	20			X								

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 224028

SECTION 5. GEOLOGIC LOG OF WELL

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	Description Describe material, grain size, color, etc.	Check (T) every interval where water was encountered (if known)
0	47	Poorly graded sand. $D_{50} = 0.008''$	
47	51	Poorly graded sand with silt. $D_{50} = 0.008''$	
51	54	Lean clay with sand. $D_{50} = 0.002''$	
54	67	Poorly graded sand with silt. $D_{50} = 0.007''$	
67	87	Clayey sand. $D_{50} = 0.006''$	
87	97	Clayey sand with gravel. $D_{50} = 0.008''$	
97	107	Poorly graded sand with silt. $D_{50} = 0.006''$	
107	117	Clayey sand. $D_{50} = 0.006''$	
117	137	Clayey sand with gravel. $D_{50} = 0.009''$	
137	145	Clayey sand. $D_{50} = 0.007''$	
145	155	Fat clay. $D_{50} = 0.002''$	
155	165	Silty sand. $D_{50} = 0.004''$	
165	175	Poorly graded sand. $D_{50} = 0.007$	T
175	200	Poorly graded sand with gravel. $D_{50} = 0.017''$	T
200	210	Well graded gravel with sand. $D_{50} = 0.340''$	T
210	220	Poorly graded gravel with sand. $D_{50} = 0.219''$	T
220	240	Well graded gravel with sand. $D_{50} = 0.284''$	T
240	250	Poorly graded gravel with sand. $D_{50} = 0.243''$	T
250	255	Well graded gravel with sand. $D_{50} = 0.317''$	T
255	270	Poorly graded sand with gravel. $D_{50} = 0.44''$	T
270	280	Poorly graded sand. $D_{50} = 0.011''$	T
280	290	Well graded gravel with sand. $D_{50} = 0.253''$	T
290	~~298~~ 308	Poorly graded gravel with sand. $D_{50} = 0.194''$	T
308	318	Poorly graded sand with gravel. $D_{50} = 0.021''$	T
318	332.4	Poorly graded sand. $D_{50} = 0.012''$	T

Please see attached well log for additional information.

YM-9R Log and Well Design

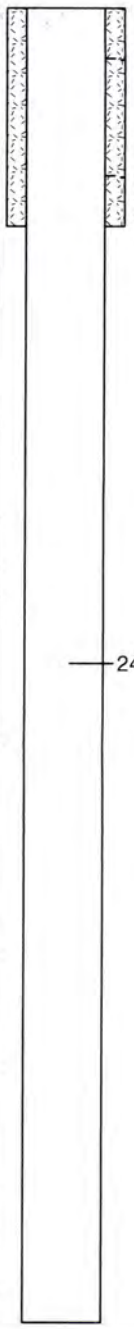
Bureau of Reclamation
Yuma Area Office
Yuma, Arizona

Yuma Mesa

YM-9R

Date Started	: October 30, 2014	Drill Foreman	: R. Firasek & W. Nelson
Date Completed	: December 16, 2014	Northing Coord.	: 3606337.5 m UTM
Hole Diameter	: 24" to 180 ft, 20" to 335 ft	Easting Coord.	: 729224.5 m NAD-27
Drilling Method	: Reverse Air Rotary	Location	: (C-10-24) 12 acdd
Logging Method	: Cuttings and drilling character	Logged By	: A. Marshall

Depth in Feet	Surf. Elev.149 ft	USCS	GRAPHIC	DESCRIPTION	SIEVE ANALYSIS % D50	% Sand	% Gravel
0	149	SP		0 - 47' Poorly Graded Sand (SP)	0.008	98.4	0.2
10	139						
20	129						
30	119						
40	109						
50	99	SP		47 - 51' Poorly Graded Sand with Silt (SP-SM)	0.008	98.4	0.2
		CL		51 - 54' Lean Clay with Sand (CL)	0.008	87.7	3.4
60	89	SP-SM		54 - 67' Poorly Graded Sand with Silt (SP-SM)	0.002	20.2	0.0
70	79	SC		67 - 87' Clayey Sand (SC)	0.007	89.4	2.2
80	69				0.004	48.0	5.5
90	59	SC		87 - 97' Clayey Sand with Gravel (SC)	0.008	81.5	3.9
100	49	SP		97 - 107' Poorly Graded Sand with Silt (SP-SM)	0.008	68.9	15.5
110	39	SC		107 - 117' Clayey Sand (SC)	0.006	90.1	3.2
120		SC		117 - 137' Clayey Sand with Gravel (SC)	0.006	66.3	1.6



12-23-2014 T:\2000\2230\Geology Well Logs\QuickLog\YM-9R with Well Design1.bor

YM-9R Log and Well Design

Bureau of Reclamation
Yuma Area Office
Yuma, Arizona

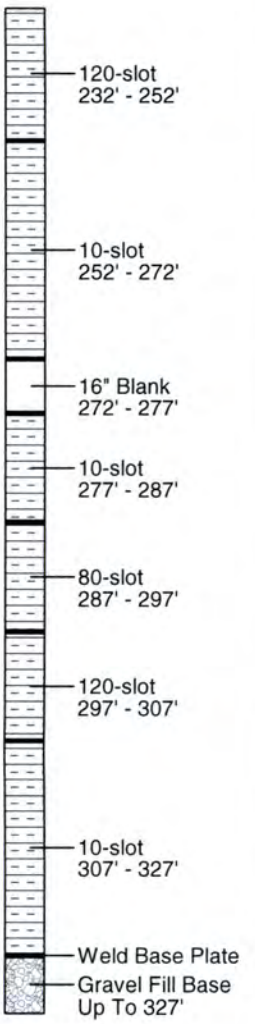
Yuma Mesa

YM-9R

Date Started	: October 30, 2014	Drill Foreman	: R. Firasek & W. Nelson
Date Completed	: December 16, 2014	Northing Coord.	: 3606337.5 m UTM
Hole Diameter	: 24" to 180 ft, 20" to 335 ft	Easting Coord.	: 729224.5 m NAD-27
Drilling Method	: Reverse Air Rotary	Location	: (C-10-24) 12 acdd
Logging Method	: Cuttings and drilling character	Logged By	: A. Marshall

