

PROJECT MANUAL

FOR

**WATER TREATMENT PLANT
IMPROVEMENTS**

REHABILITATION OF EXISTING FILTERS

FOR THE

CITY OF EDINBURG



JUNE 2021

City of Edinburg
415 W. University Drive
Edinburg, Texas 78539
(956) 388-8211

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City of Edinburg
415 W. University Drive
Edinburg, Texas 78539
(956) 388-8211

Document 00001

TITLE SHEET
PROJECT MANUAL
FOR
WATER TREATMENT PLANT IMPROVEMENTS
REHABILITATION OF EXISTING FILTERS
FOR

CITY OF EDINBURG, TEXAS

PROJECT ENGINEER

Cruz-Hogan Consultants, Inc.
Orlando Cruz, P.E. Date



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Handwritten signature and notes:
P.E.
JUNE 28, 2021
Firm Reg # F-4860

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Document 00003

TABLE OF CONTENTS

<u>Document</u>	<u>Title</u>	<u>No. of Pages</u>
INTRODUCTORY INFORMATION		
00001	Title Sheet.....	2
00003	Table of Contents.....	2
00004	List of Drawings	2
00010	Request For Proposals	13
00020	Notice to Bidders.....	4
00100	Instruction to Bidders	8
BIDDING REQUIREMENTS		
BID FORMS		
00300	Intent to Respond.....	2
00310	Form of Proposal	4
SUPPLEMENTS TO BID FORMS		
00405	Schedule of Unit Price Work.....	2
00411	Bid Bond.....	4
00420	Statement of Bidders Qualifications.....	12
00423	Certificate of Bidder's Experience & Qualifications.....	2
00425	Equipment & Material Suppliers List	4
00429	Non-Bribery Model Form.....	2
00460	Noncollusion Affidavit.....	2
00470	Conflict of Interest Disclosure	4
POST-BID PROCEDURES		
00450	Post Bid Procedures	2
CONTRACT FORMS		
00500	Agreement	10
00510	Notice of Award.....	3
00550	Notice to Proceed	2
00610	Performance Bond	4
00620	Payment Bond	4
00625	Affidavit of Insurance	2
00630	Forms of Business	2
00631	Resolution of Corporation	2
00632	Contractor's Resolution on Authorized Representative	2
00635	Contractor's Act of Assurance	2
00640	Certification Regarding Department Suspension and Other Responsibility Matters.....	2

CONDITIONS OF THE CONTRACT

GENERAL

00700 General Conditions 71

SUPPLEMENTARY CONDITIONS

00800 Supplementary Conditions 10

00830 Warranty 3

ADDENDA

00900 Addenda (For filing) 4

00910 Modifications 2

(For filing) Documents listed "for filing" are to be provided by the Bidder and are not included in this Project Manual unless indicated for example only. The Document numbers and titles hold places for actual documents to be submitted by the Contractor during the bid, post-bid, or construction phase of the Project.

*1 For newspaper publication; not included as part of Project Manual.

SPECIFICATIONS

DIVISION 1 - GENERAL REQUIREMENTS

01021 – GENERAL CONSTRUCTION REQUIREMENTS 2

01070 – CUTTING AND PATCHING 2

01300 – DOCUMENTATION REQUIREMENTS 3

01320 – SCHEDULE 1

01400 – QUALITY CONTROL 2

01600 – MATERIALS AND EQUIPMENT 3

01890 – PROJECT CLOSEOUT 1

DIVISION 3 – CONCRETE

03100 – STRUCTURAL CONCRETE FORMWORK 4

03200 – CONCRETE REINFORCEMENT 3

03250 – CONCRETE JOINTS AND EMBEDDED ITEMS 6

03300 – CAST-IN-PLACE CONCRETE 13

03605 – NON-SHRINK GROUT 4

DIVISION 15 – MECHANICAL

15200 – FILTER UNDERDRAIN SYSTEM 9

END OF DOCUMENT

Document 00004

LIST OF DRAWINGS

The list of Drawings is provided on the Sheet Index page for WATER TREATMENT PLANT IMPROVEMENTS – REHABILITATION OF EXISTING FILTERS plans.

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REQUEST FOR BIDS

The City of Edinburg is soliciting sealed bids to be received by the City Secretary's Office located at 415 W. University Drive, Edinburg, Texas 78541. City of Edinburg normal business days are Monday through Friday between the hours of 7:30 a.m. to 5:30 p.m. and shall be closed on recognized holidays.

Bids will be received until **3:00 p.m. Central Time**, on **Monday, August 23, 2021**, shortly thereafter all submitted bids will be gathered and taken to the Edinburg City Hall Community Room, 1st Floor, to be publicly opened and read aloud. Any bid received after the closing time will not be accepted and will be returned to the bidder unopened. It is the responsibility of the bidder to see that any bid submitted shall have sufficient time to be received by the City Secretary's Office prior to the bid opening date and time. A **site visit** will be held on Monday, August 16, 2021 at 9:00 a.m. at the Downtown Water Plant located at 500 East Mahl, Edinburg, Texas 78539. A **pre-bid meeting** will be held on Tuesday, August 17, 2021 at 3:00 p.m. at the Edinburg City Hall Community Room, 1st Floor. The receiving time in the City Secretary's Office will be the governing time for acceptability of the bids. Bids will not be accepted by telephone or facsimile machine. All bids must bear original signatures and figures. The Bid shall be for:

RFP NO. 2021-012 WATER TREATMENT PLANT IMPROVEMENTS REHABILITATION OF EXISTING FILTERS

This project is being funded in whole or in part by the City of Edinburg. Bidders on the work will be required to comply with the President's Executive Order No. 11236 and Order No. 11375 which prohibits discrimination in employment regarding race, creed, color, sex, or national origin. Bidder must comply with the Title VI of the Civil Rights Act of 1964, Section 504, Minority and Women Owned Business Enterprise standards, affirmative action requirements, the Davis-Bacon and Related Acts, the Copeland "Anti-Kickback" Act, the Contract and Work Hours and Safety Standards Act, Federal Labor Standards Provisions HUD-4010, and all contract provisions listed in 24 CFR Part 85.36(i). **Bidder shall be responsible for downloading the Fair Standard Provisions from the City's website at:**

http://cityofedinburg.com/departments/finance/open_bid_notices.php

Prospective contractors/ subcontractors shall be registered in the SAM System for Award Management database prior to award of a contract or agreement. Registration can be completed at www.sam.gov. All contractors and/or subcontractors who are debarred, suspended, or otherwise excluded from or ineligible for participation on federal assistance programs may not undertake any activity in part or in full under this project.

"The City of Edinburg is an Equal Employment Opportunity Employer"

If you have any questions or require additional information regarding this bid, you may contact LORENA FUENTES, PURCHASING AGENT, LOCATED AT 415 W. UNIVERSITY DRIVE, Edinburg, TX 78541 by calling (956) 388-1895 or via e-mail to the following e-mail address: lfuentes@cityofedinburg.com.

The City of Edinburg reserves the right to refuse and reject any or all bids and to waive any or all formalities or technicalities and to accept the bid deemed most advantageous to the City, and hold the bids for a period of **90** days without taking action.

Bids must be submitted in an envelope sealed with tape and prominently marked on the lower left hand corner of the bid envelope with corresponding bid number and title.

CITY OF EDINBURG INSTRUCTIONS TO BIDDERS

DEVIATION FROM SPECIFICATION

Please read your specifications/requirements thoroughly and be sure that the SERVICES offered comply with all specifications/requirements. Any variation from the specifications/requirements must be clearly indicated by letter attached to your bid referencing variations on a point-by-point basis. If no exceptions are noted, and you are the successful bidder, it will be required that the SERVICES be provided as specified.

PURPOSE

1. The purpose of these specifications/requirements and bidding documents is for the **WATER TREATMENT PLANT IMPROVEMENTS-REHABILITATION OF EXISTING FILTERS** for the City of Edinburg.

2. The SERVICES to be furnished under this bid shall be as specified in these bid documents. All specifications/requirements shown are minimum. There is no intention to disqualify any bidder who can meet these specifications/requirements.

SUBMITTAL OF BID

Bids will be submitted in sealed envelopes upon the blank bid form attached hereto. Submit three (3) complete sets of the bid, one (1) original marked "**ORIGINAL**," and two (2) copy marked "**COPY**". Each bid must be completely filled out and SUBMITTED IN ORIGINAL FORM, complete with all supporting documentation. Bids submitted by facsimile (fax) or electronically will **NOT** be accepted. Submittal of a bid in response to this solicitation for Bids constitutes an offer by the Bidder. Bids which do not comply with these specifications/requirements may be rejected at the option of the City. Bids must be filed with the City of Edinburg, before opening day and hour. No late Bids will be accepted. They will be returned to Bidder unopened (if properly identified).

If Hand-delivering Bids: 415 West University Drive, c/o City Secretary Department (1st Floor)
If using Land Courier (i.e., FedEx, UPS): 415 West University Drive, c/o City Secretary Department (1st Floor), Edinburg,
Texas 78541
If Mailing Bids: P.O. Box 1079, Edinburg, TX 78540-1079

PREPARATION OF BID

Bids **MUST** give full firm name and address of bidder, and be manually signed. Failure to do so will disqualify your bid. Person signing bid must show title or AUTHORITY TO BIND HIS/HER FIRM IN A CONTRACT.

Firm name and authorized signature must appear on each page that calls for this information. The legal status of the Respondent/Bidder whether corporation, partnership, or individual, shall also be stated in the bid. A corporation shall execute the bid by its duly authorized officers in accordance with its corporate by-laws and shall also list the state in which it is incorporated. A partnership Respondent/Bidder shall give full names and addresses of all partners. All partners shall execute the bid. Partnership and Individual Respondent/Bidder shall state in the bid the names and addresses of all persons with a vested interest therein. The place of residence of each Respondent/Bidder, or the office address in the case of a firm or company, with county and state and telephone number, shall be given after the signature.

ALTERATIONS/AMENDMENTS TO BID

Bids **CANNOT** be altered or amended after opening time. Alterations made before opening time must be initialed by bidder guaranteeing authenticity. No bid may be withdrawn after opening time without acceptable reason in writing and only after approval by the City of Edinburg.

INSTRUCTIONS TO BIDDERS (Continued):

SALES TAX

State sales tax must not be included in the bid.

SUBSTITUTIONS

No substitutions or cancellations will be permitted without written approval of City of Edinburg.

NO BID RESPONSE

If unable to submit a bid, bidder should return inquiry giving reasons.

EXCEPTIONS

Any additions, deletions, or variations from the following specifications/requirements must be noted. The bidder shall attach to his/her bid sheet a list of any exceptions to the specifications/requirements if unable to do so, on specification sheet.

BRAND OR MANUFACTURER REFERENCE

Unless otherwise specified, any catalog or manufacturer's reference or brand name used in describing an item is merely descriptive, and not restrictive, and is used only to indicate type and style of product desired. Bids on alternate brands will be considered if they meet specification requirements. If a bidder quotes on equipment other than the one(s) specified in the bid, sufficient specifications and descriptive (pictured literature) data must accompany same to permit thorough evaluation. In the absence of these qualifications, he/she will be expected to furnish the product called for.

DELIVERY

Number of days required to deliver SERVICES after receiving order must be stated in the bid. Failure to so state will obligate bidder to complete service delivery within ONE day.

DELAY IN SERVICE DELIVERY

When delay can be foreseen, Bidder shall give prior notice to City of Edinburg. Bidder must keep City of Edinburg advised at all times of status of order. Default in promised service delivery (without acceptable reasons) or failure to meet specifications/requirements, authorizes the City of Edinburg to purchase such SERVICES elsewhere and charge increase in cost to defaulting vendor. Acceptable reasons for delayed delivery are as follows: Acts of God (floods, tornadoes, hurricanes, etc.), acts of government, fire, strikes, war; Actions beyond the control of the successful bidder.

SERVICE DELIVERED PRICING

Bids in units of quantity specified - extend and show total. In the event of discrepancies in extension, unit prices will govern. Bids subject to unlimited price increase will not be considered.

VALID BID TIME FRAME

The City may hold bids 90days after bid opening without taking action. BIDDERS shall be required to hold their Bids firm for the same period of time.

RIGHT TO REJECT/AWARD

The City of Edinburg reserves the right to refuse and reject any or all Bids, and to waive any or all formalities or technicalities, and to make such awards of contract as may be deemed to be the best and most advantageous to the City of Edinburg.

INSTRUCTIONS TO BIDDERS (Continued):

MULTIPLE VENDOR CONTRACTS

Bidders are advised that the City of Edinburg may award Service Contracts to multiple vendors based on low bid per item basis. All items specified on the "Bid Form" **must** reflect the individual unit prices. The City of Edinburg reserves the right to award all items individually or in any combination thereof. The City reserves the right to award each item separately or individually, award to one or multiple vendors, and accept the proposal deemed most advantageous to the City.

INDEMNIFICATION CLAUSE

The Bidder agrees to indemnify and save harmless the City, from all suits and actions of every nature and description brought against them or any of them, for or on account of the use of patented appliances, products or processes, and he shall pay all royalties and charges which are legal and equitable. Evidence of such payment or satisfaction shall be submitted upon request of the Purchasing Agent, as a necessary requirement in connection with the final estimate for payment in which such patented appliance, products or processes are used.

ADDENDA

Bidder shall carefully examine the bid forms, specifications/requirements, and instructions to Bidders. Should the bidder find discrepancies in, or omissions from bid forms, specifications/requirements, or other documents, or should he/she be in doubt as to their meaning, he/she should at once notify the Purchasing Agent at 956-388-1895 and obtain clarification by addendum prior to submitting any bid. Explanations, interpretations, and supplemental instructions shall be in the form of written Addenda which shall become a part of the Contract documents. Said Addenda shall be mailed, e-mailed, hand delivered and/or faxed, to all prospective Bidders. All Addenda issued in respect to this project shall be considered official changes to the original bid documents. Verbal statements in response to inquiries and/or requests for explanations shall not be authoritative nor binding. It shall be the Bidder(s) responsibility to ensure that they have received all Addenda in respect to this project. Furthermore, Bidders are advised that they must recognize, comply with, and attach a signed copy of each Addendum which shall be made part of their Bid Submittal. Bidder(s) signature on Addenda shall be interpreted as the bidder's "recognition and compliance to" official changes as outlined by the City of Edinburg and as such are made part of the original solicitation documents. Failure of any bidder to receive any such addendum or interpretation shall not relieve such Bidder from its terms and requirements. The City may issue a written addendum no later than five calendar days prior to the date bids must be received. Addendums are available online at www.cityofedinburg.com.

PAYMENT

The City of Edinburg will execute payment by mail in accordance with the State of Texas Pay Law after SERVICES have been provided and invoiced. No other method of payment will be considered.

SYNONYM

Where in this bid package ITEMS OR SERVICES is used its meaning shall refer to the WATER TREATMENT PLANT IMPROVEMENTS-REHABILITATION OF EXISTING FILTERS as specified.

ASSIGNMENT

Neither the Bidder's contract nor payment due to an awarded vendor may be assigned to a third party without the written approval of the Purchasing Department for the City of Edinburg.

INTERPRETATIONS

Any questions concerning the conditions and/or specifications/requirements with regards to this solicitation for Bids shall be directed to the designated individuals as outlined in the Request for Bids. Such interpretations, which may affect the eventual outcome of this request for Bids, shall be furnished in writing to all prospective Bidders via

INSTRUCTIONS TO BIDDERS (Continued):

Addendum. No interpretation shall be considered binding unless provided in writing by the City of Edinburg in accordance with paragraph entitled "Addenda".

STATUTORY REQUIREMENTS

It shall be the responsibility of the successful Bidder to comply with all applicable State & Federal laws, Executive Orders and Municipal Ordinances, and the Rules and Regulations of all authorities having jurisdiction over the work to be performed hereunder and such shall apply to the contract throughout, and that they will be deemed to be included in the contract as though written out in full in the contract documents. (To include issues related to health, environmental, and safety to name a few.)

BIDDER'S EMPLOYEES

Neither the Bidder nor his/her employees engaged in fulfilling the terms and conditions of this Purchase Contract shall be considered employees of the City. The method and manner of performance of such undertakings shall be under the exclusive control of the vendor on contract. The City shall have the right of inspection of said undertakings at any time.

RIGHT TO WAIVE

City of Edinburg reserves the right to waive or take exception to any part of these specifications/requirements when in the best interest of the City of Edinburg.

TIME ALLOWED FOR ACTION TAKEN

The City of Edinburg may hold bids **90** days after the opening of Bids without taking action. Bidders are required to hold their Bids firm for same period of time.

PREPARATION OF BID

The City of Edinburg shall not be held liable for any costs incurred by any bidder for work performed in the preparation of and production of a bid or for any work performed prior to execution of contract.

CONFIDENTIAL INFORMATION

Any information deemed to be confidential by the bidder should be clearly noted on the pages where confidential information is contained; however, the City cannot guarantee that it will not be compelled to disclose all or part of any public record under Texas Public Information Act, since information deemed to be confidential by the bidder may not be considered confidential under Texas Law, or pursuant to a Court order.