Depth in Feet	Surf. Elev. 149 ft	USCS	GRAPHIC	DESCRIPTION
240	-91	GP		240 - 250' Poorly Graded Gravel with Sand (GP)
250	-101	GW		250 - 255' Well Graded Gravel with Sand (GW)
		SP		255 - 270' Poorly Graded Sand with Gravel (SP)
260	-111			
270	-121	SP		270 - 280' Poorly Graded Sand (SP)
280	-131	GW		280 - 290' Well Graded Gravel with Sand (GW)
290	-141	GP		290 - 298' Poorly Graded Gravel with Sand (GP)
300	-151	GP-SP		298 - 308' Poorly Graded Gravel with Sand (GP-SP)
310	-161	SP		308 - 318' Poorly Graded Sand with Gravel (SP)
320	-171	SP		318 - 332' Poorly Graded Sand (SP)
330	-181			
340	-191			
350	-201			
360				332.4' Bottom of Hole (tagged 11/25/14)

Well Diagram: YM-9R



SIEVE ANALYSIS		
% D50	% Sand	% Gravel
0.324	34.1	65.7
0.243	43.8	56.0
0.317	32.5	67.3
0.011	68.0	31.7
0.106	55.8	43.9
0.015	70.4	29.3
0.011	95.1	4.6
0.253	39.8	60.0
0.195	48.5	51.3
0.193	49.0	50.9
0.021	74.7	25.2
0.012	96.8	2.6
0.011	90.8	8.7

12-23-2014 T:\2000\2230\Geology Well Logs\QuickLog\YM-9R with Well Design1.bor

Arizona Department of Water Resources
Water Management Division
P.O. Box 36020 Phoenix, Arizona 85067-6020
(602) 771-8627 • (602) 771-8690 fax
· www.azwater.gov ·

RECEIVED
MAY 14 2018
ADWR

Well Driller Report and Well Log

NP

THIS REPORT MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL PURSUANT TO ARIZONA REVISED STATUTE 45-600 AND A.A.C. RULE R12-15-808.

PLEASE PRINT CLEARLY USING BLACK OR BLUE INK.

FILE NUMBER

WELL REGISTRATION NUMBER
55 -921201

PERMIT NUMBER (IF ISSUED)

SECTION 1. DRILLING AUTHORIZATION

Drilling Firm

Mail To:

NAME: Bureau of Reclamation
DWR LICENSE NUMBER: 367
ADDRESS: 7301 Calle Agua Salada
TELEPHONE NUMBER: 928-343-8363
CITY / STATE / ZIP: Yuma, AZ 85364
FAX:

SECTION 2. REGISTRY INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL: Bureau of Reclamation
MAILING ADDRESS: 7301 Calle Agua Salada
CITY / STATE / ZIP CODE: Yuma, AZ 85364
CONTACT PERSON NAME AND TITLE: Edward Kromer, Facilities Maintenance Supervisor
TELEPHONE NUMBER: 928-343-8363
FAX:
WELL NAME (e.g., MW-1, PZ-3, Lot 25 Well, Smith Well, etc.): YM-9R2
COUNTY: Yuma
ASSESSOR'S PARCEL ID NUMBER — BOOK: 753 MAP: 37 PARCEL: 301

Location of Well

WELL LOCATION ADDRESS (IF ANY): Yuma Mesa

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
10S	24W	12	NE ¼	SW ¼	SE ¼

LATITUDE			LONGITUDE		
32 ° Degrees	34 ' Minutes	28.94 "N Seconds	114 ° Degrees	40 ' Minutes	16.05 "W Seconds

METHOD OF LATITUDE/LONGITUDE (CHECK ONE)
☐ *GPS: Hand-Held ☒ *GPS: Survey-Grade ☐ TOPO

*LATITUDE/LONGITUDE DATUM, GPS (CHECK ONE)
☒ NAD83 ☐ NAD27 ☐ WGS84 ☐ OTHER _____

METHOD OF ELEVATION (CHECK ONE)
☐ *GPS: Hand-Held ☒ *GPS: Survey-Grade ☐ TOPO

LAND SURFACE ELEVATION AT WELL
ELEVATION 151.65 FEET ABOVE SEA LEVEL

*ELEVATION DATUM (CHECK ONE)
☐ NAVD88 ☒ NGVD29 ☐ OTHER _____

SECTION 3. WELL CONSTRUCTION DETAILS

Drill Method

CHECK ALL THAT APPLY
- ☒ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☒ Dual Rotary
- ☐ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☐ Air Percussion / Odex Tubing
- ☐ Other *(please specify):*

Method of Well Development

CHECK ALL THAT APPLY
- ☒ Airlift
- ☐ Bail
- ☐ Surge Block
- ☐ Surge Pump
- ☐ Other *(please specify):*

Condition of Well

CHECK ONE
- ☐ Capped
- ☒ Pump Installed

Method of Sealing at Reduction Points

CHECK ONE
- ☐ None
- ☒ Packed
- ☐ Swedged
- ☐ Welded
- ☐ Other *(please specify):*

Construction Dates

DATE WELL CONSTRUCTION STARTED: January 23, 2018
DATE WELL CONSTRUCTION COMPLETED: March 23, 2018

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

SIGNATURE OF QUALIFYING PARTY: Robert Smith
DATE: 4/16/18

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 -921201

SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILT) (attach additional page if needed)

Depth

WELL DEPTH		CASING DEPTH	
397	Feet Below Land Surface	397	Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL		DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION
73.4	Feet Below Land Surface	4/16/18	1147	☐ Valve ☐ Other:

Borehole

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	BOREHOLE DIAMETER (inches)
0	195	24
0	397	20

Installed Casing

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	OUTER DIAMETER (inches)	MATERIAL TYPE ( ) STEEL	MATERIAL TYPE ( ) PVC	MATERIAL TYPE ( ) ABS	MATERIAL TYPE ( ) IF OTHER TYPE, DESCRIBE	PERFORATION TYPE ( ) BLANK OR NONE	PERFORATION TYPE ( ) WIRE WRAP	PERFORATION TYPE ( ) SHUTTER SCREEN	PERFORATION TYPE ( ) MILLS KNIFE	PERFORATION TYPE ( ) SLOTTED	PERFORATION TYPE ( ) IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
See attached for installed casing.													