VERBAL THREATS

Any threats made to any employee of the City, be it verbal or written, to discontinue the providing of item/material/services for whatever reason and/or reasons shall be considered a breach of contract and the City will immediately sever the contract with the Vendor on contract.

INSTRUCTIONS TO BIDDERS (Continued):

MATHEMATICAL ERRORS

In the event that mathematical errors exist in any bid, unit prices/rates -v- totals, unit prices/rates will govern.

AUDIT

The City of Edinburg reserves the right to audit the vendor's books and records relating to the performance of this contract. The City of Edinburg, at its own expense, shall have the right at all reasonable times during normal business hours and upon at least twenty-four (24) hours' advance notice, to audit, to examine, and to make copies of or extracts from the books of account and records maintained by the vendor(s) with respect to the Supply/Service and/or Purchase Contract. If such audit shall disclose overpayment by City to vendor, written notice of such overpayment shall be provided to the vendor and the amount of overpayment shall be promptly reimbursed by vendor to the City. In the event any such overpayment is not paid within ten (10) business days after receipt of such notice, the unpaid amount of such overpayment shall bear interest at the rate of one percent (1%) per month from the date of such notice until paid.

PAST PERFORMANCE

Vendor's past performance shall be taken into consideration in the evaluation and award of Service Contract for the Purchase of SERVICES.

JURISDICTION

Contract(s) executed as part of this solicitation shall be subject to and governed under the laws of the State of Texas. Any and all obligations and payments are due and performable and payable in Hidalgo County, Texas.

VENUE

The parties agree that venue for purposes of any and all lawsuits, cause of action, arbitration, and/or any other dispute(s) shall be in Hidalgo County, Texas.

IF YOU HAVE ANY QUESTIONS ABOUT COMPLIANCE, PLEASE CONSULT YOUR OWN LEGAL COUNSEL. COMPLIANCE IS THE INDIVIDUAL RESPONSIBILITY OF EACH PERSON OR AGENT OF A PERSON WHO IS SUBJECT TO THE FILING REQUIREMENT. AN OFFENSE UNDER CHAPTER 176 IS A CLASS "C" MISDEMEANOR.

CONFLICT OF INTEREST

CHAPTER 176 OF THE TEXAS LOCAL GOVERNMENT CODE

Effective January 1, 2006, Chapter 176 of the Texas Local Government Code requires that any vendor or person considering doing business with a local government entity disclose in the Questionnaire Form CIQ, the vendor or person's affiliation or business relationship that might cause a conflict of interest with a local government entity. By law, this questionnaire must be filed with the records administrator of the City of Edinburg not later than the 7th business day after the date the person becomes aware of facts that require the statement be filed. See Section 176.006, Local Government Code. A person commits an offense if the person violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor. For more information or to obtain Questionnaire CIQ go to the Texas Ethics Commission web page at www.ethics.state.tx.us/forms/CIQ.pdf.

CERTIFICATE OF INTERESTED PARTIES (Form 1295)

In 2015, the Texas Legislature adopted [House Bill 1295](#), which added section 2252.908 of the Government Code. The law states that a governmental entity or state agency may not enter into certain contracts with a business entity unless the business entity submits a disclosure of interested parties to the governmental entity or state agency at the time the business entity submits the signed contract to the governmental entity or state agency. The law applies

INSTRUCTIONS TO BIDDERS (Continued):

only to a contract of a governmental entity or state agency that either (1) requires an action or vote by the governing body of the entity or agency before the contract may be signed or (2) has a value of at least \$1 million. The disclosure requirement applies to a contract entered into on or after January 1, 2016. For more information go to the Texas Ethics Commission web page at www.ethics.state.tx.us/forms/CIQ.pdf.

HB 89

The 85th Texas Legislature approved new legislation, effective Sept. 1, 2017, which amends Texas Local Government Code Section 1. Subtitle F, Title 10, Government Code by adding Chapter 2270 which states that a governmental entity may not enter into a contract with a company for goods or services unless the contract contains a written verification from the company that it:

- 1) does not boycott Israel; and
- 2) will not boycott Israel during the term of the contract

AWARD

For purposes of this project, award is not contingent on approval of budget.

SPECIAL CIRCUMSTANCES

In the event that the City of Edinburg has an immediate need for a particular service(s) that is/are on contract and the successful vendor on contract is not able to meet the special service delivery needs of the City of Edinburg, the City of Edinburg reserves the right to purchase such services elsewhere to fulfill its' immediate need.

TERMINATION OF CONTRACT

The City of Edinburg reserves the right to terminate the contract if, in the opinion of the City of Edinburg, the successful vendor's performance is not acceptable, if the City is being repeatedly over charged, improperly charged, no funds are available, or if the City wishes, without cause, to discontinue this contract. Termination will be in written form allowing a 30-day notice. The bidder shall be afforded the same right to terminate this contract in the same manner.

STANDARD INSURANCE REQUIREMENTS

Staff may waive insurance requirements for contracts \$0 - \$4,999.99, including but not limited to contracts for food, materials, supplies, and construction. Workers' Compensation in amounts which satisfy statutory coverage shall be required for construction projects.

The following insurance requirements will be included in all City contracts of \$5,000 - \$14,999.99. In contracts not involving building and construction projects, as that activity is defined in TEX. LABOR CODE §406.096, contractors may obtain alternative form of worker accident insurance with minimum limits of liability of \$100,000 per claim.

QUESTIONS AND CLARIFICATIONS

Questions and clarifications that change or substantially clarify the Invitation to Bid will be affirmed in writing and copies will be provided to all firms on record responding to BID. **Any inquiries to this BID must be submitted to Ms. Lorena Fuentes, Purchasing Agent, at the following e-mail address: lfuentes@cityofedinburg.com no later than Wednesday, August 18, 2021 at 5:00 p.m.**

INSTRUCTIONS TO BIDDERS (Continued):

Minimum Insurance Requirements	
Type of Coverage	Limits of Liability
Worker's Compensation	Statutory Coverage
Comprehensive General Liability (City named as additional insured) Bodily Injury	\$250,000 each person/\$500,000 each occurrence
Property Damage	\$100,000 each occurrence/\$100,000 aggregate or \$500,000 combined single limits

The following insurance requirements will be included in all City contracts of \$15,000 or more.

(1) The successful bidder will be required to carry the following insurance coverage and limits of coverage, as well as list the City as an additional insured to liability coverage as requested by the City. In addition, the successful bidder shall provide the City with evidence of coverage and furnish acceptable proof of payment of insurance premiums.

(2) The successful bidder will be required to secure and/or have insurance coverage in force with an admitted property and casualty insurance company licensed by the State of Texas to conduct business in the State of Texas.

(3) In contracts not involving building and construction projects, as that activity is defined in TEX. LABOR CODE §406.096, contractors may obtain alternative form of worker accident insurance with minimum limits of liability of \$100,000 per claim.

Minimum Insurance Requirements	
Type of Coverage	Limits of Liability
Worker's Compensation	Statutory Coverage
Employer's Liability	Bodily Injury by Accident: \$100,000 each accident Bodily Injury by Disease: \$100,000 each employee/\$500,000 policy limit
Comprehensive General Liability Bodily Injury	\$250,000 each person/\$500,000 each occurrence
Property Damage	\$100,000 each occurrence/\$100,000 aggregate or \$500,000 combined single limits
Comprehensive Auto Liability Bodily Injury	\$100,000 each person/\$500,000 each occurrence
Property Damage	\$100,000 each occurrence/\$100,000 aggregate or \$500,000 combined single limits

INSTRUCTIONS TO BIDDERS (Continued):

City's Protective Liability Bodily Injury	\$250,000 each person/\$500,000 each occurrence
Property Damage	\$100,000 each occurrence/\$100,000 aggregate or \$500,000 combined single limits

Policies must name the City of Edinburg as an Additional Insured.

Certificates of insurance naming the CITY as an additional insured shall be submitted to the CITY for approval prior to any services being performed by Contractor. Each policy of insurance required hereunder shall extend for a period equivalent to, or longer than the term of the Contract, and any insurer hereunder shall be required to give at least thirty (30) days written notice to the CITY prior to the cancellation of any such coverage on the termination date, or otherwise. This Contract shall be automatically suspended upon the cancellation, or other termination, of any required policy of insurance hereunder, and such suspension shall continue until evidence that adequate replacement coverage is provided to the CITY. If replacement coverage is not provided within thirty (30) days following suspension of the Contract, the Contract shall automatically terminate.

BID BOND REQUIREMENTS – CONSTRUCTION PROJECTS ONLY

If the contract amount is over twenty-five-thousand dollars (\$25,000) for construction of the project, the successful bidder shall provide a bid guarantee, give a good and sufficient bond in the full amount of the contract price for the faithful performance of such contract, executed by a surety company authorized to do business in the State of Texas, in accordance with Article 5160, Vernon's Texas Civil Statutes, and amendments thereto. A payment bond in the full amount of the contract price to assure payment shall be required by law of all persons supplying labor and material in the execution of the project provided for in the contract documents.

A bid guarantee equivalent to five percent (5%) of the bid price will be required from each bidder. The "bid guarantee" shall consist of a firm commitment, such as a bid bond, certified check or other negotiable instrument accompanying a bid as assurance that the bidder will upon acceptance of his/her bid, execute such contractual documents as may be required within the time specified.

A performance bond on the part of the contractor for one-hundred percent (100%) of the contract price will be required. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

A payment bond on the part of the contractor for one-hundred percent (100%) of the contract price will be required. A "payment bond" is one executed in connection with a contract to assure payment, as required by law, of all persons supplying labor and material in execution of the work provided for in the contract documents.

Bidders are expressly advised to review the contract documents fully and insurance requirements of the proposed contract as to their legal requirements and the causes which may lead to the disqualification of a bidder and/or rejection of a bid proposal. No bid may be withdrawn within a period of ninety (90) days after the date fixed for opening the bids. Unless all bids are rejected, the Owner will give Notice of Award of Contract to the successful bidder as soon as possible consistent with the time for a thorough analysis of bids submitted. Bidders are expected to inspect the site of work and to inform themselves regarding all local conditions which may affect their bid.

HOUSE BILL 89 VERIFICATION

I, _____, the undersigned representative of _____, (Company or Business name) (hereafter referred to as company) **being an adult over the age of eighteen (18) years of age, verify that the company named-above, under the provisions of Subtitle F, Title 10, Government Code Chapter 2270:**

- 1. Does not boycott Israel currently; and**
- 2. Will not boycott Israel during the term of the contract.**
- 3) Is not currently listed on the State of Texas Comptroller's Companies that Boycott Israel List located at <https://comptroller.texas.gov/purchasing/publications/divestment.php>**

Pursuant to Section 2270.001, Texas Government Code:

1. "Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes; and

2. "Company" means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or any limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business associations that exist to make a profit.

SIGNATURE OF COMPANY REPRESENTATIVE:

TYPE/PRINT NAME AND TITLE:

DATE:

**CITY OF EDINBURG
WATER TREATMENT PLANT IMPROVEMENTS
REHABILITATION OF EXISTING FILTERS**

RFP NO. 2021-012

BID OPENING DATE: August 23, 2021 at 3:00 p.m.

It is the intent of this Request for Bids to describe and ultimately make it possible for the City of Edinburg to purchase the below mentioned **WATER TREATMENT PLANT IMPROVEMENTS- REHABILITATION OF EXISTING FILTER PROJECT**

You are invited to submit a sealed bid for **WATER TREATMENT PLANT IMPROVEMENTS - REHABILITATION OF EXISTING FILTER PROJECT**

1. Replacement of existing filter under drains for existing filter basin Nos. 1 and 5.
2. Contractor shall provide all labor, materials, and equipment necessary to complete job.
3. Contractor shall be responsible for the cleaning and disposal of all debris from job site on a daily basis at a designated dumpsite at Contractor's expense.
4. Contractor shall be held liable for any damages during the course of construction.
5. All areas which fail to meet specification are required to be placed in compliance at no additional cost to the City.
6. Any required prep work shall be included in this bid.
7. Work must be completed within 180 days.
8. A minimum of one (1) year warranty on labor and materials must be provided in writing.
9. Interested parties are encouraged to visit the project site, as shown on plans and specifications.

**CITY OF EDINBURG
BID FORM FOR**

**WATER TREATMENT PLANT IMPROVEMENTS –
REHABILITATION OF EXISTING FILTERS**

RFP NO. 2021-012

BID OPENING DATE: August 23, 2021 at 3:00 p.m.

I/We submit the following bid in **ORIGINAL FORM** for the **WATER TREATMENT PLANT IMPROVEMENTS – REHABILITATION OF EXISTING FILTERS** to City of Edinburg requirements, less tax.

ITEM	ESTIMATED QUANTITIES	DESCRIPTION	BID AMOUNT
1	EA	USE SECTION 00405 Schedule of Lump Sum Stipulated Price Work <div style="text-align: right;">BID TOTAL</div>	\$ _____ \$ _____

Note: The City reserves the right to consider each group as a separate bid and award any or all, whichever may be more advantageous to the City. The City reserves the right to increase or decrease the quantities depending on availability of funds.

BID FORM FOR WATER TREATMENT PLANT IMPROVEMENTS-REHABILITATION OF EXISTING FILTERS(Continued):

All Addenda issued in respect to this project shall be considered official changes to the original bidding documents. It shall be the Bidder(s) responsibility to ensure that all Addenda have been received. Furthermore, bidders are advised that they must recognize, comply with, and attach a signed copy of each Addendum which shall be made part of their Bid Submittal. Bidder(s) signature on Addenda shall be interpreted as the vendor's "recognition and compliance to" official changes as outlined by the City of Edinburg and as such are made part of the original bidding documents.

Does the Company have an office located in Edinburg, Texas? Yes _____ No _____

Has the Company ever conducted business with the City of Edinburg? Yes _____ No _____

Respectfully submitted this _____ day of _____, 2021.

SIGNATURE: _____

TYPE/PRINT NAME: _____

TITLE: _____

COMPANY: _____

ADDRESS: _____

TELEPHONE NO.: _____

FAX NO.: _____

EMAIL: _____

Document 00020

NOTICE TO BIDDERS

Owner: City of Edinburg
415 W. University Drive
Edinburg, Texas 78539
Phone: (956) 388-8211
Fax: (956) 383-7111

Engineer: Cruz-Hogan Consultants, Inc.
605 E. Violet, Suite 100
McAllen, Texas 78504
Phone: (956) 682-5022
Fax: (956) 682-5089

1.00 INVITATION

- A. Bidders are invited to submit an offer for performance of a Contract to the City of Edinburg located at the above address, for the following construction Project:
Project: **WATER TREATMENT PLANT IMPROVEMENTS –REHABILITATION OF EXISTING FILTERS**
Located: **Downtown Water Treatment Plant, Intersection of E. Mahl Street and S. 15th Avenue**
- B. Work of the Project consists of rehabilitating two existing filter basin underdrains.
- C. The Contract Documents are identified the **WATER TREATMENT PLANT IMPROVEMENTS –REHABILITATION OF EXISTING FILTERS** as listed in the Project Manual, issued by Cruz-Hogan Consultants, Inc.
- D. The bidder shall bear all costs associated with the preparation and submission of its bid, and the Owner will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- E. When requested, the successful Bidder shall present satisfactory evidence that Bidder has regularly engaged in furnishing products and performing construction work as proposed, and has the capital, labor, equipment, and material to execute the Work required by Contract Documents.

2.00 BID SUBMISSION

- A. Bids signed by an officer of the company and dated will be received at the City Secretary's Office, at 415 W. University Drive, Edinburg, TX 78539 until 3:00 pm local time, on August 23, 2021.
- B. Bids submitted after the above time will be returned to the Bidder unopened.
- C. Bids shall be submitted in United States Currency and the English language on the Bid Forms and Supplements to Bid Forms provided with this Project Manual.
- D. Oral, telephonic, facsimile, or telegraphic bids are invalid and will not receive consideration.
- E. Bids will be opened and publicly read in the City of Edinburg City Hall Community Room at 415 W. University Drive, Edinburg, TX 78539 on the same date bids are received.
- F. Bids will be irrevocable for **90 days** from the bid date. Bidder may withdraw after 90 days without penalty if no mutual agreement can be reached.

3.00 MODIFICATION OR WITHDRAWAL

- A. Bids submitted early may be modified or withdrawn by notice to the City of Edinburg at the place and prior to the time designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder and shall be so worded as not to reveal the amount of the original Bid.
- B. Oral, telephonic, facsimile, or telegraphic modification of Bids will not receive consideration.
- C. Withdrawn Bids may be resubmitted up to the time designated for receipt of Bids.

4.00 CONTRACT TIME

- A. The Work shall be performed within the date established in the Notice to Proceed.
- B. Contractor shall pay liquidated damages in the amounts stated in Document 00500 - Agreement for failure to complete the Work within the Contract Time.
- C. The work is to be performed only during weekdays 8:00 AM to 5:00 PM (Monday to Friday). City recognized holidays are recommended to be avoided. Work performed during weekends (Saturday-Sunday) and holidays will incur a Contractor payment of **\$50** per hour to Owner for onsite inspection.

5.00 SECURITY DEPOSIT REQUIREMENTS

- A. Bids shall be accompanied by a security deposit as stated in Document 00100 - Instructions to Bidders.

6.00 EXAMINATION

- A. Bid Documents are on display on the City of Edinburg website, may be examined at the location below or purchased from the Engineer of Record:

**City of Edinburg
Engineering Department – 2nd Floor
415 W. University Drive
Edinburg, Texas 78539**

7.00 AVAILABILITY

- A. Bid Documents may be purchased from the Engineering Department, Engineer of Record or are available for printing at http://cityofedinburg.com/departments/finance/open_bid_notices.php.
- B. All official notifications, addenda, and other Bidding Documents will be offered only through the designated website. Neither Owner nor Engineer will be responsible for Bidding Documents, including addenda, if any, obtained from sources other than the designated website.
- C. Bid Documents may be purchased by bidders upon receipt of a cashier's check, certified check, money order, company check, or personal check in the amount established by the City of Edinburg or Engineer of Record. The cost includes the Project Manual w/ Specifications and one full sized set of Drawings. They can also be downloaded at no cost, as specified on 7(A).
- D. **The cost for the bid documents will not be refunded.**
- E. Bid Documents are made available only for the purpose of obtaining offers for this Project. Purchase of Bid Documents does not grant a license for other purposes.
- E. On receipt of Bid Documents, verify that documents are legible and complete. Compare contents of Project Manual with Table of Contents; see that all drawings listed in the List of Drawings are included. Notify City of Edinburg should the documents be incomplete as issued.

8.00 QUESTIONS AND INTERPRETATIONS

- A. Bidder is required to study Bid Documents, the site, and conditions affecting the Work, and submit written questions on interpretation of those documents and conditions, or other factors affecting the Work, to the City of Edinburg.
- B. Written questions may be submitted by facsimile or email, addressed to the Engineer. **No questions will be accepted after 5:00 PM, August 18, 2021.** All facsimile communications shall be confirmed by mailing the original correspondence to the City of Edinburg Purchasing Department, if applicable.
- C. Immediately notify the Engineer upon finding discrepancies or omissions in the Bid Documents.

9.00 ACCEPTANCE/REJECTION OF BIDS

- A. The Owner reserves the right to reject or accept any bids as stated in Document 00100 - Instructions to Bidders.

10.00 PRE-BID CONFERENCE

- A. **One (1) pre-bid conference will be conducted by the Owner on August 17, 2021 at 3:00 p.m.** The pre-bid conference shall be held at the Edinburg City Hall Community Room, 1st Floor.
- B. **Attendance by prospective Bidders is highly recommended.** Sub-contractors, suppliers, and equipment suppliers may attend.
- C. Recognizing that free and open communication will benefit all participants, the Owner does not intend to limit or curtail the exchange of information between the Engineer and the prospective Bidders. However, the pre-bid conference is conducted primarily for the benefit of prospective Bidders. As such, a specific procedure will be followed during the conference:
 - a. All attendees will sign-in, indicating their role with the project: contractor, supplier, manufacturer, etc.
 - b. Seating priority will be given to Prospective Bidders. Sub-contractors, suppliers, and manufacturer's representatives shall remain behind the contractor area.
 - c. The Owner will make introductions of his staff and consultants.
 - d. The Owner and consultants will give a brief description of the project.
 - e. Only Contracting firms (Prospective Bidders) are permitted to ask questions. Sub-contractors suppliers, and manufacturer's shall deliver their questions to the Contractor they are working with for presentation.
 - f. Questions and answers will be recorded and developed into Meeting Minutes. Meeting Minutes will be distributed to meeting attendees. The Owner reserves the right to use electronic recording, or some other method to record the meeting.
- D. The meeting will be conducted in English. Translators will not be provided.
- E. If necessary, written clarifications or instructions will be issued in the form of an Addendum. Refer to Section 00100 – Instructions to Bidders for specific information concerning Addendums.

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Document 00100

INSTRUCTIONS TO BIDDERS**1.00 SUMMARY****1.01 DOCUMENT INCLUDES**

- A. Bid Documents and Contract Documents.
- B. Site Assessment.
- C. Subcontractors/Suppliers/Others.
- D. Bid Submission.
- E. Bid Enclosure Requirements.
- F. Offer, Acceptance, Rejection.

1.02 RELATED DOCUMENTS

- A. Document 00020 - Notice to Bidders: Date, time and place for receipt of bids; Contract Time.
- B. Document 00310 - Form of Proposal.
- C. Document 00405 - Schedule of Unit Price Work.
- D. Document 00450 - Post Bid Procedures.
- E. Document 00500 - Agreement.
- F. Document 00700 - General Conditions.
- G. Document 00800 - Supplementary Conditions.

2.00 BID DOCUMENTS AND CONTRACT DOCUMENTS**2.01 DEFINITIONS**

- A. Definitions set forth in Document 00700 – General Conditions and in other Contract Documents, are applicable to the Bid Documents.
- B. Addenda: Written or graphic instruments issued prior to the opening of Bids, which clarify, modify, correct, or change the Bid Documents.
- C. Alternate Bid: The total amount bid for additions to the Work, as described in the Bid Documents. Each Alternate Bid shall include the cost of effects on adjacent or related components, and the Contractor's overhead and profit.
- D. Bid Documents: The Project Manual and Drawings, including Addenda, plus Notice to Bidders, Instructions to Bidders, and Supplements to Bid Forms identified in Document 00310 - Form of Proposal.
- E. Bidder: A person or entity who submits a Bid.
- F. Low Bidder: The apparent successful Bidder who qualifies as a responsible Bidder and who submits the Bid with the lowest Total Bid Price.

- G. Bid, Offer, Bidding: The act of submitting a complete and properly signed offer in accordance with these Instructions to Bidders. The Bid will be in the English language.
- H. Total Bid Price: The monetary amount for performing the Work as identified by the Bidder in Document 00310 - Form of Proposal, which amount includes Cash Allowances and Alternate Bids, if any. Bid Price(s) will be in United States.
- I. Security Deposit: A certified check, cashiers check or bid bond in at least the sum of 5 percent of the Total Bid Price which includes Cash Allowances and Alternate Bids, if any.

2.02 QUESTIONS, INTERPRETATIONS

- A. Bidder shall: 1) carefully study the Bid Documents and compare them with each other, 2) examine the site, conditions thereon, and local conditions, and 3) report at once to the Engineer any errors, inconsistencies or ambiguities discovered.
- B. 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.
- C. Direct questions to Engineer.
- D. Verbal discussions and answers are not binding. Requests from Bidders for clarifications and interpretations of content of documents must be in writing (mail or facsimile transmission only), and must be received not less than 5 business days before the date set for receipt of Bids.
- E. The reply will be by Addendum.

2.03 ADDENDA

- A. Addenda issued to Bidding Requirements are applicable only during the bidding period. Addenda to the Post-Bid Procedures are applicable only through the issuance of the Notice to Proceed. Any Addenda issued to Contract Forms, Conditions of the Contract, Specifications or Drawings become a part of the Contract Documents. Include resultant costs in the Total Bid Price.
- B. Addenda will be issued by the Engineer to Bidders of record by email. Addenda will also be posted on the City website.
- C. Each Bidder shall ascertain, prior to submitting a Bid that the Bidder has received all Addenda issued. The Bidder shall acknowledge their receipt in the place indicated in Document 00310 - Form of Proposal.

2.04 SUBSTITUTIONS OF MATERIALS/EQUIPMENT

- A. No substitutions will be considered on this Project during the bidding period.
- B. Voluntary substitutions by the Bidder will not be considered.

3.00 SITE ASSESSMENT

- A. Bidders shall examine the Project site before submitting a Bid, become familiar with local conditions under which the Work will be performed, conduct appropriate explorations, and correlate personal observations with requirements of the Bid Documents. Work will be performed in public right-of-way and City property. The site may be examined at any time during daylight hours.

- B. Bidder shall make site investigations to the extent Bidder deems necessary to ascertain the extent of subsurface conditions and variations thereof.
- C. Failure to perform such investigations during the bid period shall not relieve Bidder from responsibility for investigations, interpretations and proper use of available information in preparation of Bidder's proposal.
- D. Publications by the United States Department of Agriculture, Soil Conservation Service and others may be helpful to the bidder in his subsurface site investigation.
- E. Geotechnical investigation reports for the proposed project site may also be helpful to the bidder in his subsurface site investigation.

4.00 SUBCONTRACTORS/SUPPLIERS/OTHERS

- A. The Owner reserves the right to reject a proposed Subcontractor or Supplier for reasonable cause.

5.00 BID SUBMISSION

5.01 SUBMISSION PROCEDURES

- A. Bidders shall be solely responsible for the delivery of their Bids in the manner and time prescribed in Document 00020 - Notice to Bidders.
- B. Submit **one copy of the original executed offer** on the bid forms provided, properly signed, with required Security Deposit, and other Supplements to Bid Forms, in a sealed, opaque envelope. On the outside of the envelope, clearly indicate that it is a sealed bid and include the Bidder's name, Project name and Owner name. Bids submitted by mail shall be enclosed in a separate envelope addressed for mailing, and identifying the enclosure as a bid. In addition, **four copies must also be submitted.**
- C. Fill in all blanks in the Bid forms. Acknowledge receipt of Addenda. Bid all Alternate Bids required by Bid Documents.
- D. A summary of submitted Bids will be made available to Bidders following the Bid opening.
- E. All costs and expenses incurred by the Bidder that are associated with preparation of the Bid shall be paid by and be the sole responsibility of the Bidder.

5.02 BID INELIGIBILITY

- A. Failure to provide required Security Deposit in the proper amount will be cause to declare the Bid invalid.
- B. Improperly completed information may be cause for declaring the Bid invalid.
- C. Bids that are unsigned, improperly signed, illegible, obscure, altered, or which contain qualifications or irregularities of any kind, may be declared invalid. Document 00310 - Form of Proposal, Supplements to the Bid Forms identified in the Form of Proposal, or enclosures which are improperly prepared, may be declared invalid.

6.00 BID ENCLOSURE REQUIREMENTS

6.01 SUPPLEMENTS TO BID FORMS

- A. Bid submittals shall include any other documents specified in Document 00310 - Form of Proposal.

6.02 SECURITY DEPOSIT

- A. Bids shall be accompanied by a Security Deposit.
- B. The Security Deposit of the Bidders will be retained until after the Contract is executed.
- C. After execution of the Contract, Security Deposits will be returned to the Bidders.
- D. If no Contract is awarded, all Security Deposits will be returned to the respective Bidders.

6.03 CERTIFIED CHECK/CASHIER'S CHECK

- A. Make certified check or cashier's check (security checks) payable to the Owner.
- B. The security checks are submitted on the condition that if the Bidder is named apparent Low Bidder and then fails either to timely execute the Agreement or to timely provide any required bonds, or to do both, then in that event the Owner will cash the security check.
- C. The Owner will retain an amount equal to the difference between the Bid of the Bidder providing the security check and the Bid of the Bidder who is finally awarded the Contract and who executes the Agreement and provides the required bonds.
- D. Any balance remaining will be reimbursed by the Owner to the Bidder who provided the security check.

6.04 BID BOND

- A. The bid bond must be a valid and enforceable bond, executed by a corporate Surety authorized by the Texas State Board of Insurance to conduct insurance business in the State of Texas and shall comply with other requirements set out by law or included in the Bid Documents.
- B. Endorse the bid bond in the name of the Owner as obligee, signed by the Contractor as principal and executed, signed and sealed by the Surety.
- C. The bid bond must be conditioned such that if the Bidder is named apparent Low Bidder and then fails either to execute the Agreement timely or to provide any required bonds timely, or to do both, then in that event the Surety will be obligated to pay to the Owner an amount equal to the difference between the Bid of the Bidder on whom the bond was written and the Bid of the Bidder who is finally awarded the Contract and who executes the Agreement and provides the required bonds, up to the penal sum of the Bond.
- D. In addition, the Owner expressly reserves the right to reject any Bid if the Bid Bond (or Bid Bond rider) conditions the Bid in a way inconsistent with the Bid Documents. Examples include but are not limited to:
 - 1. a condition prohibiting the Owner from making a Claim against the Performance Bond Surety that would be allowable under the Contract and Performance Bond form published in the Bid Documents;
 - 2. a condition that provides that the Performance Bond Surety cannot be held liable for completing the Contract in case of default; or
 - 3. a condition limiting the Performance Bond Surety's liability for damages inconsistent with the Contract and Performance Bond form published in the Bid Documents.

- E. On all contracts that will equal to or exceed \$100,000, the performance bond and the payment bond must be provided by a surety that has a rating of "A" from AM BEST, MOODY'S or STANDARD & POORS.

In the event that the total bid amount is \$50,000 or less, the successful contractor has the option to enter into a single payment contract with the City of Edinburg in lieu of a Performance Bond, provided that no money shall be paid to the contractor until completion of the work by the contractor and accepted of same by the City of Edinburg. In the event that the total bid amount is \$25,000 or less, the successful contractor has the option to enter into a single payment contract with the City of Edinburg in lieu of a Payment and Performance Bond.

6.05 BID FORM SIGNATURE

- A. Document 00310 - Form of Proposal shall be signed by the Bidder as follows:
1. Sole Proprietorship: Full name, address, and signature of sole proprietor, signed in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature.
 2. Partnership: Name and address of the firm, signature of each partner in the presence of a witness who will also sign. The full name and address of each partner shall be given.
 3. Corporation: Signature of duly authorized officer.
 4. Joint Venture: Each party of the joint venture shall execute Document 00310 - Form of Proposal under their respective seals in a manner appropriate to such party as described above, similar to the requirements of a Partnership.

7.00 DETERMINING LOWEST RESPONSIVE, RESPONSIBLE BIDDER

7.01 BIDDERS QUALIFICATIONS

- A. Bids must contain evidence of Bidder's qualifications to do business in the state of Texas. To demonstrate that the Bidder is responsible and able to perform the Work, funding policies dictate each Bidder must submit, as a part of the Bidding Documents, all of the items listed below:
- 00310 Form of Proposal
 - 00405 Schedule of Unit Price Work
 - 00411 Bid Bond
 - 00420 Statement of Bidder's Qualifications
 - 00423 Certification of Bidder's Qualifications
 - 00425 Equipment & Material Suppliers List
 - 00429 Non-Bribery Model Form
 - 00460 Non-Collusion Affidavit
 - 00470 Conflict of Interest Disclosure
- B. Only the above data/information provided with the Bidding Documents may be used for evaluation and developing the Recommendation to Award by the Engineer. Bidders will not be

allowed to substitute any "Key Personnel" other than alternates presented in the bid or examples of previous projects submitted in the bid package. Minor clarifications of submitted materials will be permitted after bid opening. Such request for clarifications will only be initiated by the Engineer in writing and only written responses will be accepted.

- C. In determining the lowest responsible, responsive Bidder, in addition to price, the following elements will be considered:
1. The quality, availability, and adaptability of the supplies, materials, equipment, or contractual services, to the particular use required;
 2. The ability, capacity and skill of the bidder to perform the contract or to provide the service required;
 3. Whether the bidder can perform the contract and provide the service promptly, or within the time required, without delay or interference;
 4. The character, responsibility, integrity, reputation, and experience of the bidder;
 5. The quality of performance of previous services, or contracts;
 6. The previous and existing compliance by the bidder with laws relating to the contract or service;
 7. Any previous or existing noncompliance by the bidder with specifications, or requirements relating to time of submission of specified data such as samples, models, drawings, certificates, or other information;
 8. The sufficiency of the financial resources and ability of the bidder to perform the contract or to provide the service; and
 9. The ability of the bidder to provide competent personnel for the job, as demonstrated by the submitted listing of the names and the skills of experienced personnel, including potential alternates, whom the bidder currently employs and who will be available for performing this work;
 10. The experience of the bidder in performing work similar in type, size and complexity to this project, as demonstrated by a listing of projects, with verifiable references (names, addresses, phone numbers, etc.), successfully completed.
 11. Bidder shall provide with the Bid an experience statement with pertinent information regarding similar projects and other evidence of qualifications for each such Subcontractor, Supplier, person, or organization.

7.02 BIDDER MUST MEET THE FOLLOWING MINIMUM CRITERIA:

- (A) The Bidder must demonstrate **Successful Completion during the last five (5) years of at least one project comparable in nature and scope to this project. The comparable scope shall be at least 1/4 the size of the proposed project.
- (B) At least two *Key Personnel, and their potential alternate, employed by the Bidder must have a minimum of five (5) years experience in similar construction projects.
- (C) The Bidder must have an employee, to be dedicated to this project, who is experienced in scheduling, with demonstrated ability in employing scheduling techniques similar to those to be used for this project.

- (D) Bidder may, at its discretion, include resumes of alternates for Key Personnel, and if in the process of bid evaluation, the Owner rejects any Key Personnel, the Owner will consider the alternates.

* KEY PERSONNEL: Individuals who will be directly assigned to this project. Resumes of Key Personnel must be submitted with the Bid (include in Document 00420) and accepted by the Owner in order for Bidder to receive the Award. At the minimum, the resumes for the following personnel that are to be assigned to this Project are to be submitted.