Installed Annular Material

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	ANNULAR MATERIAL TYPE ( ) NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE	BENTONITE CHIPS	BENTONITE PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	FILTER PACK SAND	FILTER PACK GRAVEL	FILTER PACK SIZE
0	20			x								

YM-9R2 Lithologic Log and As-Built Design (ADWR 55-921201)

Bureau of Reclamation
Yuma Area Office
Yuma, Arizona

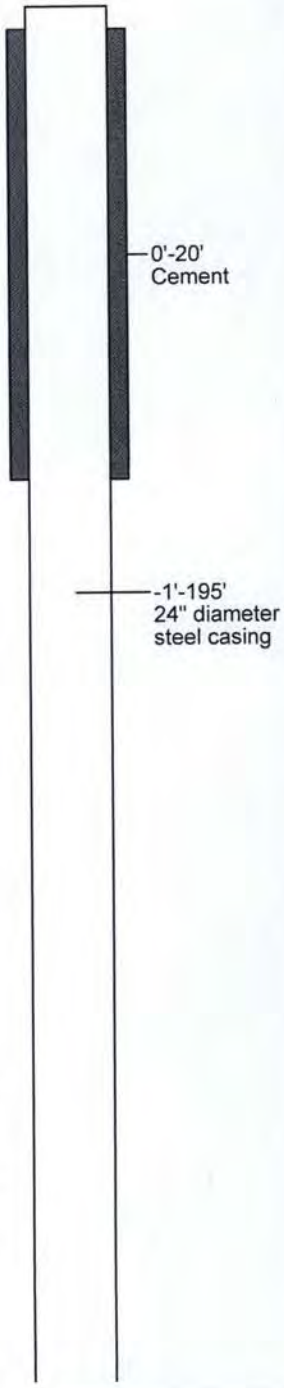
Yuma Mesa

Yuma Mesa Drainage Wellfield

Started	: January 23, 2018	Driller	: USBR (R. Fisarek, W. Nelson)
Completed	: March 23, 2018	Northing	3606339.54m (NAD 27)
Diameter	: 20" O.D. Drive Casing	Easting	: 718695.91m (UTM Zone 11)
Drill Method	: Dual Rotary Casing Advancement	Location	: T.10S R.24W Sec.12 acdd
Log Method	: Cuttings and Drilling Character	Logged By	: Lindsey Upton

Depth in Feet	Surf. Elev. ~152 feet	USCS	GRAPHIC	DESCRIPTION
0	0			***DESCRIPTIONS FROM 0-220' ARE FROM PREVIOUS LOG***
		SP		0 - 47' Poorly Graded Sand (SP)
10	-10			
20	-20			
30	-30			
40	-40			
50	-50	SM		47-51' Poorly Graded Sand with Silt (SP-SM)
		CL		51-54' Lean Clay with Sand (CL)
		SM		54-67' Poorly Graded Sand with Silt (SP-SM)
60				

Well Design: YM-9R2
Surface Elevation: ~152 feet



SIZE DISTRIBUTION / SIEVE ANALYSIS

% D50	% Sand	% Gravel

03-30-2018 T:\2000\2230\Drilling\YM-9R2\As-built\YM-9R2 As-built Well Design.bor

YM-9R2 Lithologic Log and As-Built Design (ADWR 55-921201)

Bureau of Reclamation
Yuma Area Office
Yuma, Arizona

Yuma Mesa

Yuma Mesa Drainage Wellfield

Started	: January 23, 2018	Driller	: USBR (R. Fisarek, W. Nelson)
Completed	: March 23, 2018	Northing	3606339.54m (NAD 27)
Diameter	: 20" O.D. Drive Casing	Easting	: 718695.91m (UTM Zone 11)
Drill Method	: Dual Rotary Casing Advancement	Location	: T.10S R.24W Sec.12 acdd
Log Method	: Cuttings and Drilling Character	Logged By	: Lindsey Upton

Depth in Feet	Surf. Elev. ~152 feet	USCS	GRAPHIC	DESCRIPTION
60	-60	SM		
		SC		67-87' Clayey Sand (SC)
70	-70			
80	-80			
90	-90	SC		87-97' Clayey Sand with Gravel (SC)
		SM		97-107' Poorly Graded Sand with Silt (SP-SM)
100	-100			
110	-110	SC		107-117' Clayey Sand (SC)
		SC		117-137' Clayey Sand with Gravel (SC)
120				

Well Design: YM-9R2
Surface Elevation: ~152 feet

-1'-195'
24" diameter
steel casing

SIZE DISTRIBUTION / SIEVE ANALYSIS

% D50	% Sand	% Gravel

03-30-2018 T:\2000\2230\Drilling\YM-9R2\As-built\YM-9R2 As-built Well Design.bor

YM-9R2 Lithologic Log and As-Built Design (ADWR 55-921201)

Bureau of Reclamation
Yuma Area Office
Yuma, Arizona

Yuma Mesa

Yuma Mesa Drainage Wellfield

Started	: January 23, 2018	Driller	: USBR (R. Fisarek, W. Nelson)
Completed	: March 23, 2018	Northing	3606339.54m (NAD 27)
Diameter	: 20" O.D. Drive Casing	Easting	: 718695.91m (UTM Zone 11)
Drill Method	: Dual Rotary Casing Advancement	Location	: T.10S R.24W Sec.12 acdd
Log Method	: Cuttings and Drilling Character	Logged By	: Lindsey Upton

Depth in Feet	Surf. Elev. ~152 feet	USCS	GRAPHIC	DESCRIPTION
120	-120	SC		
130	-130			
140	-140	SC		137-145' Clayey Sand (SC) Organic layer (decomposed wood fragments) at about 140 feet
150	-150	CH		145-155' Fat Clay (CH)
160	-160	SM		155-165' Silty Sand (SM)
170	-170	SP		165-175' Poorly Graded Sand (SP)
180		SP		175-200' Poorly Graded Sand with Gravel (SP)

Well Design: YM-9R2
Surface Elevation: ~152 feet

-1'-195'
24" diameter
steel casing

SIZE DISTRIBUTION / SIEVE ANALYSIS

% D50	% Sand	% Gravel

03-30-2018 T:\2000\2230\Drilling\YM-9R2\As-built\YM-9R2 As-built Well Design.bor

YM-9R2 Lithologic Log and As-Built Design (ADWR 55-921201)