- (a) Owner or Principals of the Bidder
- (b) The Project Manager
- (c) The Project Superintendent
- (d) The Project Scheduler
- (e) Minimum of two Foremen

**SUCCESSFUL COMPLETION: Defined as completion of a project on time, no more than thirty (30) days later than the original contract time, and within budget, within 5% of the original contract price. If there is any project submitted by the Bidder as qualifying, but which does not meet these requirements, in order to be fully responsible, the Bidder is required to submit detailed information on that project demonstrating what caused the increases to cost or time. The name and telephone numbers of the Design Engineer and the Client are to be provided for evaluation as to whether the project may be considered "successful". For any project where liquidated damages were assessed, the Bidder will not be considered to have been on time.

7.03 BIDDERS ARE REQUIRED TO SUBMIT WITH THEIR BID:

00310 Form of Proposal
00405 Schedule of Unit Price Work
00411 Bid Bond
00420 Statement of Bidder's Qualifications
00423 Certification of Bidder's Qualifications
00425 Equipment & Material Suppliers List
00429 Non-Bribery Model Form
00460 Non-Collusion Affidavit
00470 Conflict of Interest Disclosure

- (A) Failure to submit these items with the bid will result in a finding that the bid is non-responsive and the bid will be disqualified.

7.04 The Owner will evaluate and compare only the bids determined to be responsive in accordance with the following:

- (a) Is the bid complete (all Bidding Documents submitted);
- (b) Have documents been properly signed;
- (c) Are the required bid securities part of the bid package; and
- (d) Are there any computational errors present?

7.05 The Owner reserves the right to accept or reject any variation, deviation, or alternative offer which is not submitted in accordance with the bidding documents. Variations, deviations, alternative offers, and other factors that are in excess of the requirements of the bidding documents or which otherwise result in unsolicited benefits for the Owner, shall not be taken into account in bid evaluation.

7.06 In evaluating the bids, the Owner will determine for each bid, the evaluated bid price by adjusting the bid price as follows:

- A. Making any correction for errors;
- B. Excluding provisional sums and the provision, if any, for contingencies in the price schedules;
- C. Taking an appropriate adjustment for any other quantifiable acceptable non-material variations, deviations or alternative offers; and
- D. Making appropriate adjustments to reflect additional factors in the manner and to the extent indicated in the Bidding Documents.

7.07 The Owner will award the contract to the bidder whose bid has been determined to be substantially responsive to the bidding documents and who has offered the lowest evaluated bid price provided that such bidder has been determined to be qualified to perform the contract satisfactorily in accordance with the provisions of the Bidding Documents.

8.00 OFFER ACCEPTANCE, REJECTION

8.01 ACCEPTANCE

- A. The Owner will give notice of intent to award the Contract to the Low Bidder. Acceptance by the Owner is conditioned upon Bidder's submission of information for establishing satisfactory qualifications, if required; and execution of submittals required in Document 00450 - Post-Bid Procedures.
- B. The Bid shall remain open to acceptance and shall be irrevocable for the Period for Bid Acceptance stated in Document 00020 – Notice to Bidders.
- C. Additional time taken by Contractor to fulfill requirements for submittals, including review and re-submittal, shall be added to the acceptance period.

8.02 REJECTION

- A. The Owner reserves the right to reject any and all Bids or to accept any Bid deemed advantageous to it.

8.03 BID TABULATION

- A. The Engineer will tabulate, record, and evaluate the Bids of all responsible Bidders after the Bid opening.
- B. In tabulating Bids, the amount written for a unit price governs over the total amount calculated. Therefore, the Engineer may correct any mathematical errors in the extension of the total amount based on the unit price given by a Bidder and adjust their Total Bid Price.

9.00 APPROVAL BY THE FUNDING AGENCIES

- A. All addenda, contracts, work directives, change orders, time extensions, and other matters specified in the Contract Documents are not valid until approved in accordance with the City of Edinburg's Purchasing Policies and Procedures Manual.

END OF DOCUMENT

Document 00300

CONTRACTOR NOTICE OF INTENT TO RESPOND

Firms interested in submitting a bid on the project as outlined in the specifications, should indicate their intention by signing, dating and returning the form to the address below prior to August 23, 2021, so that they may receive any addendums to the specifications should the need arise.

Owner: City of Edinburg
Attn: Finance Department
415 W. University Drive
Edinburg, Texas 78539

Engineer: Cruz-Hogan Consultants, Inc.
Attn: Orlando Cruz, P.E.
605 E. Violet Ave. Suite 1
McAllen, Texas 78504

Bidder: _____
[Please print or type the full name of your proprietorship, partnership, corporation, or joint venture.*]

Contact Name: _____
[Please print or type name] [Title]

Address: _____
[Mailing]

[Street, if different]

Telephone: _____
[Print or type telephone number]

Fax: _____
[Print or type telephone number]

Email: _____
[Print or type telephone number]

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Document 00310

FORM OF PROPOSAL

To: CITY OF EDINBURG

Project No.: RFP No. 2021-012

Project: WATER TREATMENT PLANT IMPROVEMENTS –REHABILITATION OF EXISTING FILTERS

Bidder: [Print or type full name of proprietorship, partnership, corporation, or joint venture]

1.0 OFFER

Having examined the place of the Work and all matters referred to in the Bid Documents, and the Contract Documents prepared by or approved by the Engineer for the named Project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Total Bid Price of:

[Print or type in words, Bidder's Total Bid Price] (Dollars)

(\$ [Print or type in figures, Bidder's Total Bid Price])

[Working Days]

Unit Price or Combination Stipulated Price and Unit Price Contract. If the Bid is for a Unit Price Contract or a combination of Stipulated Price and Unit Price Contract, the Total Bid Price, including Cash Allowances, if any, is tabulated in: Document 00405 - Schedule of Unit Price Work for a Project with no Alternate Bids, or Document 00407 - Schedule of Alternates for a Project with Alternate Bids.

Cash Allowances. All Cash Allowances, totaled in either Document 00405 - Schedule of Unit Price Work, as applicable, and described in the Bid Documents are included in the Total Bid Price.

Changes in Contract Price Due to Variations in Actual Quantities. For items quoted in Document 00405 - Schedule of Unit Price Work, the Total Bid Price is based in whole or in part on the Unit Price multiplied by the quantity for each of the items listed. The Contract Price is subject to change due to variation in the actual quantities of each item in the completed Work in accordance with the Contract Documents.

Alternate Bids. Alternate Bid work, as described in the Bid Documents, will be performed for an amount added or deducted to the Total Bid Price for each Alternate Bid that is accepted by the Owner. The Owner may accept or reject any or all Alternate Bids.

Security Deposit. Included herewith is a Security Deposit in the amount of 5 percent of the greatest amount of the Total Bid Price, or Total Alternate Bid Price(s).

Period for Bid Acceptance. This offer shall be open to acceptance and is irrevocable for 90 days from the Bid date. That period may be extended by mutual written agreement of the Owner and the Bidder. After 90 days, the Bidder may withdraw without penalty if no mutual agreement can be reached.



2.0 CONTRACT TIME

If this offer is accepted, Substantial Completion of the Work will be achieved within the time stated in Document 00020 - Notice to Bidders. The Date of Commencement will be established by the Notice to Proceed.

3.0 ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted therein have been considered and all costs relating thereto are included in the Bid Price:

- Addendum No. _____, dated _____

4.0 SUPPLEMENTS TO THIS BID:

The following Supplements are attached as an integral part of this Bid:

- Document 00405 - Schedule of Unit Price Work, if applicable
- Document 00411 – Bid Bond (*Form supplied by Bidder*)
- Document 00420 – Statement of Bidder’s Qualifications
- Document 00423 – Certification to Bidder’s Experience & Qualifications
- Document 00425 – Equipment & Material Suppliers List

5.0 SIGNATURES:

Bidder: _____
[Please print or type the full name of your proprietorship, partnership, corporation, or joint venture.*)

By: _____
[Signature]** [Date]

Name: _____
[Please print or type name] [Title]

Address: _____
[Mailing]

[Street, if different]

Telephone: _____
[Print or type telephone number]

* If the Bid is a joint venture, add additional Bid form signature sheets for each member of the joint venture.



****** *The undersigned, as bidder, certifies that the only person or parties interested in this proposal as principals are those named herein; that the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the Contract for the Project.*

Note: This document constitutes a government record, as defined by § 37.01 of the Texas Penal Code. Submission of a false government record is punishable as provided in § 37.10 of the Texas Penal Code.

END OF DOCUMENT

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Document 00405

SCHEDULE OF UNIT PRICE WORK

This Document, constitutes a Supplement to Document 00310 - Form of Proposal.
 When a Contract is awarded, this Document becomes a supplement to Document 00500 - Form of Agreement between Owner and Contractor.

Base Bid					
SPEC NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE (in figures)	UNIT TOTAL (in figures)
1	Replacement of filter under drains in Existing Filter Basin No. 1.	1	LS	\$	\$
2	Replacement of filter under drains in Existing Filter Basin No. 5	1	LS	\$	\$
Total					\$
In case of DISCREPANCIES, Unit Price RULES OVER Unit Total and Total Amounts.					

TOTAL BID PRICE (Total Unit Prices)

\$ _____

Notes:

⁽¹⁾ United States Dollars. In the event of a discrepancy, this column shall govern.

Project: _____

Project No. _____ Bidder's Signature: _____

Company: _____ Name: _____

Date: _____ Title: _____

END OF DOCUMENT



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Document 00411

BID BOND

PART 1 - GENERAL

1.01 SECTION INCLUDES

This section describes the standardized bid bond form to be submitted with the bid on the project.

1.02 REFERENCES – Not Used

1.03 DEFINITIONS – Section 0700

1.04 BID BOND FORMS

Bidder is to inset an original bid bond or a copy of cashiers check provided for bid bond Purposes. Original check is to be submitted along with bid.

PART 2 - PRODUCT – Not Used

PART 3 - EXECUTION

STANDARIZED FORMS FOLLOW

BID BOND (PENAL SUM FORM)

<p>Bidder Name: [Full formal name of Bidder] Address <i>(principal place of business)</i>: [Address of Bidder’s principal place of business]</p>	<p>Surety Name: [Full formal name of Surety] Address <i>(principal place of business)</i>: [Address of Surety’s principal place of business]</p>
<p>Owner Name: [Full formal name of Owner] Address <i>(principal place of business)</i>: [Address of Owner’s principal place of business]</p>	<p>Bid Project <i>(name and location)</i>: [Owner project/contract name, and location of the project] Bid Due Date: [Enter date bid is due]</p>
<p>Bond Penal Sum: [Amount] Date of Bond: [Date]</p>	
<p>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.</p>	
<p>Bidder</p>	<p>Surety</p>
<p style="text-align: center;"><i>(Full formal name of Bidder)</i></p>	<p style="text-align: center;"><i>(Full formal name of Surety) (corporate seal)</i></p>
<p>By: _____ <i>(Signature)</i></p>	<p>By: _____ <i>(Signature) (Attach Power of Attorney)</i></p>
<p>Name: _____ <i>(Printed or typed)</i></p>	<p>Name: _____ <i>(Printed or typed)</i></p>
<p>Title: _____</p>	<p>Title: _____</p>
<p>Attest: _____ <i>(Signature)</i></p>	<p>Attest: _____ <i>(Signature)</i></p>
<p>Name: _____ <i>(Printed or typed)</i></p>	<p>Name: _____ <i>(Printed or typed)</i></p>
<p>Title: _____</p>	<p>Title: _____</p>
<p><i>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.</i></p>	

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.
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.

END OF SECTION

DOCUMENT 00420

STATEMENT OF BIDDER'S QUALIFICATIONS

ARTICLE 1—GENERAL INFORMATION

1.01 Provide contact information for the Business:

Legal Name of Business:			
Corporate Office			
Name:		Phone number:	
Title:		Email address:	
Business address of corporate office:			
Local Office			
Name:		Phone number:	
Title:		Email address:	
Business address of local office:			

1.02 Provide information on the Business's organizational structure:

Form of Business:	<input type="checkbox"/> Sole Proprietorship <input type="checkbox"/> Partnership <input type="checkbox"/> Corporation		
<input type="checkbox"/> Limited Liability Company <input type="checkbox"/> Joint Venture comprised of the following companies:			
	1.		
	2.		
	3.		
Provide a separate Qualification Statement for each Joint Venturer.			
Date Business was formed:		State in which Business was formed:	
Is this Business authorized to operate in the Project location? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Pending			

1.03 Identify all businesses that own Business in whole or in part (25% or greater), or that are wholly or partly (25% or greater) owned by Business:

Name of business:		Affiliation:	
Address:			

Name of business:		Affiliation:	
Address:			
Name of business:		Affiliation:	
Address:			

1.04 Provide information regarding the Business's officers, partners, and limits of authority.

Name:		Title:	
Authorized to sign contracts:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Limit of Authority:	\$
Name:		Title:	
Authorized to sign contracts:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Limit of Authority:	\$
Name:		Title:	
Authorized to sign contracts:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Limit of Authority:	\$
Name:		Title:	

ARTICLE 2—LICENSING

2.01 Provide information regarding licensure for Business, if applicable:

Name of License:			
Licensing Agency:			
License No:		Expiration Date:	
Name of License:			
Licensing Agency:			
License No:		Expiration Date:	

ARTICLE 3—DIVERSE BUSINESS CERTIFICATIONS

3.01 Provide information regarding Business's Diverse Business Certification, if any. Provide evidence of current certification.

Certification	Certifying Agency	Certification Date
<input type="checkbox"/> Disadvantaged Business Enterprise		
<input type="checkbox"/> Minority Business Enterprise		
<input type="checkbox"/> Woman-Owned Business Enterprise		
<input type="checkbox"/> Small Business Enterprise		
<input type="checkbox"/> Disabled Business Enterprise		
<input type="checkbox"/> Veteran-Owned Business Enterprise		
<input type="checkbox"/> Service-Disabled Veteran-Owned Business		

<input type="checkbox"/> HUBZone Business (Historically Underutilized) Business		
<input type="checkbox"/> Other		
<input type="checkbox"/> None		

ARTICLE 4—SAFETY

4.01 Provide information regarding Business’s safety organization and safety performance.

Name of Business’s Safety Officer:		
Safety Certifications		
Certification Name	Issuing Agency	Expiration

4.02 Provide Worker’s Compensation Insurance Experience Modification Rate (EMR), Total Recordable Frequency Rate (TRFR) for incidents, and Total Number of Recorded Manhours (MH) for the last 3 years and the EMR, TRFR, and MH history for the last 3 years of any proposed Subcontractor(s) that will provide Work valued at 10% or more of the Contract Price. Provide documentation of the EMR history for Business and Subcontractor(s).

Year									
Company	EMR	TRFR	MH	EMR	TRFR	MH	EMR	TRFR	MH

ARTICLE 5—FINANCIAL

5.01 Provide Annual Gross Revenue (Past Year): \$100,000 or less \$100,000 - \$500,000
 \$500,000 - \$1,000,000 \$1,000,000 - \$5,000,000 \$5,000,000 and over

5.02 Will bidder/proposer provide copy of its financial statements for the past two years , if requested by the City of Edinburg? Yes No

ARTICLE 6—SURETY INFORMATION

6.01 Provide information regarding the surety company that will issue required bonds on behalf of the Business, including but not limited to performance and payment bonds.

Surety Name:		
Surety is a corporation organized and existing under the laws of the state of:		
Is surety authorized to provide surety bonds in the Project location?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Is surety listed in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" published in Department Circular 570 (as amended) by the Bureau of the Fiscal Service, U.S. Department of the Treasury? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Mailing Address (principal place of business):			
Physical Address (principal place of business):			
Phone (main):		Phone (claims):	

ARTICLE 7—INSURANCE

7.01 Provide information regarding Business’s insurance company(s), including but not limited to its Commercial General Liability carrier. Provide information for each provider.

Name of insurance provider, and type of policy (CLE, auto, etc.):			
Insurance Provider	Type of Policy (Coverage Provided)		
Are providers licensed or authorized to issue policies in the Project location?			<input type="checkbox"/> Yes <input type="checkbox"/> No
Does provider have an A.M. Best Rating of A-VII or better?			<input type="checkbox"/> Yes <input type="checkbox"/> No
Mailing Address (principal place of business):			
Physical Address (principal place of business):			
Phone (main):		Phone (claims):	

ARTICLE 8—CONSTRUCTION EXPERIENCE

8.01 Provide information that will identify the overall size and capacity of the Business.

Average number of current full-time employees:	
Estimate of revenue for the current year:	
Estimate of revenue for the previous year:	

8.02 Provide information regarding the Business's previous contracting experience.

Years of experience with projects like the proposed project:		
As a general contractor:		As a joint venturer:
Has Business, or a predecessor in interest, or an affiliate identified in Paragraph 1.03:		
Been disqualified as a bidder by any local, state, or federal agency within the last 5 years? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Been barred from contracting by any local, state, or federal agency within the last 5 years? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Been released from a bid in the past 5 years? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Defaulted on a project or failed to complete any contract awarded to it? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Refused to construct or refused to provide materials defined in the contract documents or in a change order? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Been a party to any currently pending litigation or arbitration? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Provide full details in a separate attachment if the response to any of these questions is Yes.		

- 8.03 List all projects currently under contract in Schedule A and provide indicated information.
- 8.04 List a minimum of three and a maximum of six projects completed in the last 5 years in Schedule B and provide indicated information to demonstrate the Business's experience with projects similar in type and cost of construction.
- 8.05 In Schedule C, provide information on key individuals whom Business intends to assign to the Project. Provide resumes for those individuals included in Schedule C. Key individuals include the Project Manager, Project Superintendent, Quality Manager, and Safety Manager. Resumes may be provided for Business's key leaders as well.