Bureau of Reclamation
Yuma Area Office
Yuma, Arizona

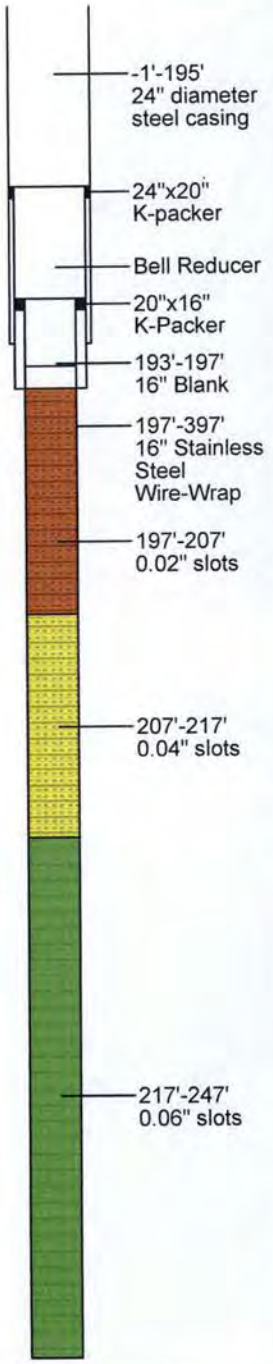
Yuma Mesa

Yuma Mesa Drainage Wellfield

Started	: January 23, 2018	Driller	: USBR (R. Fisarek, W. Nelson)
Completed	: March 23, 2018	Northing	3606339.54m (NAD 27)
Diameter	: 20" O.D. Drive Casing	Easting	: 718695.91m (UTM Zone 11)
Drill Method	: Dual Rotary Casing Advancement	Location	: T.10S R.24W Sec.12 acdd
Log Method	: Cuttings and Drilling Character	Logged By	: Lindsey Upton

Depth in Feet	Surf. Elev. ~152 feet	USCS	GRAPHIC	DESCRIPTION
180	-180			
190	-190	SP		
200	-200	GW		200-210' Well Graded Gravel with Sand (GW) Gradations data from 180 to 220 feet from YM-9R samples (12/2014)
210	-210	GP		210-220' Poorly Graded Gravel with Sand (GP)
220	-220	GW		220-250' Well Graded Gravel with Sand (GW) VISUAL: 241.6-251': GW - fine-coarse, rounded-subrounded gravel with <15% greyish-brown sand.
230	-230			
240				

Well Design: YM-9R2
Surface Elevation: ~152 feet



SIZE DISTRIBUTION / SIEVE ANALYSIS		
% D50	% Sand	% Gravel
0.017	78.5	21.4
0.340	27.6	72.2
0.219	45.0	54.8
0.309	31.3	68.6
0.345	26.2	73.6

03-30-2018 T:\2000\2230\Drilling\YM-9R2\As-built\YM-9R2 As-built Well Design.bor

YM-9R2 Lithologic Log and As-Built Design (ADWR 55-921201)

Bureau of Reclamation
Yuma Area Office
Yuma, Arizona

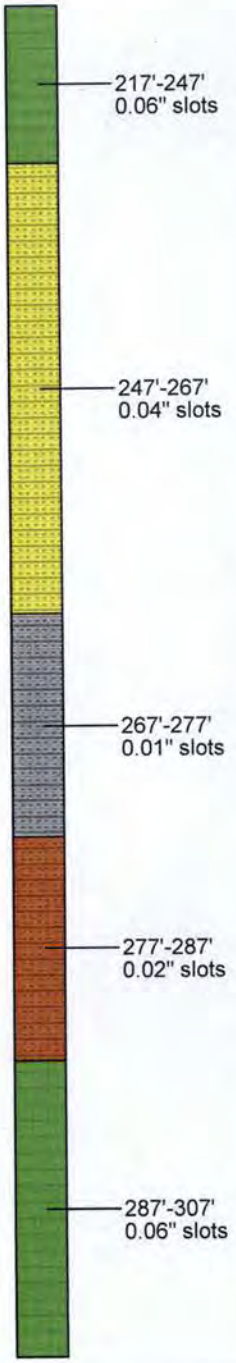
Yuma Mesa

Yuma Mesa Drainage Wellfield

Started	: January 23, 2018	Driller	: USBR (R. Fisarek, W. Nelson)
Completed	: March 23, 2018	Northing	3606339.54m (NAD 27)
Diameter	: 20" O.D. Drive Casing	Easting	: 718695.91m (UTM Zone 11)
Drill Method	: Dual Rotary Casing Advancement	Location	: T.10S R.24W Sec.12 acdd
Log Method	: Cuttings and Drilling Character	Logged By	: Lindsey Upton

Depth in Feet	Surf. Elev. ~152 feet	USCS	GRAPHIC	DESCRIPTION
240	-240	GW		
250	-250	SP		250-260' Poorly Graded Sand with Gravel (SP) VISUAL: 255-260': SP, fine, greyish-brown, with trace gravel; 255-260: SP, mostly fine greyish-brown sand mixed with coarse sand with ~15% fine gravel.
260	-260	GW		260-270' Well Graded Gravel with Sand (GW) VISUAL: 260-270': GW - fine-coarse, round-subround gravel (max size 2") with ~15% mostly med-coarse sand.
270	-270	SP		270-280' Poorly Graded Sand (SP) VISUAL: 270-281': SP, fine, greyish-brown.
280	-280	GP		280-290': Poorly Graded Gravel with Sand (GP) VISUAL: 281-285': GP, fine gravel, rounded-subangular (max size 1.5") with ~30% med-coarse sand; 285-289': GP, mostly fine gravel (max size 1.5") with ~15% fine-coarse sand; 289-295': GP, fine gravel with trace coarse gravel, round-subround (max size 1.5") with ~20% fine-coarse sand.
290	-290	GW		290-300' Well Graded Gravel with Sand (GW) VISUAL: 295-300': SP, fine, greyish-brown with ~15% fine-coarse gravel (max size 1.5")
300				

Well Design: YM-9R2
Surface Elevation: ~152 feet



SIZE DISTRIBUTION / SIEVE ANALYSIS	% D50	% Sand	% Gravel
217'-247' 0.06" slots	0.237	44.0	55.8
247'-267' 0.04" slots	0.131	53.5	46.2
267'-277' 0.01" slots	0.245	41.0	58.8
277'-287' 0.02" slots	0.010	97.0	2.8
287'-307' 0.06" slots	0.245	39.8	60.1
	0.201	47.3	52.5

03-30-2018 T:\2000\2230\Drilling\YM-9R2\As-built\YM-9R2 As-built Well Design.bor

YM-9R2 Lithologic Log and As-Built Design (ADWR 55-921201)