ARTICLE 9—REQUIRED ATTACHMENTS

- 9.01 Provide the following information with the Statement of Qualifications:
 - A. If Business is a Joint Venture, separate Qualifications Statements for each Joint Venturer, as required in Paragraph 1.02.
 - B. Diverse Business Certifications if required by Paragraph 3.01.
 - C. Certification of Business's safety performance if required by Paragraph 4.02.
 - D. Financial statements as required by Paragraph 5.01.
 - E. Attachments providing additional information as required by Paragraph 8.02.
 - F. Schedule A (Current Projects) as required by Paragraph 8.03.
 - G. Schedule B (Previous Experience with Similar Projects) as required by Paragraph 8.04.
 - H. Schedule C (Key Individuals) and resumes for the key individuals listed, as required by Paragraph 8.05.
 - I. Additional items as pertinent.

This Statement of Qualifications is offered by:

Business: _____
(typed or printed name of organization)

By: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Date: _____
(date signed)

(If Business 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)

Address for giving notices:

Designated Representative:

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Address: _____

Phone: _____

Email: _____

Schedule A—Current Projects

Name of Organization				Project Name							
Project Owner				Project Name							
General Description of Project											
Project Cost				Date Project							
Key Project Personnel		Project Manager		Project Superintendent		Safety Manager		Quality Control Manager			
Name											
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)											
		Name		Title/Position		Organization		Telephone		Email	
Owner											
Designer											
Construction Manager											

Project Owner				Project Name							
Project Owner				Project Name							
General Description of Project											
Project Cost				Date Project							
Key Project Personnel		Project Manager		Project Superintendent		Safety Manager		Quality Control Manager			
Name											
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)											
		Name		Title/Position		Organization		Telephone		Email	
Owner											
Designer											
Construction Manager											

Project Owner				Project Name							
Project Owner				Project Name							
General Description of Project											
Project Cost				Date Project							
Key Project Personnel		Project Manager		Project Superintendent		Safety Manager		Quality Control Manager			
Name											
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)											
		Name		Title/Position		Organization		Telephone		Email	
Owner											
Designer											
Construction Manager											

Schedule B—Previous Experience with Similar Projects

Name of Organization					
Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel		Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					
Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel		Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					
Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel		Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Schedule B—Previous Experience with Similar Projects

Name of Organization					
Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel		Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					
Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel		Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					
Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel		Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Schedule C—Key Individuals

Project Manager			
Name of individual			
Years of experience as project manager			
Years of experience with this organization			
Number of similar projects as project manager			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	
Project Superintendent			
Name of individual			
Years of experience as project superintendent			
Years of experience with this organization			
Number of similar projects as project superintendent			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	

Safety Manager			
Name of individual			
Years of experience as project manager			
Years of experience with this organization			
Number of similar projects as project manager			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	
Quality Control Manager			
Name of individual			
Years of experience as project superintendent			
Years of experience with this organization			
Number of similar projects as project superintendent			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	

END OF DOCUMENT

DOCUMENT 00423

**CERTIFICATE OF BIDDER'S
EXPERIENCE & QUALIFICATIONS**

The undersigned bidder certifies that he is, at the time of bidding, and shall be, throughout the period of the contract, licensed by the State of Texas to do the type of work required under terms of the contract documents. Bidder further certifies that he is skilled and regularly engaged in the general class and type of work called for in the contract documents.

The bidder represents that he is competent, knowledgeable and has special skills on the nature, extent and inherent conditions of the work to be performed. Bidder further acknowledges that there are certain peculiar and inherent conditions existent in the construction of the particular facilities which may create, during the construction program, unusual or peculiar unsafe conditions hazardous to persons and property. Bidder expressly acknowledges that he is aware of such peculiar risks and that he has the skill and experience to foresee and to adopt protective measures to adequately and safely perform the construction work with respect to such hazards.

Signed this _____ day of _____, 20____.

Name of Bidder

Signature of Bidder

Title of Signatory

END OF SECTION

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Executed this: _____ Day of : _____ 20. _____

By: _____
BIDDER

Title: _____

NOTARY PUBLIC

State of Texas

County of:

Subscribed and sworn to before me this: _____

NOTARY PUBLIC

END OF SECTION

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DOCUMENT 00429

CITY OF EDINBURG NON-BRIBERY MODEL FORM

[Bidder's letterhead]**[Date]****[Name and address]**Dear *City of Edinburg* :

The undersigned party certifies that **[Name of bidding company]** complies with the following criteria:

1. They have not engaged and will not engage in bribery of officials related to potential or active City of Edinburg projects.
2. Respondents shall not offer gratuities, favors or any monetary value to any official or employee of the City for purpose of influencing the selection. Any attempt by any Respondent to influence the selection process by any means, other than disclosure of qualifications and credentials through the proper channels, shall be grounds from exclusion from the selection process. Once the project is advertised, there shall be no contact with any city official or employee unless using the formal process through the Purchasing Department. Failure to comply will result in the firm being disqualified from the process.
3. They have corporate policies that clearly prohibit the use of any bribery in a corporate activity.
4. They have neither been convicted of (nor found by a civil judgment to have committed) bribery of domestic officials, fraud, embezzlement, theft, forgery, destruction of records, making false statements to government officials, receiving stolen property, or any other offense indicating a lack of business integrity or business honesty, within five years of the date of this certification.

Printed name

Signature

Position in bidding company

Date

END OF SECTION

Document 00450

POST-BID PROCEDURES**1.0 DOCUMENT INCLUDES**

- A. Notice of Intent to Award.
- B. Agreement.
- C. Requirements of Bidder.
- D. Failure of Bidder to comply with requirements.
- E. Notice to Proceed.
- F. Pre-construction Conference.
- G. Starting the Project.

2.0 NOTICE OF INTENT TO AWARD

- A. Owner will provide written Notice of Intent to Award (the Contract) to the selected bid or proposal, stating that upon compliance with the conditions listed herein within 14 days after receipt of the notice, and on approval by Owner, Owner will execute and deliver the Agreement.

3.0 FORM OF AGREEMENT

- A. The Agreement shall be Document 00500 - Agreement between the Owner and Contractor, together with Supplements enumerated in and attached thereto.

4.0 REQUIREMENTS OF BIDDER

- A. Within 14 days of receipt of the Notice of Intent to Award, the selected bidder or proposal shall execute and deliver to the Engineer for the Owner's approval those documents indicated by an "X" below:

- Document 00500 - Agreement Between the Owner and Contractor
- Document 00610 - Performance Bond (100% of the Contract Amount)
- Document 00620 - Payment Bond (100% of the Contract Amount)
- Document 00625 - Affidavit of Insurance (*with Certificate of Insurance attached*)

5.0 FAILURE OF BIDDER TO COMPLY WITH REQUIREMENTS

- A. Should the Bidder on receipt of the Notice of Intent to Award fail to comply with requirements of this Document 00450 within the stated time, the Owner may declare the award in default and require forfeiture of the Security Deposit.
- B. After Owner's written notice of default to the Bidder or proposal, Owner may award the Contract to the responsible Bidder whose offer is the next advantageous bid or proposal, and the Security Deposit of the Bidder in default shall be forfeited to the Owner in accordance with the provisions of Document 00100 - Instructions to Bidders.

6.0 NOTICE TO PROCEED

00450-1 of 2

- A. Upon Owner's execution of the Agreement and delivery to Contractor, the Engineer shall give the Contractor Notice to Proceed within 30 days after the Effective Date of the Agreement, which notice shall establish the Date of Commencement of the Work.

7.0 PRE-CONSTRUCTION CONFERENCE

- A. Not later than 10 days after the date of Notice to Proceed, but before Contractor starts work at the site, Owner will convene a Pre-construction Conference as specified in Section 01312 - Coordination and Meetings.

8.0 STARTING THE PROJECT

- A. Contractor shall start performance of the Work at the site on the Date of the Commencement of the Work, but no Work shall be done at the site prior to that date.
- B. As Contractor, verify that you and all Subcontractors pay the Prevailing Wage.

END OF DOCUMENT

SECTION 00460

NONCOLLUSION AFFIDAVIT**PART 1 - GENERAL****1.01 SECTION INCLUDES**

This section describes the standardized forms for use in Bidder and Contractor representations and certifications for the project.

1.02 REFERENCES – Not Used**1.03 DEFINITIONS – Section 0700****1.04 REPRESENTATIONS AND CERTIFICATIONS**

- A. Affidavit of Non-collusion
- B. Historically Underutilized Business (HUB) Certification (Bidder to insert appropriate certification notice at the end of this Section).

PART 2 - PRODUCT – Not Used**PART 3 - EXECUTION – Not Used**

STANDARIZED FORMS FOLLOW

NONCOLLUSION AFFIDAVIT OF PRIME BIDDER

STATE OF TEXAS
COUNTY OF HIDALGO

_____, being first duly sworn, deposes and says that:

(Name)

(1) He is President of _____, the Bidder that has submitted the attached Bid;
(Company)

(2) He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

(3) Such Bid is genuine and is not a collusive or sham Bid.

(4) Neither said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed directly or indirectly with another Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such contract, or has in any manner, directly or indirectly sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix an overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the **CITY OF EDINBURG**, or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including affiant.

Sign _____

Title _____

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

By:

Notary Public
My commission expires

END OF SECTION



SECTION 00470

CONFLICT OF INTEREST DISCLOSURE

PART 1 - GENERAL

1.01 SECTION INCLUDES

This section describes the standardized forms for use in Bidder and Contractor representations and certifications for the project.

1.02 REFERENCES – Not Used

1.03 DEFINITIONS – Section 0700

1.04 REPRESENTATIONS AND CERTIFICATIONS

A. Conflict of Interest Disclosure

PART 2 - PRODUCT – Not Used

PART 3 - EXECUTION – Not Used

STANDARDIZED FORMS FOLLOW

CONFLICT OF INTEREST DISCLOSURE

Prospective contractors should carefully consider whether any of their activities may give rise to an improper conflict of interest situation. Conflict of interest situations that are not properly addressed can result in a loss of funding to a specific program and/or to the City of Edinburg, and in some cases can result in civil or criminal liability.

Organizations that may enter into a contract with the City of Edinburg should examine the following:

- * Are any employees or board members of the organization,
 - A City of Edinburg employee or consultant who exercises program or project specific functions as part of their City position?
 - A member of a Board, Council or Committee that may participate in the City's selection or award process?
 - A City Official?

- * Are any immediate family members or business associates of my employees or board member's,
 - A City of Edinburg employee or consultant who participates in the City's selection or award process as part of their City position?
 - A member of a Board, Council or Committee that may participate in the City's selection or award process?
 - A City Official?

- * Will any of my employees or board members receive a financial interest or benefit from any project funded and administered through the City (other than employee salaries or personnel benefits)?

- * Will any immediate family members or business associates of my employees or board members receive a financial interest or benefit from any project funded and administered through the City (other than employee salaries or personnel benefits)?

- * To my knowledge, will my program or project have a financial effect on a City official or employee who exercises City-related functions, or an immediate family member or business associate of such person? For example, will any of these persons be receiving rental payments, other business income, or program services from my company or services offered?

If you can answer "yes" to any of these questions, it is possible that there may be a conflict of interest. You should review the rules below to determine whether an actual conflict situation is raised, and, if so, what action needs to be taken to avoid a violation of the law. You should contact City staff immediately if you suspect that there might be an issue.

Any contractor entering into an agreement with the City will be required to warrant and represent, to the best of his/her knowledge at the time the contract is executed, he/she is not aware of any improper conflict of interest as described. Also, the contract will obligate contractors to exercise due diligence to ensure that no improper conflict situations occur during the contract.

The following Federal, State and local regulations and policies, govern projects funded through the City of Edinburg:

- * 2 CFR Part 200 [Subpart B 200.112 and Subpart D 200.318]
- * Texas Local Government Code Chapter 171.004
- * City of Edinburg Policies & Procurement Manual

a. Certification:

I, the undersigned, certify and report that to the best of my knowledge,

I have no conflict of interest to disclose

I have the following conflict of interest to disclose:

Date:

Company/Vendor Name:

Printed Name and Title:

Authorized Signatory:

END OF SECTION

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Document 00500

AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT

This Agreement is by and between CITY OF EDINBURG (“Owner”) and (Contractor Name) (“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:

WORK

- 1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: construction of **Water Treatment Plant Improvements – Rehabilitation of Existing Filters**
- 1.02 Contractor is responsible for requesting a permit from the City of Edinburg – Permits Department in a timely manner as soon as a Notice to Proceed is issued.

THE PROJECT

- 2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: **RFP No. 2021-012**

ENGINEER

- 3.01 The Owner has retained **Cruz-Hogan Consultants, Inc** (“Engineer”) to act as Owner’s representative, assume all duties and responsibilities of Engineer, and have the rights and authority assigned to Engineer in the Contract.
- 3.02 The part of the Project that pertains to the Work has been designed by **Cruz-Hogan Consultants, Inc**

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.
- 4.02 *Contract Times: Dates*
 - A. The Work will be substantially complete on or before (Date), and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before (Date).

4.03 *Milestones*

- A. Parts of the Work must be substantially completed on or before the following Milestone(s):
1. Milestone 1 **Substantial Completion / (Date)**
 2. Milestone 2 **Final Completion / (Date)**

4.04 *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 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 **based on fees below** 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.

For Contract of Amount			Cost Per Day
\$5,000.00	To	\$25,000.00	\$100.00
\$25,000.01	To	\$100,000.00	\$200.00
\$100,000.01	To	\$500,000.00	\$250.00
\$500,000.01	To	\$1,000,000.00	\$300.00
\$1,000,000.01	To	\$2,000,000.00	\$400.00
\$2,000,000.01	To	\$3,000,000.00	\$500.00
\$3,000,000.01	To	\$4,000,000.00	\$600.00
\$4,000,000.01	To	\$5,000,000.00	\$700.00
\$5,000,000.01	And	Over	\$800.00

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 **\$500.00** 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, Owner is not precluded from recovering other damages, whether actual, direct, excess, or consequential, for such delay, including for special damages (if any) specified in this Agreement.

4.06 *Special Damages*

- A. Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor’s failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.
- B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.
- C. The special damages imposed in this paragraph are supplemental to any liquidated damages for delayed completion established in this Agreement.

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:

- A. For all Work other than Unit Price Work, a lump sum of _____
All specific cash allowances are included in the above price in accordance with Paragraph 13.02 of the General Conditions.
- 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).

Unit Price Work (Base Bid)					
Item No.	Description	Unit	Estimated Quantity	Unit Price	Extended Price
1	24" H.P. DRAIN PIPE (Example)	LF	740	\$46.51	\$34,417.40

Unit Price Work (Base Bid)					
Item No.	Description	Unit	Estimated Quantity	Unit Price	Extended Price
Total of all Extended Prices for Unit Price Work (subject to final adjustment based on actual quantities)					\$XX

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 Lump Sum Amount and Unit Price Work (subject to final Unit Price adjustment) \$ _____
- D. For all Work, at the prices stated in Contractor’s Bid, attached hereto as an exhibit.

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 on or about the 25th 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. **95** percent of the value of the Work completed (with the balance being retainage); and
 - b. **95** 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 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.
- 6.05 *Interest*
- A. All amounts not paid when due will bear interest at the rate of **[number]** percent per annum.

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. Drawings (not attached but incorporated by reference) consisting of **(Number of _____ Sheets)** sheets with each sheet bearing the following general title:
Water Treatment Plant Improvements-Rehabilitation of Existing Filters
 - 7. **Addenda (numbers _____ inclusive).**
 - 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.
- 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.

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, 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. The Supplementary Conditions may also the terms, conditions and provisions of the General Conditions.

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

This Agreement will be effective on **(Month) (Date), (Year)** (which is the Effective Date of the Contract).

Owner:

Contractor:

City of Edinburg
(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 **(Contractor Name)** 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:

City of Edinburg

415 W. University Drive

Edinburg, TX 78539

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 City of Edinburg 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: _____

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SECTION 00510

NOTICE OF AWARD

PART 1 - GENERAL

1.01 SECTION INCLUDES

This section describes the standardized Notice of Award form for use in the project.

1.02 REFERENCES – Not Used

1.03 DEFINITIONS – Section 0700

PART 2 - PRODUCT – Not Used

PART 3 - EXECUTION (FORMS ON FOLLOWING PAGES)

STANDARDIZED FORM FOLLOWS

NOTICE OF AWARD**Date**

Owner: City of Edinburg

Owner's Project No.: **Bid#:** _____Engineer: **Name**Project: **Name**Bidder: **Name**Bidder's Address: **Address**

You are notified that Owner has accepted your Proposal dated **(Date)** for the above Contract, and that you are the Successful Proposal and are awarded a Contract for:

Base Proposal

The Contract Price of the awarded Contract is **(Contract Amount)**. 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.

Four (4) 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 by Engineer of Record.

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 **four (4)** 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.

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

Within 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: **City of Edinburg**

By (signature): _____

Name (*printed*): Mardoqueo Hinojosa, P.E., CFM, CPM

Title: City Engineer

Cc: Cruz-Hogan Consultants, Inc.

END OF SECTION

SECTION 00550

NOTICE TO PROCEED

PART 1 - GENERAL

1.01 SECTION INCLUDES

This section describes the standardized Notice to Proceed form for use in the project.

1.02 REFERENCES – Not Used

1.03 DEFINITIONS – Section 0700

PART 2 - PRODUCT – Not Used

PART 3 - EXECUTION

TO BE ISSUED BY ENGINEER

NOTICE TO PROCEED

Date:

To:

Project No.: Bid#: _____

Project: Water Treatment Plant Improvements-Rehabilitation of Existing Filters

You are notified that the Contract Time under the above contract will commence to run on _____ . By this date you are to start performing your obligations under the Contract Documents.

In accordance with the Agreement the date of Substantial Completion is _____ and Final Completion is _____, respectively.

Before you may start any Work at the site, the General Conditions and Contract Documents provides that you and Owner must each deliver to the other (with copies to ENGINEER) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Also before you may start any work at the site you must

- 1. Notify the City 48 hours prior to beginning construction.
- 2. Setup construction barricades.
- 3. Setup erosion control measures.
- 4. _____
- 5. _____

Copy to ENGINEER:

Cruz-Hogan Consultants, Inc

OWNER: City of Edinburg

By _____
 (Name)

 (Title)
 Title

By _____
 Mardoqueo Hinojosa

 City Engineer
 Title

ACCEPTANCE OF NOTICE BY BIDDER

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by _____, this the _____ day of _____, 20____. (Contractor)

BY: _____

TITLE: _____

END OF SECTION



PERFORMANCE BOND

<p>Contractor Name: [Full formal name of Contractor] Address <i>(principal place of business)</i>: [Address of Contractor's principal place of business]</p>	<p>Surety Name: [Full formal name of Surety] Address <i>(principal place of business)</i>: [Address of Surety's principal place of business]</p>
<p>Owner Name: [Full formal name of Owner] Mailing address <i>(principal place of business)</i>: [Address of Owner's principal place of business]</p>	<p>Contract Description <i>(name and location)</i>: [Owner's project/contract name, and location of the project] Contract Price: [Amount from Contract] Effective Date of Contract: [Date from Contract]</p>
<p>Bond Bond [Amount] Date of Bond: [Date] <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 16</p>	
<p>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.</p>	
<p>Contractor as Principal</p>	<p>Surety</p>
<p>_____ <i>(Full formal name of Contractor)</i></p>	<p>_____ <i>(Full formal name of Surety) (corporate seal)</i></p>
<p>By: _____ <i>(Signature)</i></p>	<p>By: _____ <i>(Signature)(Attach Power of Attorney)</i></p>
<p>Name: _____ <i>(Printed or typed)</i></p>	<p>Name: _____ <i>(Printed or typed)</i></p>
<p>Title: _____</p>	<p>Title: _____</p>
<p>Attest: _____ <i>(Signature)</i></p>	<p>Attest: _____ <i>(Signature)</i></p>
<p>Name: _____ <i>(Printed or typed)</i></p>	<p>Name: _____ <i>(Printed or typed)</i></p>
<p>Title: _____</p>	<p>Title: _____</p>
<p><i>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.</i></p>	

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 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 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]**

PAYMENT BOND

<p>Contractor Name: [Full formal name of Contractor] Address <i>(principal place of business)</i>: [Address of Contractor's principal place of business]</p>	<p>Surety Name: [Full formal name of Surety] Address <i>(principal place of business)</i>: [Address of Surety's principal place of business]</p>
<p>Owner Name: [Full formal name of Owner] Mailing address <i>(principal place of business)</i>: [Address of Owner's principal place of business]</p>	<p>Contract Description <i>(name and location)</i>: [Owner's project/contract name, and location of the project] Contract Price: [Amount, from Contract] Effective Date of Contract: [Date, from Contract]</p>
<p>Bond Bond [Amount] Date of Bond: [Date] <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 18</p>	
<p>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.</p>	
<p>Contractor as Principal</p>	<p>Surety</p>
<p>By: _____ <i>(Full formal name of Contractor)</i> _____ <i>(Signature)</i></p>	<p>By: _____ <i>(Full formal name of Surety) (corporate seal)</i> _____ <i>(Signature)(Attach Power of Attorney)</i></p>
<p>Name: _____ <i>(Printed or typed)</i></p>	<p>Name: _____ <i>(Printed or typed)</i></p>
<p>Title: _____</p>	<p>Title: _____</p>
<p>Attest: _____ <i>(Signature)</i></p>	<p>Attest: _____ <i>(Signature)</i></p>
<p>Name: _____ <i>(Printed or typed)</i></p>	<p>Name: _____ <i>(Printed or typed)</i></p>
<p>Title: _____</p>	<p>Title: _____</p>
<p><i>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.</i></p>	

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.
 - 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.
 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.
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.

Modifications to this Bond are as follows: **[None]**

Document 00625

AFFIDAVIT OF INSURANCE

THE STATE OF TEXAS

§
§ KNOW ALL MEN BY THESE PRESENTS:

THE COUNTY OF _____

BEFORE ME, the undersigned authority, on this day personally appeared

_____, who
[Affiant]

being by me duly sworn on his oath stated that he is _____, of
[Title]

[Contractor's Company Name]

the Contractor named and referred to within the Contract Documents; that he is fully competent and authorized to give this affidavit and that the attached original insurance certificate truly and accurately reflects the insurance coverage that is now available and will be available during the term of the Agreement.

[Affiant's Signature]

SWORN AND SUBSCRIBED before me on _____.
[Date]

Notary Public in and for the State of TEXAS

[Print or type Notary Public name]

[Notary Seal]

My Commission Expires: _____
[Expiration Date]

END OF DOCUMENT



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Document 00630

FORM OF BUSINESS

Please, fill in the appropriate area describing your firm's form of business and include the relevant attachments.

Corporation:

Corporate Name: _____
State of Incorporation: _____
Mailing Address: _____

- Certificate of Assumed Name, if operating under a name different than that on the corporate charter (the Certificate must have been issued within the past ten years to be valid)
- Certificate of Good Standing*
- Certificate of Existence (if non-Texas corporation, Certificate of Authority) *

Partnership/Joint Venture:

Partnership/Joint Venture Name: _____
Mailing Address: _____

- Copy of the Partnership or Joint Venture Agreement, or Affidavit with the name of the partnership or joint venture, the names of the individual partners or participants in the joint venture, and a statement that the partnership or joint venture is in existence
- Certificate of Assumed Name, (the Certificate must have been issued within the past ten years to be valid)
- If firm is a limited partnership, the Certificate of Limited Partnership
- If any partner or joint venturer is a corporation, the above information relating to corporation must be included as to each sum partner or joint venturer.

Sole Proprietorship

Name: _____
Mailing Address: _____

- Certificate of Assumed Name, if operating under a name different than that of the sole proprietor (the Certificate must have been issued within the past ten years to be valid)

* *Must be furnished upon request of the Owner and must be less than 90 days old.*

[Typed Name and Title of Authorized Representative]

[Signature of Authorized Representative]

[Typed Date]

END OF DOCUMENT



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Document 00631

RESOLUTION OF CORPORATION

I hereby certify that it was RESOLVED by a quorum of the directors of

[Name of Corporation / Contractor]

meeting on this _____ day of _____, 20____, that _____,
[Corporate Representative]

be, and hereby is, authorized to act on behalf of the Corporation, as its representative, in all business transactions conducted in the State of Texas, and that the above resolution was unanimously ratified by the Board of Directors at said meeting and that the resolution has not been rescinded or amended and is now in full force and effect; and in authentication of the adoption of this resolution, I subscribe my name and affix the seal of the Corporation on this

_____ day of, _____, 20____.

Secretary/Assistant Secretary

[Seal]

END OF DOCUMENT



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**CONTRACTOR'S RESOLUTION
ON
AUTHORIZED REPRESENTATIVE (ED-104)**

Name or Names

I hereby certify that it was RESOLVED by a quorum of the directors of the

_____, meeting
name of corporation

on the day of _____, 20__, that _____,

_____, and _____, be, and hereby is,

authorized to act on behalf of _____, as its
name of corporation

representative, in all business transactions conducted in the State of Texas, and;

That all above resolution was unanimously ratified by the Board of Directors at said

meeting and that the resolution has not been rescinded or amended and is now in full forces

and effect; and;

In authentication of the adoption of this resolution, I subscribe my name and

affix the seal of the corporation this _____ day of _____, 20__.

Secretary

(seal)



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Document 00635

CONTRACTOR'S ACT OF ASSURANCE

THE STATE OF TEXAS

KNOW ALL MEN BY THESE PRESENTS:

THE COUNTY OF _____

BEFORE ME, the undersigned authority, a Notary Public in and for the State of Texas,

on this day personally appeared _____, Affiant,
[Affiant]

who being by me duly sworn on his oath stated that he is _____, of
[Title]

the _____, Contractor, that he is authorized to represent Contractor
[Contractor]

pursuant to provisions of a resolution adopted on this _____ day of _____, 20____. A duly certified copy of such resolution is attached to and is hereby made a part of this document.

Affiant, in such capacity declares and assures the City of Edinburg that Contractor will construct the Project in accordance with sound construction practice and all laws of the State of Texas.

[Affiant]

SWORN AND SUBSCRIBED before me on this _____ day of _____, 20____.

Notary Public in and for the State of TEXAS

[Print or Type Notary Public Name]

[Seal]

My Commission Expires: _____
[Expiration Date]

END OF DOCUMENT



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Document 00640

**CERTIFICATION REGARDING DEPARTMENT,
SUSPENSION AND OTHER RESPONSIBILITY MATTERS**

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal, State, or local department or agency;
- (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Section 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

[Typed Name of Company:]

[Typed Name & Title of Authorized Representative]

[Signature of Authorized Representative]

[Date]

If unable certify the above statements, explanation is attached.

END OF DOCUMENT

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This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared By



Endorsed By



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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1—Definitions and Terminology.....	1
1.01 Defined Terms.....	1
1.02 Terminology	6
Article 2—Preliminary Matters.....	7
2.01 Delivery of Performance and Payment Bonds; Evidence of Insurance.....	7
2.02 Copies of Documents	7
2.03 Before Starting Construction	8
2.04 Preconstruction Conference; Designation of Authorized Representatives.....	8
2.05 Acceptance of Schedules	8
2.06 Electronic Transmittals	9
Article 3—Contract Documents: Intent, Requirements, Reuse.....	9
3.01 Intent.....	9
3.02 Reference Standards.....	10
3.03 Reporting and Resolving Discrepancies	10
3.04 Requirements of the Contract Documents.....	11
3.05 Reuse of Documents	11
Article 4—Commencement and Progress of the Work	12
4.01 Commencement of Contract Times; Notice to Proceed.....	12
4.02 Starting the Work.....	12
4.03 Reference Points	12
4.04 Progress Schedule.....	12
4.05 Delays in Contractor’s Progress	12
Article 5—Site; Subsurface and Physical Conditions; Hazardous Environmental Conditions	14
5.01 Availability of Lands	14
5.02 Use of Site and Other Areas.....	14
5.03 Subsurface and Physical Conditions.....	15
5.04 Differing Subsurface or Physical Conditions	16

5.05	Underground Facilities.....	18
5.06	Hazardous Environmental Conditions at Site	19
Article 6—Bonds and Insurance.....		22
6.01	Performance, Payment, and Other Bonds.....	22
6.02	Insurance—General Provisions.....	22
6.03	Contractor’s Insurance.....	24
6.04	Builder’s Risk and Other Property Insurance.....	25
6.05	Property Losses; Subrogation	26
6.06	Receipt and Application of Property Insurance Proceeds	27
Article 7—Contractor’s Responsibilities		27
7.01	Contractor’s Means and Methods of Construction	27
7.02	Supervision and Superintendence	28
7.03	Labor; Working Hours	28
7.04	Services, Materials, and Equipment	28
7.05	“Or Equals”.....	29
7.06	Substitutes	30
7.07	Concerning Subcontractors and Suppliers.....	31
7.08	Patent Fees and Royalties.....	32
7.09	Permits	33
7.10	Taxes	33
7.11	Laws and Regulations.....	33
7.12	Record Documents.....	34
7.13	Safety and Protection	34
7.14	Hazard Communication Programs	35
7.15	Emergencies.....	35
7.16	Submittals	36
7.17	Contractor’s General Warranty and Guarantee	38
7.18	Indemnification	39
7.19	Delegation of Professional Design Services	40
Article 8—Other Work at the Site.....		41
8.01	Other Work	41
8.02	Coordination	41
8.03	Legal Relationships.....	42

Article 9—Owner’s Responsibilities	43
9.01 Communications to Contractor	43
9.02 Replacement of Engineer	43
9.03 Furnish Data	43
9.04 Pay When Due.....	43
9.05 Lands and Easements; Reports, Tests, and Drawings	43
9.06 Insurance.....	43
9.07 Change Orders	43
9.08 Inspections, Tests, and Approvals.....	44
9.09 Limitations on Owner’s Responsibilities	44
9.10 Undisclosed Hazardous Environmental Condition.....	44
9.11 Evidence of Financial Arrangements.....	44
9.12 Safety Programs	44
Article 10—Engineer’s Status During Construction	44
10.01 Owner’s Representative.....	44
10.02 Visits to Site.....	44
10.03 Resident Project Representative.....	45
10.04 Engineer’s Authority	45
10.05 Determinations for Unit Price Work	45
10.06 Decisions on Requirements of Contract Documents and Acceptability of Work	45
10.07 Limitations on Engineer’s Authority and Responsibilities	45
10.08 Compliance with Safety Program.....	46
Article 11—Changes to the Contract	46
11.01 Amending and Supplementing the Contract	46
11.02 Change Orders	46
11.03 Work Change Directives.....	47
11.04 Field Orders.....	47
11.05 Owner-Authorized Changes in the Work.....	47
11.06 Unauthorized Changes in the Work.....	48
11.07 Change of Contract Price	48
11.08 Change of Contract Times.....	49
11.09 Change Proposals	49
11.10 Notification to Surety.....	51

Article 12—Claims.....	51
12.01 Claims.....	51
Article 13—Cost of the Work; Allowances; Unit Price Work	52
13.01 Cost of the Work	52
13.02 Allowances	56
13.03 Unit Price Work.....	56
Article 14—Tests and Inspections; Correction, Removal, or Acceptance of Defective Work	57
14.01 Access to Work.....	57
14.02 Tests, Inspections, and Approvals.....	57
14.03 Defective Work	58
14.04 Acceptance of Defective Work.....	58
14.05 Uncovering Work	59
14.06 Owner May Stop the Work	59
14.07 Owner May Correct Defective Work.....	59
Article 15—Payments to Contractor; Set-Offs; Completion; Correction Period	60
15.01 Progress Payments.....	60
15.02 Contractor’s Warranty of Title	63
15.03 Substantial Completion.....	63
15.04 Partial Use or Occupancy	64
15.05 Final Inspection	65
15.06 Final Payment.....	65
15.07 Waiver of Claims	66
15.08 Correction Period	67
Article 16—Suspension of Work and Termination	68
16.01 Owner May Suspend Work	68
16.02 Owner May Terminate for Cause.....	68
16.03 Owner May Terminate for Convenience.....	69
16.04 Contractor May Stop Work or Terminate	69
Article 17—Final Resolution of Disputes	70
17.01 Methods and Procedures.....	70
Article 18—Miscellaneous	70
18.01 Giving Notice	70
18.02 Computation of Times.....	70

18.03	Cumulative Remedies	70
18.04	Limitation of Damages	71
18.05	No Waiver	71
18.06	Survival of Obligations	71
18.07	Controlling Law	71
18.08	Assignment of Contract.....	71
18.09	Successors and Assigns	71
18.10	Headings.....	71

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.
 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.
 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.
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.
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 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 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.

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 reproduction.
- 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 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, 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, Engineer, and Contractor shall jointly develop such protocols.
- 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 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 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, 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

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 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.
- 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.

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.
- 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.

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 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.

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.

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.

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.
- 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.

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) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 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.
- 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 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 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 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;
 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 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 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 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.

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 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 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;
 - 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 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.
- 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 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.

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.
- 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 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.

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.

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.
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.

- 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
 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*

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.
- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.
- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this Paragraph 7.19;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.

- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

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.
- 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.
- 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 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. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement 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.

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

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 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 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 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.
- 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.
 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:
 - 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 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.

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;
 - 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 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.

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,

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, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 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 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 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.
- 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, 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.
 - 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.
- 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 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.
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;
 - 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 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 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;
 - 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.
- 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 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.
- 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.

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.

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.

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.