Bureau of Reclamation
Yuma Area Office
Yuma, Arizona

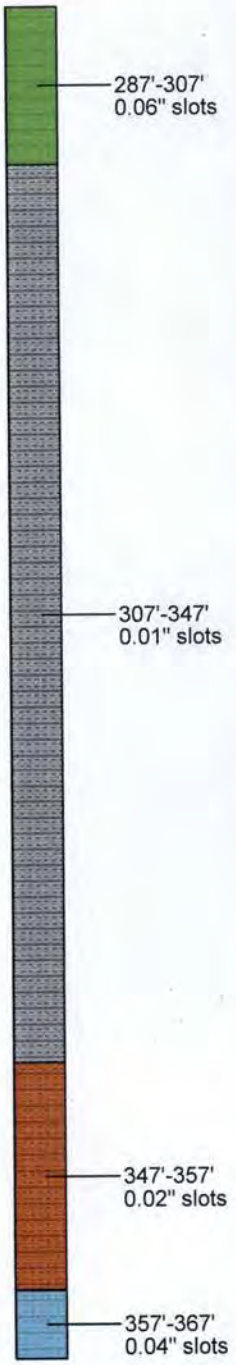
Yuma Mesa

Yuma Mesa Drainage Wellfield

Started	: January 23, 2018	Driller	: USBR (R. Fisarek, W. Nelson)
Completed	: March 23, 2018	Northing	3606339.54m (NAD 27)
Diameter	: 20" O.D. Drive Casing	Easting	: 718695.91m (UTM Zone 11)
Drill Method	: Dual Rotary Casing Advancement	Location	: T.10S R.24W Sec.12 acdd
Log Method	: Cuttings and Drilling Character	Logged By	: Lindsey Upton

Depth in Feet	Surf. Elev. ~152 feet	USCS	GRAPHIC	DESCRIPTION
300	-300	GP		300-310' Poorly Graded Gravel with Sand (GP) VISUAL: 300-307': SW, fine-coarse sand with ~15% fine-coarse, rounded-subrounded gravel (max size 1.5"); 307-315': SP, fine, greyish-brown with trace fine gravel.
310	-310	SP		310-330' Poorly Graded Sand (SP) VISUAL: 315-320': SP, fine, greyish-brown; 320-335': SP, very fine, greyish-brown.
320	-320			
330	-330	SP		330-340': Poorly Graded Sand with Gravel (SP) VISUAL: 335-337': GP with sand. Mostly fine gravel (max size 1.5") with a few coarse gravels and 30-40% fine-coarse sand; 337-345': SP, fine, greyish-brown with trace fine gravel.
340	-340	SP		340-350': Poorly Graded Sand (SP) VISUAL: 345-346': SP-SC, fine, greyish-brown with ~10% CL rip-up and 10-15% fine gravel; 346-351': SP-SM, fine, greyish-brown with 10-15% fine gravel (most <.75").
350	-350	GW		350-360': Well Graded Gravel with Sand (GW) VISUAL: 351-355': GP with coarse sand, fine gravel, rounded (max size .75") with 10-15% silty sand; 355-362': GP, fine, rounded-subrounded with trace coarse gravels (~5%).
360				

Well Design: YM-9R2
Surface Elevation: ~152 feet



SIZE DISTRIBUTION / SIEVE ANALYSIS		
% D50	% Sand	% Gravel
0.205	47.3	52.6
0.017	84.5	15.1
0.010	97.3	2.0
0.022	77.1	22.3
0.014	97.3	2.0
0.259	37.4	62.5

03-30-2018 T:\2000\2230\Drilling\YM-9R2\As-built\YM-9R2 As-built Well Design.bor

YM-9R2 Lithologic Log and As-Built Design (ADWR 55-921201)

Bureau of Reclamation
Yuma Area Office
Yuma, Arizona

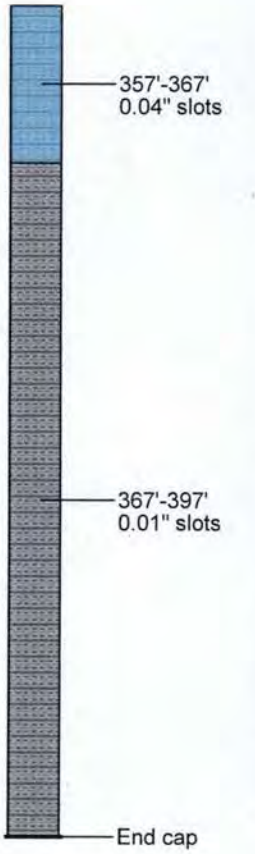
Yuma Mesa

Yuma Mesa Drainage Wellfield

Started	: January 23, 2018	Driller	: USBR (R. Fisarek, W. Nelson)
Completed	: March 23, 2018	Northing	3606339.54m (NAD 27)
Diameter	: 20" O.D. Drive Casing	Easting	: 718695.91m (UTM Zone 11)
Drill Method	: Dual Rotary Casing Advancement	Location	: T.10S R.24W Sec.12 acdd
Log Method	: Cuttings and Drilling Character	Logged By	: Lindsey Upton

Depth in Feet	Surf. Elev. ~152 feet	USCS	GRAPHIC	DESCRIPTION
360	-360	SW		360-370': Well Graded Sand with Gravel (SW) VISUAL: 362-365': SP, fine, greyish-brown with fine gravel, rounded-subrounded; 365-370': SW with fine gravel (~.5") and trace coarse gravel.
370	-370	SP		370-380': Poorly Graded Sand with Gravel (SP) VISUAL: 370-374': SP, fine, greyish-brown with ~15% fine gravel; 374-395': SP, fine, greyish-brown with trace gravel.
380	-380	SP		380-396': Poorly Graded Sand (SP)
390	-390			
400	-400			396': BOTTOM OF BOREHOLE
410	-410			
420				

Well Design: YM-9R2
Surface Elevation: ~152 feet



SIZE DISTRIBUTION / SIEVE ANALYSIS		
% D50	% Sand	% Gravel
0.181	50.5	49.3
0.014	84.9	14.7
0.011	85.2	13.5
0.013	97.2	2.2

03-30-2018 T:\2000\2230\Drilling\YM-9R2\As-built\YM-9R2 As-built Well Design.bor

EXHIBIT B

INDIAN OWNED ECONOMIC ENTERPRISE QUALIFICATION STATEMENT

The Undersigned certifies under oath the truth and correctness of all responses set out below as follows:

1. Name of Enterprise: _____

   Address: _____

   Telephone #: _____

2. Check one:

   _____ Corporation
   _____ Partnership
   _____ Sole Proprietorship
   _____ Joint Venture
   _____ Other:

3. Answer the following:

   A. If a Corporation:

      i. Date of incorporation: _____

      ii. State of incorporation: _____

      iii. Name & address of statutory agent: _____

      _____

      _____

      iv. Give the name and address of the officers and members of the Board of Directors of this Corporation and establish whether they are Indian (I) or Non-Indian (NI). Proof of Tribal Membership in a federally recognized Indian Tribe is required for all responses.

Name and Social Security No.	I or NI	Title	Address	% of Stock Ownership
		President		
		Vice-President		
		Sec/Clerk		
		Treasurer		

v. Complete the following information on all stockholders who are not listed above, owning 5% or more of the stock. Establish whether they are Indian (I) or Non-Indian (NI).

Name and Social Security No.	I or NI	Address	% of Stock Ownership

B. If a Sole Proprietorship or Partnership:

i. Date of Organization: _____

ii. Give the following information on the individual or partners and establish whether they are Indian (I) or Non-Indian (NI).

Name and Social Security No.	I or NI	Address	% of Stock Ownership

C. If a Joint Venture:

i. Date of Joint Venture Agreement: _____

ii. Attach the information for each member of the joint venture prepared in the appropriate format given above.

4. Give the name, address, and telephone number of the principle spokesperson of your organization:

_____

_____

5. Has this enterprise been certified as an Indian Owned Economic Enterprise by any government or Tribal agency to qualify for special consideration under Indian preference contract clauses, or been awarded contracts by any government or Tribal agency based on Indian preference consideration?

_____

Yes _____ No _____

A. If yes, complete:

Contract Date	Contracting Agency	Contract No.	Location of Work

6. Will any officer or partner listed in #3 be engaged in outside employment?

Yes _____ No _____

A. If yes, complete:

Name	Outside Employment	Hours/Week

7. Does this enterprise have any subsidiaries or affiliates or is it a subsidiary or affiliate of another concern?

Yes _____ No _____

A. If yes, complete:

Name and address of subsidiary affiliate or other concern	Description of Relationship

8. Does this enterprise or any person listed in #3 above have or intended to enter into any type of agreement with any other concern or person which relates to or affects the on-going administration, management or operations of this enterprise? These include but are not limited to management, and joint venture agreements and any arrangement or contract involving the provision of such compensated services as administrative assistance, data processing, management consulting of all types, marketing, purchasing, production and other type of compensated assistance.

Yes _____ No _____

A. If yes, attach a copy of any written agreement or an explanation of any oral or intended agreement.

9. Attach certification by a Tribe or other evidence of enrollment in a federally recognized Tribe for each officer, partner or individual designated as an Indian in #3.

10. Attach a certified copy of the charter, articles of incorporation, by-laws, partnership agreement, joint venture agreement and/or other pertinent organizational documentation.

11. Explain in narrative form the stock ownership, structure, management, control, financing, and salary or profit sharing arrangements of the enterprise, if not covered in answers to specific questions heretofore. Attach copies of all shareholder agreements, including voting trust, employment contracts, agreements between owners and enterprise. Include information on salaries, fees, profit sharing, material purchases, and equipment lease or purchase agreements. Evidence relating to structure, management, control, and financing should be specifically included. Also, list the specific management responsibilities of each principal, sole proprietor, partner, or party to a joint venture (as appropriate) listed in response to #3.

NOTE:

- ✧ Omission of any information may be cause for rejection of claim for Indian Preference.
- ✧ The persons signing below certify that all information in this INDIAN OWNED ECONOMIC ENTERPRISE QUALIFICATION STATEMENT, including exhibits and attachments, is true and correct.
- ✧ Print and type name below all signatures.

If applicant is Sole Proprietor, Sign Below:

_____ _____

Name Date

If applicant is in a Partnership or Joint Venture, all Partners must sign below:

_____ _____

Name Date

_____ _____

Name Date

If applicant is a Corporation, affix corporate seal:

_____ _____

Corporate Seal Date

By: _____

President's Signature

Attested by: _____

Corporate Secretary's Signature

WARNING:

U.S. Criminal Code, Section 1010, Title 18, U.S.C. provides in part: "Whoever...makes, passes, utters, or publishes any statement, knowing the same to be false...shall be fined not more than $5000 or imprisoned not more than two years, or both."

COCOPAH INDIAN TRIBE

Cocopah Indian Reservation

Public Works Department

9803 W. Veterans Place
SOMERTON, ARIZONA 85350
Phone (928) 627-0616
FAX (928) 627-3173

PH21-V99; WA12-23
CONSTRUCTION OF WATER SYSTEM WELL NO. 4
INVITATION FOR BIDS

ADDENDUM #1
ISSUE DATE: MAY 22, 2023

1. Modify Bid Table in EJCDC C-410, page 2 of 6 (Bid Form for Construction Contracts) as follows:

DELETE THE ENTIRE PAGE:

REPLACE IT WITH THE FOLLOWING NEW PAGE:

BID TABLE (Addendum #1)
Cocopah Indian Tribe
Construction of Water System Well No. 4, Yuma County, Arizona
PH21-V99; WA12-23

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1	Mobilization / Demobilization	ea	1		
2	Sound Mitigation	lf	150		
3	Surface casing construction	ea	1		
4	16-inch borehole	lf	266		
5	Geophysical logging	ea	1		
6	8.625-inch OD 304 stainless steel (SS) Schedule 40 blank well casing (A778), bull nose bottom cap	lf	180		
7	8.7-inch OD (8P), Hi-Flow 304 SS wire-wrap screen casing, 0.080-in. slots	lf	120		
8	2.375-inch (OD) 304 SS Schedule 10 gravel feed tube	lf	160		
9	Installation of blank and screen casing	lf	300		
10	Installation of gravel tube	lf	160		
11	Bentonite seal(s)	cf	12		
12	6x9 silica sand filter pack	tn	10		
13	Filter pack disinfection	ea	1		
14	Cement grout	cy	7		
15	Clay dispersant sit time (24 hours)	ea	1		
16	Swab and airlift rig development	hr	40		
17	Furnish pump/motor, installation, and removal test pumping, monitoring, and ancillary equipment	ea	1		
18	Pump development	hr	24		
19	Aquifer testing	hr	40		
20	Plumbness survey (gyroscope) and alignment test	ea	1		
21	Well video survey	ea	1		
22	Lost circulation (Owner contingency)	hr	24		
23	16-inch borehole abandonment (Owner contingency)	lf	305		
			TOTAL BASE BID AMOUNT: (Total of All Unit Price Bid Items)		

ea - each
lf - linear feet
cf - cubic feet
cy - cubic yards
hr - hour

Copyright© 2018 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

2. Add the following new paragraph after Supplementary Conditions SC-19.12.A:

B. Federal Wage Rate Determination for this project is shown in Exhibit C as updated as part of this Addendum #1.

3. Modify the following paragraph in Technical Specification Section 2.1 General:

DELETE THE FOLLOWING PARAGRAPH:

CONTRACTOR shall prepare the site including establishing access as required to perform the work and may include temporary removal of existing chain link fencing. CONTRACTOR must be aware of the potential for theft and vandalism of its equipment and materials. CONTRACTOR is solely responsible for well site security for the duration of the project. Staging of equipment and materials outside of the existing fenced perimeter of the water treatment site is prohibited. Removal of any existing fencing may require CONTRACTOR to install temporary fencing for site safety and security.