18.10 *Headings*

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

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared By



Endorsed By



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SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
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	6
Article 8— Other Work at the Site	7
Article 9— Owner’s Responsibilities	7
Article 10— Engineer’s Status During Construction	7
Article 11— Changes to the Contract	8
Article 12— Claims.....	8
Article 13— Cost of Work; Allowances, Unit Price Work.....	8
Article 14— Tests and Inspections; Correction, Removal, or Acceptance of Defective Work.....	9
Article 15— Payments to Contractor, Set Offs; Completions; Correction Period	9
Article 16— Suspension of Work and Termination	10
Article 17— Final Resolutions of Disputes	10
Article 18— Miscellaneous	10
Exhibit A— Software Requirements for Electronic Document Exchange.....	
Exhibit B— Foreseeable Bad Weather Days	
Exhibit C— Geotechnical Baseline Report Supplement to the Supplementary Conditions	

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

These Supplementary Conditions amend or supplement EJCDC® C-700, Standard General Conditions of the Construction Contract (2018). The General Conditions remain in full force and effect except as amended.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added—for example, "Paragraph SC-4.05."

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

No suggested Supplementary Conditions in this Article.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

SC-2.01 Delete Paragraphs 2.01.B. and C. in their entirety and insert the following in their place:

- B. *Evidence of Contractor's Insurance:* When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner copies of the policies (including all endorsements, and identification of applicable self-insured retentions and deductibles) of insurance required to be provided by Contractor in this Contract. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- C. *Evidence of Owner's Insurance:* After receipt from Contractor of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor copies of the policies of insurance to be provided by Owner in this Contract (if any). Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.05 *Delays in Contractor's Progress*

SC-4.05 Amend Paragraph 4.05.C by adding the following subparagraphs:

- 5. *Weather-Related Delays*
 - a. If "abnormal weather conditions" as set forth in Paragraph 4.05.C.2 of the General Conditions are the basis for a request for an equitable adjustment in the Contract Times, such request must be documented by data substantiating each of

the following: 1) that weather conditions were abnormal for the period of time in which the delay occurred, 2) that such weather conditions could not have been reasonably anticipated, and 3) that such weather conditions had an adverse effect on the Work as scheduled.

- b. The existence of abnormal weather conditions will be determined on a month-by-month basis in accordance with the following:
 - 1) Every workday on which one or more of the following conditions exist will be considered a “bad weather day”:
 - i) Total precipitation (as rain equivalent) occurring between 7:00 p.m. on the preceding day (regardless of whether such preceding day is a workday) through 7:00 p.m. on the workday in question equals or exceeds average precipitation as rain equivalent for previous 5 years, as determined by National Weather Service.
 - 2) Determination of actual bad weather days during performance of the Work will be based on the weather records measured and recorded by **National Weather Service** weather monitoring station at **Brownsville, TX**.
 - 3) Contractor shall anticipate the number of foreseeable bad weather days per month.
 - 4) In each month, every bad weather day exceeding the number of foreseeable bad weather days will be considered as “abnormal weather conditions.” The existence of abnormal weather conditions will not relieve Contractor of the obligation to demonstrate and document that delays caused by abnormal weather are specific to the planned work activities or that such activities thus delayed were on Contractor’s then-current Progress Schedule’s critical path for the Project.

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

SC 5.02 Remove wording from Paragraph 5.02 A.2 “or otherwise resolve the claim by arbitration or other dispute resolution proceeding.”

5.03 *Subsurface and Physical Conditions*

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.A:

1. *Required Performance Bond Form:* The performance bond that Contractor furnishes will be in the form of EJCDC® C-610, Performance Bond (2010, 2013, or 2018 edition).
2. *Required Payment Bond Form:* The payment bond that Contractor furnishes will be in the form of EJCDC® C-615, Payment Bond (2010, 2013, or 2018 edition).

SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.B:

1. After Substantial Completion, Contractor shall furnish a warranty bond issued in the form of EJCDC® C-612, Warranty Bond (2018). The warranty bond must be in a bond amount of **15** percent of the final Contract Price.
2. The warranty bond must be issued by the same surety that issues the performance bond required under Paragraph 6.01.A of the General Conditions.

6.03 *Contractor's Insurance*

SC-6.03 Supplement Paragraph 6.03 with the following provisions after Paragraph 6.03.C:

- E. *Workers' Compensation and Employer's Liability:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance, including, as applicable, United States Longshoreman and Harbor Workers' Compensation Act, Jones Act, stop-gap employer's liability coverage for monopolistic states, and foreign voluntary workers' compensation (from available sources, notwithstanding the jurisdictional requirement of Paragraph 6.02.B of the General Conditions).

Workers' Compensation and Related Policies	Policy limits of not less than:
Workers' Compensation	
State	Statutory
Applicable Federal (e.g., Longshoreman's)	Statutory
Foreign voluntary workers' compensation (employer's responsibility coverage), if applicable	Statutory
Jones Act (if applicable)	
Bodily injury by accident—each accident	\$100,000.00
Bodily injury by disease—aggregate	\$500,000.00
Employer's Liability	
Each accident	\$100,000.00
Each employee	\$100,000.00
Policy limit	\$500,000.00
Stop-gap Liability Coverage	
For work performed in monopolistic states, stop-gap liability coverage must be endorsed to either the worker's compensation or commercial general liability policy with a minimum limit of:	\$500,000.00

- F. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against claims for:
1. damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees,
 2. damages insured by reasonably available personal injury liability coverage, and
 3. damages because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.

- G. *Commercial General Liability—Form and Content:* Contractor’s commercial liability policy must be written on a 1996 (or later) Insurance Services Organization, Inc. (ISO) commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage.
 - a. Such insurance must be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, including but not limited to coverage of Contractor’s contractual indemnity obligations in Paragraph 7.18.
 3. Severability of interests and no insured-versus-insured or cross-liability exclusions.
 4. Underground, explosion, and collapse coverage.
 5. Personal injury coverage.
 6. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together). If Contractor demonstrates to Owner that the specified ISO endorsements are not commercially available, then Contractor may satisfy this requirement by providing equivalent endorsements.
 7. For design professional additional insureds, ISO Endorsement CG 20 32 07 04 “Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured” or its equivalent.
- H. *Commercial General Liability—Excluded Content:* The commercial general liability insurance policy, including its coverages, endorsements, and incorporated provisions, must not include any of the following:
1. Any modification of the standard definition of “insured contract” (except to delete the railroad protective liability exclusion if Contractor is required to indemnify a railroad or others with respect to Work within 50 feet of railroad property).
 2. Any exclusion for water intrusion or water damage.
 3. Any provisions resulting in the erosion of insurance limits by defense costs other than those already incorporated in ISO form CG 00 01.
 4. Any exclusion of coverage relating to earth subsidence or movement.
 5. Any exclusion for the insured’s vicarious liability, strict liability, or statutory liability (other than worker’s compensation).
 6. Any limitation or exclusion based on the nature of Contractor’s work.
 7. Any professional liability exclusion broader in effect than the most recent edition of ISO form CG 22 79.

I. *Commercial General Liability—Minimum Policy Limits*

Commercial General Liability	Policy limits of not less than:
General Aggregate	\$500,000.00
Products—Completed Operations Aggregate	\$100,000.00
Personal and Advertising Injury	\$250,000.00
Bodily Injury and Property Damage—Each Occurrence	\$500,000.00

- J. *Automobile Liability*: Contractor shall purchase and maintain automobile liability insurance for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy must be written on an occurrence basis.

Automobile Liability	Policy limits of not less than:
Bodily Injury	
Each Person	\$100,000.00
Each Accident	\$500,000.00
Property Damage	
Each Accident	\$100,000.00
[or]	
Combined Single Limit	
Combined Single Limit (Bodily Injury and Property Damage)	\$500,000.00

- K. *Umbrella or Excess Liability*: Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer’s liability, commercial general liability, and automobile liability insurance described in the Paragraphs above. The coverage afforded must be at least as broad as that of each and every one of the underlying policies.

Excess or Umbrella Liability	Policy limits of not less than:
Each Occurrence	\$250,000.00
General Aggregate	\$500,000.00

- L. *Using Umbrella or Excess Liability Insurance to Meet CGL and Other Policy Limit Requirements*: Contractor may meet the policy limits specified for employer’s liability, commercial general liability, and automobile liability through the primary policies alone, or through combinations of the primary insurance policy’s policy limits and partial attribution of the policy limits of an umbrella or excess liability policy that is at least as broad in coverage as that of the underlying policy, as specified herein. If such umbrella or excess liability policy was required under this Contract, at a specified minimum policy limit, such umbrella or excess policy must retain a minimum limit of **\$500,000.00** after accounting for partial attribution of its limits to underlying policies, as allowed above.

- M. *Contractor’s Pollution Liability Insurance*: Contractor shall purchase and maintain a policy covering third-party injury and property damage, including cleanup costs, as a result of

pollution conditions arising from Contractor’s operations and completed operations. This insurance must be maintained for no less than three years after final completion.

Contractor’s Pollution Liability	Policy limits of not less than:
Each Occurrence/Claim	\$100,000.00
General Aggregate	\$100,000.00

- N. *Contractor’s Professional Liability Insurance:* If Contractor will provide or furnish professional services under this *Contract*, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance must cover negligent acts, errors, or omissions in the performance of professional design or related services by the insured or others for whom the insured is legally liable. The insurance must be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. The retroactive date on the policy must pre-date the commencement of furnishing services on the Project.

Contractor’s Professional Liability	Policy limits of not less than:
Each Claim	\$500,000.00
Annual Aggregate	\$1,000,000.00

ARTICLE 7—CONTRACTOR’S RESPONSIBILITIES

7.03 *Labor; Working Hours*

SC-7.03 Add the following new subparagraphs immediately after Paragraph 7.03.C:

1. Regular working hours will be **Monday-Friday 8:00 am to 5:00 pm.**
2. Owner's legal holidays are **Federal recognized holidays.**

SC-7.03 Add the following new paragraph immediately after Paragraph 7.03.C:

- D. **Contractor** shall be responsible for the cost of any overtime pay or other expense incurred by the Owner for Engineer’s services (including those of the Resident Project Representative, if any), Owner's representative, and construction observation services, occasioned by the performance of Work on Saturday, Sunday, any legal holiday, or as overtime on any regular work day. If Contractor is responsible but does not pay, or if the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

7.13 *Safety and Protection*

SC-7.13 Insert the following at the end of the last sentence of Paragraph 7.13.F:

“with at least a 48-hour notice.”

SC-7.18 Delete the following from Paragraph 7.18.A:

“or arbitration”

ARTICLE 8—OTHER WORK AT THE SITE

8.03 *Legal Relationships*

SC-8.03 Delete the following from Paragraph 8.03.C:

“or otherwise resolve the claim by arbitration or other dispute resolution proceeding”

ARTICLE 9—OWNER’S RESPONSIBILITIES

ARTICLE 10—ENGINEER’S STATUS DURING CONSTRUCTION

10.03 *Resident Project Representative*

SC-10.03 Add the following new paragraphs 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 Contractor. RPR's dealings with Subcontractors will only be through or with the full knowledge or approval of Contractor. The RPR will:
1. *Conferences and Meetings:* Attend meetings with 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 Contractor. Working principally through Contractor's authorized representative or designee, assist 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.
 - b. Observe whether any Work in place appears to be defective.
 - c. Observe whether any Work in place should be uncovered for observation, or requires special testing, inspection or approval.

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.
 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.

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

13.01 *Cost of the Work*

SC-13.01 Supplement Paragraph 13.01.B.5.c.(2) by adding the following sentence:

The equipment rental rate book that governs the included costs for the rental of machinery and equipment owned by Contractor (or a related entity) under the Cost of the Work provisions of this Contract is the most current edition of **Rental Rate Blue Book for Construction Equipment**.

13.03 *Unit Price Work*

SC-13.03 Delete Paragraph 13.03.E in its entirety and insert the following in its place:

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 extended price of a particular item of Unit Price Work amounts to 5 percent or more of the Contract Price (based on estimated quantities at the time of Contract formation) and the variation in the quantity of that particular item of Unit Price Work actually furnished or performed by Contractor differs by more than 15 percent 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

No suggested Supplementary Conditions in this Article.

ARTICLE 15—PAYMENTS TO CONTRACTOR, SET OFFS; COMPLETIONS; CORRECTION PERIOD

15.03 *Substantial Completion*

SC-15.03 Add the following new subparagraph to Paragraph 15.03.B:

1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, will be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under this Article 15.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

No suggested Supplementary Conditions in this Article.

ARTICLE 17—FINAL RESOLUTIONS OF DISPUTES

SC-17.02 Add the following new paragraph immediately after Paragraph 17.01.

17.02 Arbitration

A. Arbitration as a dispute resolution is deleted in its entirety in the Contract Documents and General Conditions. All matters subject to final resolution under this Article shall be filed in a Court of competent jurisdiction in Hidalgo County, Texas.

SC-17.03 Add the following new paragraph immediately after Paragraph 17.02.

17.03 Attorneys' Fees

A. For any matter subject to final resolution under this Article and filed by the Owner, the Owner shall be entitled to an award of its reasonable attorneys' fees and costs incurred through the claim and litigation process.

ARTICLE 18—MISCELLANEOUS

SECTION 00830

WARRANTY**PART 1 - GENERAL****1.01 SECTION INCLUDES**

This section describes the warranty. The conditions contained in this Section are specific administrative and policy requirements in addition to the general conditions and other requirements listed in the contract documents.

1.02 REFERENCES – Not Used**1.03 DEFINITIONS – Section 0700****1.04 CONTRACTOR'S WARRANTY OF TITLE**

CONTRACTOR warrants and guarantees that all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

1.05 SUBSTANTIAL COMPLETION

- A. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Promptly thereafter, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefore. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within 14 days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefore. If, after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said 14 days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER's issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.
- B. OWNER shall have the right to exclude CONTRACTOR from the Site after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

1.06 PARTIAL UTILIZATION

- A. Use by OWNER at OWNER's option of any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which OWNER, ENGINEER, and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following conditions.
- B. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. 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 therefore. If ENGINEER considers that part of the Work to be substantially complete, the above provisions 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. No occupancy or separate operation of part of the Work may occur prior to compliance with the requirement of regarding property insurance.

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

1.08 FINAL PAYMENT

A. Application for Payment

1. After CONTRACTOR has, in the opinion of ENGINEER, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in paragraph 6.12), and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required; (ii) consent of the surety, if any, to final payment; and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified above and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or

OWNER's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

B. Review of Application and Acceptance

If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application for Payment to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the above provisions. 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. Payment Becomes Due

Thirty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER will become due and, when due, will be paid by OWNER to CONTRACTOR.

D. Final Completion Delayed

If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required above, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

1.09 WAIVER OF CLAIMS

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by OWNER against CONTRACTOR, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to the above, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from CONTRACTOR's continuing obligations under the Contract Documents; and
2. a waiver of all Claims by CONTRACTOR against OWNER other than those previously made in writing which are still unsettled.

END OF SECTION

Document 00900

**ADDENDUM NO. _____
(Sample Form)**

Date of Addendum: _____
[Enter date]

PROJECT NAME: _____ Water Treatment Plant Improvements-Rehabilitation of Existing Filters

PROJECT NO: **Bid#: 2021-29** _____

BID DATE: **(Month, Date, Year)** _____. (There is no change to the Bid Date.)

FROM: City of Edinburg
Att: Lorena Fuentes, Purchasing Agent
415 W. University Drive
Edinburg, Texas 78539
Phone: (956) 388-1895

TO: **Prospective Bidders**

This Addendum forms a part of the Bidding Documents and will be incorporated into Contract Documents, as applicable. Insofar as the original Project Manual and Drawings are inconsistent, this Addendum governs. Acknowledge receipt of the Addendum by inserting its number in Document 00310 - Form of Proposal. **FAILURE TO DO SO MAY SUBJECT BIDDER TO DISQUALIFICATION.**

Use the following heading and select the appropriate wording for postponement of the Bid Date. Delete the statement beside Bid Date above which indicates that the Bid Date is unchanged. If change in Bid Date, issue as separate addendum. Delete this section entirely if there is no change in Bid Date.

CHANGE IN BID DATE

The bid date for this Project has been changed from _____ to _____
[Date] [Date]

[Time of day and place for submittal of bid remains the same]. [Time of submittal has been changed from _____ to _____. The place for submittal remains the same].
[Time] [Time]

[OR]

The bid date for this project has been indefinitely postponed. Another Addendum will be issued to reset the bid date or to cancel bidding on this Project.

Delete the following paragraph if the sole purpose of the Addendum is to postpone the Bid Date.



This Addendum uses the change page method: remove and replace or add pages, or Drawing sheets, as directed in the change instructions below. Change bars (|) are provided in the right margins of pages from the Project Manual to indicate where changes have been made; no change bars are provided in added Sections. Reissued Drawing Sheets show the Addendum number above the title block and changes in the Drawing are noted by a revision mark.

Number each item of the Addendum beginning with 1 through the total number of change items in the Addendum. Sample entries are provided in brackets.

CHANGES TO PREVIOUS ADDENDA

Reference Addendum Number and item number to correct clarifications or make minor corrections of changes issued by previous Addenda.

ADDENDUM NO. _____

[1. Add item]

CHANGES TO PROJECT MANUAL

Follow this format to sequence changes to the Project Manual.

BIDDING REQUIREMENTS

Give the individual change instructions for each item of change by Document number and title. List changes in order of Document number.

[2. Add Item]

CONTRACT FORMS

[3. Add Item]

CONDITIONS OF THE CONTRACT

[4. Add Item]

SPECIFICATIONS

[5. Add Item]

CHANGES TO DRAWINGS

[6. Add Item]

CLARIFICATIONS

[7. Add Item]

MINUTES OF PRE-BID CONFERENCE

Minutes of the Pre-Bid Conference held on _____, _____, 20____, are
[Day] [Date]
attached as a record and for the Bidders information.