REPLACE IT WITH THE FOLLOWING PARAGRAPH:

CONTRACTOR shall prepare the site including establishing access as required to perform the work and may include temporary removal of existing chain link fencing. CONTRACTOR must be aware of the potential for theft and vandalism of its equipment and materials. CONTRACTOR is solely responsible for well site security for the duration of the project. If Staging of equipment and materials outside of the existing fenced perimeter of the water treatment site is necessary, the CONTRACTOR shall install temporary fencing for the site safety and security around the equipment and maintain existing fencing around the existing water treatment plant facilities to provide a secure project site throughout the duration of the project. At the conclusion of the project, the CONTRACTOR shall restore the existing site fencing back to its original condition or better.

4. Modify the following paragraph in Technical Specification Section 2.3 Discharge:

DELETE THE FOLLOWING PARAGRAPH:

CONTRACTOR is responsible to determine the appropriate method and location for disposal of the discharge water with approval of OWNER, ENGINEER, and CONSULTANT. CONTRACTOR is also responsible for coordination of any permits and other requirements, such as traffic barriers, and/or signs that may be necessary. CONSULTANT will verify that disposal of test waters is in accordance with State, County, Tribe, or Federal regulations.

REPLACE IT WITH THE FOLLOWING PARAGRAPHS:

CONTRACTOR is responsible to determine the appropriate method and location for disposal of the discharge water with approval of OWNER, ENGINEER, and CONSULTANT. CONTRACTOR is also responsible for coordination of any permits and other requirements, such as traffic barriers, and/or signs that may be necessary. An alternative discharge location has been approved by the Tribe and is shown in Figure 2A (Dated: 05-19-2023) as updated as part of this Addendum #1.

The Tribe will require the following minimum amount of traffic control signage at or near the project site: two Men Working signs (36"x36") on both sides of the road on Salt Cedar St. before the water plant and two Men Working signs on both sides of road in front of water plant in front of construction site. The CONTRACTOR may incorporate additional traffic controls measures, at the CONTRACTORS own expense, to assure safe traffic conditions around the project site.

CONSULTANT will verify that disposal of test waters is in accordance with State, County, Tribe, or Federal regulations.

5. Add the following new paragraph after Technical Specification Section 2.4.1:

2.5 SOUND MITIGATION

Due to the well location's proximity to residential properties, CONTRACTOR shall be required to install sound control and mitigation equipment. CONTRACTOR shall take appropriate measures to control the transmission of airborne sound to the residential properties surrounding the site. Equipment that makes sound that has the potential to disturb the peace shall be controlled by CONTRACTOR using mufflers (if appropriate) and other sound control equipment. CONTRACTOR shall use air compressors and generators designed to operate quietly. Sound from trash pumps shall be controlled by installing a temporary sound barrier around the trash pump (for example) using pallets and sound blankets.

Sound barriers will need to be installed along the eastern and southern boundaries of the site. Approximately 150 feet of sound barriers shall be installed. Sound barriers shall include insulated sound blankets and/or acoustic foam (or equivalent material) and be specifically designed to reduce the transmission of sound. The sound barriers shall be a minimum of 16 feet high and designed to function safely in windy conditions. CONTRACTOR shall be required to maintain the sound barriers. CONTRACTOR shall be responsible for CONTRACTOR costs associated with sound barrier maintenance.

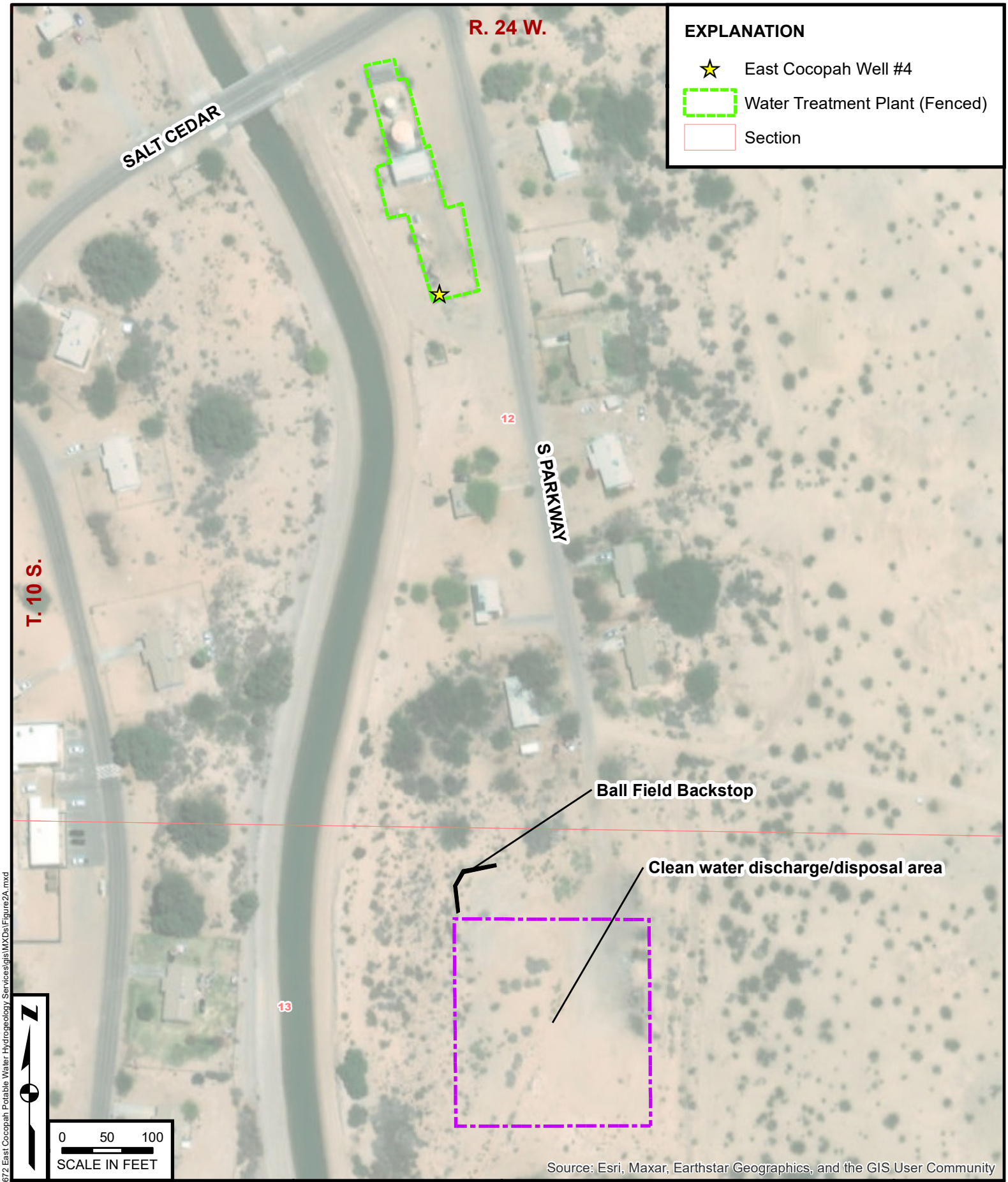
6. Add the following language immediately after Technical Specification Section 3.1:

The rates for construction water from the Cocopah Public Works Department are $3.66 per 1000 gallons after the first 5000 gallons. The first 5000 gallons are free. A connection fee of $25 shall be waived by the Tribe.

7. Add the following language immediately after Technical Specification Section 8.3:

An alternative discharge location has been approved by the Tribe and is shown in Figure 2A (Dated: 05-19-2023) as updated as part of this Addendum #1.

8. Add the following new Figure 2A after Figure 2:



S:\MyDocs\SCCPRJ\2022\22-0672 East Cocopah Potable Water Hydrogeology Services\gis\MXDs\Figure2A.mxd

COCOPAH INDIAN RESERVATION
HYDROLOGY SERVICES
WELL SITING STUDY
EAST COCOPAH WATER SYSTEM

MATRIXNEWORLD
Engineering Progress
Matrix New World Engineering, Land Surveying and Landscape Architecture, P.C.
3033 North 44th Street, Suite 270
Phoenix, AZ 85018
Tel: 602-955-5547
Fax: 602-955.7585
Certified WBE
www.mnwe.com

EAST COCOPAH WELL NO. 4 SITE MAP
SOMERTON, ARIZONA

DRAWN BY:	APPROVED BY:	PROJECT NUMBER:
BM	KH	22-0672
DATE: 05-22-2023	DATE: 05-22-2023	

FIGURE NUMBER:
2A

9. Add the following new Exhibit C after Exhibit B:

EXHIBIT C

FEDERAL WAGE RATE DETERMINATION

"General Decision Number: AZ20230021 01/06/2023

Superseded General Decision Number: AZ20220021

State: Arizona

Construction Type: Heavy
HEAVY CONSTRUCTION, Includes Water and Sewer Lines and Heavy Construction on Treatment Plant Sites

County: Yuma County in Arizona.

HEAVY CONSTRUCTION PROJECTS (DOES NOT INCLUDE DAM CONSTRUCTION)

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2023

CARP0408-006 07/01/2022

	Rates	Fringes
CARPENTER (Excludes Form Work)	$ 32.90	13.62

ELEC0570-009 12/01/2022

	Rates	Fringes
ELECTRICIAN	$ 30.38	18%+6.00

ZONE DEFINITIONS-

Zone A: the area within a thirty-nine (39) mile radius from a base point at the Tucson Town Hall.
Zone B: 40 to 74 mile radius from the town hall in Tucson- an additional $ 3.50 per hour
Zone C: 75 mile radius from the town hall in Tucson to the outer limits of the geographic jurisdiction- an additional $ 7.50 per hour

---

ENGI0428-011 06/01/2022

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Group 1	$ 30.14	12.57
Group 2	$ 33.41	12.57
Group 3	$ 34.49	12.57

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Small Self-Propelled Compactor (with blade), Bobcat/Skidsteer/Skid Loader, Oiler

GROUP 2: Self-Propelled Compactor (with blade), Bulldozer, Grader/Blade (rough), Scraper

GROUP 3: Grader/Blade (finish)

PAIN0086-002 04/01/2017

	Rates	Fringes
PAINTER (Brush Only)	$ 19.58	6.40

SUAZ2012-010 05/17/2012

	Rates	Fringes
BRICKLAYER	$ 21.00	0.00
CARPENTER (Form Work Only)	$ 22.50	5.97
CEMENT MASON/CONCRETE FINISHER	$ 17.83	3.45
IRONWORKER, REINFORCING	$ 20.66	13.59
IRONWORKER, STRUCTURAL	$ 20.59	13.85
LABORER: Asphalt Raker/Shoveler/Spreader	$ 15.76 **	4.42
LABORER: Common or General	$ 16.00 **	0.00
LABORER: Concrete Saw (Hand Held/Walk Behind)	$ 17.00	4.55
LABORER: Grade Checker	$ 18.14	4.55
LABORER: Mason Tender - Cement/Concrete	$ 12.91 **	0.00
LABORER: Pipelayer	$ 14.52 **	2.35
LABORER: Power Tool Operator	$ 16.55	4.20
OPERATOR: Backhoe/Excavator/Trackhoe	$ 18.14	2.31
OPERATOR: Crane	$ 20.76	4.42

OPERATOR: Drill.....$ 23.99 7.60

OPERATOR: Forklift.....$ 19.86 4.75

OPERATOR: Loader (Front End)....$ 18.25 4.58

OPERATOR: Mechanic.....$ 17.41 4.03

OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....$ 17.07 3.20

OPERATOR: Roller.....$ 21.13 8.36

OPERATOR: Screed.....$ 16.82 2.52

OPERATOR: Tractor.....$ 24.43 7.70

OPERATOR: Trencher.....$ 16.11 ** 2.25

OPERATOR: Broom/Sweeper.....$ 15.40 ** 2.45

PAINTER: Pavement Marking/Parking Lot Striping.....$ 19.94 4.10

PAINTER: Roller and Spray.....$ 20.65 4.45

PIPEFITTER.....$ 27.00 12.03

TRUCK DRIVER: Dump Truck.....$ 14.43 ** 1.16

TRUCK DRIVER: Flatbed Truck.....$ 16.84 3.51

TRUCK DRIVER: Water Truck.....$ 14.10 ** 2.21

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($16.20) or 13658 ($12.15). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this

contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate

changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination

* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

==========

END OF GENERAL DECISIO"

END OF ADDENDUM #1