END OF ADDENDUM NO. _____

Name, P.E. DATED: _____

END OF DOCUMENT

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DOCUMENT 00910

MODIFICATIONS**PART 1 - GENERAL****1.01 SECTION INCLUDES**

This section contains information pertaining to modifications and changes for the Contract Documents for the Project.

1.02 REFERENCES – Not Used**1.03 DEFINITIONS - Section 0700****1.04 MODIFICATIONS OF CONTRACT DOCUMENTS**

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways: (i) a Written Amendment; (ii) a Change Order; or (iii) a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented and minor variations and deviations in the Work may be authorized, by one or more of the following ways: (i) a Field Order; (ii) Engineer's approval of a Shop Drawing or Sample; or (iii) Engineer's written interpretation or clarification.
- C. Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing any of the Work under a direct or indirect contract with Owner: (i) shall not 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 Engineer's Consultant, including electronic media editions; and (ii) shall not reuse any of 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 adoption by Engineer. This prohibition will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

PART 2 - PRODUCT – Not Used**PART 3 - EXECUTION – Not Used****END OF SECTION**

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TECHNICAL SPECIFICATIONS

Division 1
GENERAL
REQUIREMENTS

SECTION 01021

GENERAL CONSTRUCTION REQUIREMENTS

PART 1 - GENERAL

1.01 RELATIONSHIP WITH EXISTING FACILITIES

- A. Contractor shall sufficiently familiarize himself as to the location of existing utilities in the area.
- B. The Contractor shall repair or replace, without delay, any and all damage to existing structures, surfaces, equipment, controls or systems resulting from his operations which are required to put the facility back in operation upon completion of the project.

1.02 BYPASSING

- A. Whenever existing facilities have to be temporarily dammed and de-watered, the work will be done by the Contractor in a manner acceptable to the Engineer. The Contractor shall notify the Engineer and the Owner prior to any such activities.
- B. The General Contractor shall also be responsible for removal of all temporary earthen, steel, or concrete structures required to accomplish this work and returning the sites of these structures to the same or an improved condition as when this project was initiated by the Contractor.

1.03 TEMPORARY FLOW STOPPAGE

- A. In cases where the construction requires connections to live conduits, or the plugging of pipelines, provisions for temporarily halting flow as required will be planned and coordinated with the Owner and conducted by the Contractor.

1.04 CLEAN UP

- A. The Contractor shall not allow the site of the work to become littered with trash and waste material but shall maintain the site of the work in a neat and orderly condition throughout the construction period. On or before the completion of the work, the Contractor shall carefully clean out all pits, drain lines and drains, chambers or conduits and shall remove all temporary structures built by him and rubbish of all kinds from any of the grounds which he has occupied and leave them in first-class condition to the satisfaction of the Engineer.
- B. The Contractor is advised that the final cleanup of the project shall be done with meticulous care and that the Engineer expects all ductwork cubicles, cabinets, motor control centers, control panels, rooms and enclosures to be thoroughly cleaned and dust-free prior to final acceptance of the work.

1.05 AS-BUILT DRAWINGS

- A. Concurrent with performance of contract work, each Contractor shall prepare and maintain one neat and legible set of full-size contract drawings indicating "as-built", including but not limited to changes in type, location, length, or size, for any item of work "as-built" drawing mark-ups shall be prepared at the time the applicable item of work is constructed or installed. The preparation of "as-built" drawings shall be as required by the Engineer and drawings shall be contract work, the Contractor shall submit to the Engineer one complete set of drawings showing all "as-built" work modifications.

1.06 SHIPPING AND PROTECTION OF EQUIPMENT

A. Storage of Equipment/Materials

During the interval between the delivery of equipment and materials to the site, and installation, all equipment shall be safely stored in a manner acceptable to the Engineer, Equipment shall be stored in an enclosed space affording protection from weather, dust and mechanical damage, or loss, and providing favorable temperature, humidity and ventilation conditions to ensure against equipment deterioration.

1.07 TESTS AND INSPECTIONS

A. All materials, equipment, installation and workmanship included in this contract, if so required by the Engineer, shall be tested and inspected to prove compliance with the contract requirements.

B. No tests specified herein shall be applied until the item to be tested has been inspected and approval given for the application of such test by and authorized representative of the manufacturer of the equipment.

C. Acceptance Tests and Inspection

1. The acceptance tests shall be at the Contractor's expense for any materials or equipment specified herein. This is to include test of items during the process of manufacture and on completion of manufacture, comprising material tests, hydraulic pressure tests, electric test, performance and operating tests and inspection in accordance with the relevant specifications, or as may be required by the Engineer to satisfy himself that the items tested and inspected comply with the requirements of this contract.

2. All items delivered at the site shall be inspected in order that the Engineer may be satisfied that such items are of the specified quality and workmanship and are in good order and condition at the time of delivery.

D. Installed Tests and Inspection

1. Tests shall be as specified herein and shall be made to determine whether the pipeline has been properly constructed, aligned, adjusted, and connected. Any changes, adjustments or replacements required to make the pipeline operate as specified shall be carried out by the Contractor as part of the work.

2. At least 30 days before the time allowed in his construction schedule for commencing testing and start-up procedures, the Contractor shall submit to the Engineer, details of the procedures he proposes to adopt for testing and start-up, except when such procedures have been covered in the specifications.

3. If under test, any portion of the work shall fail to fulfill the contract requirements and is altered, renewed, or replaced, tests on that portion when so altered, removed or replaced, together with all portions of the work as are affected thereby, shall if so required by the Engineer, be repeated within reasonable time and in accordance with the specified conditions, and the Contractor shall refund to the Owner all reasonable expenses incurred by the Owner as a result of the carrying out of such tests.

END OF SECTION

SECTION 01070

CUTTING AND PATCHING

PART 1 GENERAL

1.01 RELATED WORK

- a. Division 1, General Requirements. Summary of Work.
- b. Division 15, Mechanical. Mechanical General Provisions.
- c. Division 16, Electrical. Electrical General Provisions.

1.02 DESCRIPTION

- a. Execute cutting (including excavating and backfilling), fitting or patching of the work required to:
 - (1) Make several parts fit properly.
 - (2) Uncover work to provide for installation of ill-timed work.
 - (3) Remove and replace defective work.
 - (4) Remove and replace work not conforming to requirements of the contract documents.
 - (5) Remove samples of installed work as specified for testing.
 - (6) Install specified work in existing construction.
- b. In addition to contract requirements, upon written instruction of the Engineer:
 - (1) Uncover work to provide for observation of covered work.
 - (2) Remove samples of installed materials for testing.
 - (3) Remove work to provide for alteration of existing work.
- c. Do not endanger any work by cutting or altering the work or any part of it.
- d. Do not cut or alter the work of another Contractor without written consent by the Engineer.
- e. Prior to cutting which affects structural safety of the project, or the work of another Contractor, secure written approval by the Engineer.

1.03 PAYMENT FOR COSTS

- a. Costs caused by ill-timed or defective work or work not conforming to the contract documents, including the cost of additional services of the Engineer, will be borne by the Contractor.

2.0 PRODUCTS

Materials required for replacement of the work removed must conform to the specifications for the type of work to be done.

3.0 EXECUTION

3.01 PREPARATION BEFORE CUTTING

- a. Provide shoring, bracing, and support as required to maintain structural integrity of the project.
- b. Provide protection for other portions of the project.
- c. Provide protection from the elements.

3.02 PERFORMANCE

- a. Execute fitting and adjustment of products to provide finished installation to comply with specified tolerances and finishes.
- b. Execute cutting and demolition by methods which will prevent damage to other work and will prevent settlement.
- c. Execute excavating and backfilling by methods which will prevent damage to other work and will prevent settlement.
- d. Restore work which has been cut or removed and install new products to provide completed work in accord with requirements of the contract documents.
- e. Refinish entire surfaces as necessary to provide an even finish. On continuous surfaces, refinish to the nearest intersections. For an assembly, refinish the entire item.

END OF SECTION

SECTION 01300

DOCUMENTATION REQUIREMENTS

PART 1 GENERAL

1.01 SUBMITTALS

a. Shop Drawings:

The Contractor shall submit to the Engineer four (4) copies of all shop drawings, erection drawings, schedules, certified dimension prints, schematic or system diagrams, data sheets, catalog cuts, bulletins, and other descriptive material as is customary or as may be specifically required by the Engineer prior to purchase, fabrication, or shipment to the Project site. Three (3) copies will be retained for use by the Engineer and Owner and one (1) copy will be returned to the Contractor with comments noted. Items requiring a formal submittal as specified above include but are not necessarily limited to the following:

- 1) Pumps, screens, mixers, filter replacement, clarifier equipment, ground storage tank, and chemical feed systems and tankage.
- 2) Structural steel, handrails, gratings, miscellaneous fabrication, pipe supports, and all other metal specialties, (submit shop fabrication drawings);
- 3) Piping, valves, and fittings;
- 4) Electrical equipment and instrumentation;
- 5) Paint systems;
- 6) All Division 8, 9, 10, 11, 14, 15, and 16 specified equipment;
- 7) Any other items for which the Contractor wishes confirmation from the Engineer as to the propriateness of application and suitability for incorporation into the project.

b. Format:

The drawings and data shall have been reviewed and approved by the Contractor prior to submittal and each bound submittal shall bear the Contractor's approval stamp and signature. Submittal data shall be in such form and so presented that the Engineer may readily review the data. This means that submittals should be bound in an 8-1/2 by 11 format. Engineering drawings are to be reduced to an 11 by 17 format, folded and bound with the submittal. Bound submittals shall be for individual specification sections and shall be complete by section. Submittals for steel reinforcing and fabrication drawings may be full size blue prints.

c. Qualifications:

The Contractor is directed to specific specification sections where specific requirements for submittals may be described in more detail. The drawings, or other required descriptive material, will be examined by the Engineer with reasonable promptness. All rejected material shall be revised and resubmitted until the designation "Make Corrections Noted" or "No Exceptions Noted" is obtained. Each submittal shall be accompanied by a letter of qualification stating that the proposed equipment meets the specifications; or, clearly itemizes and explains any proposed exceptions. Delays caused by such rejections will not be considered cause for extension of the contract time. Review by Engineer indicates general compliance or acceptability; however, it does not relieve the Contractor of final responsibility for proper dimensions, character, quantity, quality, strength or sufficiency of the items involved. Waivers, or exceptions, to the Plans and Specifications may be validated only in writing by the Engineer. Written validation will specifically identify the feature in question and no such waiver or exception shall be assumed as a result of omissions or oversights in reviewing the above drawings or other materials. Any equipment installed by the Contractor, not formally reviewed by the Engineer, shall be at the Contractor's risk if it is found that the installed equipment does not conform to the specifications.

d. Minimum Requirements:

- 1) Certified Dimension Prints
- 2) Specifications
- 3) Wiring Diagrams
- 4) Calculations
- 5) Recommended Procedures for job-site storage
- 6) Additional information as required by technical specification sections or Engineer

1.02 MANUFACTURER'S CERTIFICATION:

a. Technical Representative:

For all Division 8, 9, 10, 11, 14, 15, and 16 specified equipment, the manufacturer, or supplier, shall furnish the services of trained technical representatives as needed to provide for a satisfactorily operating system. Services to be included are as follows:

- 1) Prior to equipment delivery, the manufacturer shall furnish jointly to the Engineer and Contractor a minimum of (3) three sets of complete installation manuals which shall include erection drawings, mark numbers, as built drawings of electrical equipment, assembly details, parts lists, bills of materials, and detailed written instructions for the installation, start-up and initial lubrication and maintenance of the equipment furnished.
- 2) Unless otherwise specified, not less than one (1) trip and one day on the job for inspection and supervision during installation. The Contractor shall install all equipment in exact accordance with the manufacturer's written instructions and as directed on the jobsite during inspection visits by the manufacturer's technical representative.
- 3) Deviations from the manufacturer's written or verbal instructions shall be subject to approval by the Engineer and discrepancies or unsatisfactory work shall be reported in writing by the manufacturer jointly to the Engineer and Contractor.
- 4) Unless otherwise specified, not less than one (1) trip and one day on the job for inspection of the final installation and a detailed check of the completed work prior to start-up.

b. Certification:

Within ten (10) days after the final inspection of the completed installation, the manufacturer's representative shall furnish a detailed letter report jointly to the Engineer and Contractor which shall list any deficiencies found in the work and which shall recommend corrective action for each deficiency. Upon completion of any corrective action required, the manufacturer shall furnish a letter jointly to the Engineer and Contractor certifying that the equipment furnished is properly installed in exact accordance with the manufacturer's recommendations and ready for the operation and beneficial use by the Owner.

1.03 OPERATION AND MAINTENANCE MANUALS

a. Operation and Maintenance Manuals:

The Contractor shall provide four (4) final printed copies of all required operation and maintenance instructions and manuals for individual equipment items. Contractor shall also furnish one (1) electronic copy of all final data in "PDF" format on disk (CD). Disk is to include table of contents, and data to be organized in separate files to allow convenient location of information. This information shall be completely up-to-date and reflect actual field installed equipment.

b. Format:

The O&M information shall be furnished in bound sets and described for Submittals.

c. Minimum Requirements:

- 1) Name, address and phone number of nearest competent service organization who can supply parts and service. If this is not the manufacturer's own service department, then furnish letters confirming that the named organization has been factory authorized to represent the manufacturer of the equipment furnished.
- 2) Complete descriptive literature and drawings of all material furnished. This is to include up-to-date wiring diagrams of all electrical equipment and erection drawings providing up-to-date information on the actual construction of the equipment furnished and any field modifications made during installation, start-up and testing.
- 3) Installation, operation and maintenance brochures from the original manufacturers of all mechanical components such as gear reducers, drive couplings, etc., incorporated into the completed installation.
- 4) Complete Electrical Motor Information (name plate data).
- 5) Spare Parts
- 6) Recommended spare parts list.
- 7) Guide to "trouble-shooting".
- 8) All required assembly, installation, alignment, adjustment and checking instructions.
- 9) All required operating instructions.
- 10) All required maintenance instructions including schedules of all required routine maintenance and lubrication checks.

d. Payment:

The Owner and Engineer reserve the right to withhold final payment until acceptable O&M information is received for all equipment specified.

1.04 INSPECTION REPORTS

a. Contractor's Inspection Reports

The Contractor shall provide to the Owner and Engineer Daily Inspection Reports that document equipment used, number of employees on-site, weather conditions, work conducted, inspections conducted, visitors, incidents, accidents, conflicts, findings and any other information that is critical for the construction of the project.

END OF SECTION

SECTION 01320

SCHEDULE

PART 1 GENERAL

1.01 DESCRIPTION

- A. Prepare a Progress and Schedule Chart in bar-graph form, supporting the Contract completion date. Prepare Progress and Schedule Chart based upon date of Notice to Proceed.
- B. Submit two (2) copies of the Progress and Schedule Chart to the Engineer within 15 calendar days after the date of receipt of Notice to Proceed.
- C. Update and resubmit the Progress and Schedule Chart as needed for the duration of the project.

END OF SECTION

SECTION 01400

QUALITY CONTROL

PART 1 GENERAL

1.01 DESCRIPTION

- A. Specific quality control requirements for the Work are indicated throughout the Contract Documents. Quality control provisions for manufactured products are specified in individual work sections.
- B. Testing Laboratory Qualifications: Geotechnical Testing Laboratory must demonstrate to Engineer, based on criteria conforming to ASTM E 699, that it has the experience and capacity to conduct required Field and Laboratory Geotechnical testing without delaying the process of the work.
- C. Allow testing service to inspect, test and recommend, and or approve concrete and soil materials as per contract specifications. If in the opinion of the Engineer, based on testing service reports, and inspection, concrete, subgrade or fills that have been placed are below specification standards or requirements, perform the additional necessary work to meet the specified or required standards.

1.02 CODES AND STANDARDS

- A. Perform testing to meet the requirements of pertinent codes and regulations and with selected standards as specified elsewhere on the Specification or by the Engineer.

1.03 TEST REPORTS

- A. Process and distribute test reports and related instructions promptly to ensure necessary retesting and replacement of materials with the least possible delay in the Work.
- B. Reports to include comments from technician for the inspections and tests conducted, date, time of arrival and departure from jobsite, technicians name, time break-down of work completed, etc.

1.04 PAYMENT FOR LABORATORY TESTING SERVICES

- A. The Owner will pay for all tests, which it orders, or ordered on Owner's behalf by the Engineer, which are in compliance with specifications.
- B. Tests indicating non-compliance with the Contract Documents shall be paid for by the Contractor. Contractor to make necessary accommodations with testing laboratories for paying all failed tests.
- C. Inspection or testing performed exclusively for the Contractor's convenience shall be borne by the Contractor.
- D. No separate payment will be made under this paragraph for testing required for batch design for concrete; this shall be paid for by the contractor.

1.05 EQUIPMENT TESTING

- A. Upon completion of the Work and prior to final acceptance and payment, test equipment as specified or required for compliance with Contract Documents. Manufacturer's authorized representative(s) shall be present at site to inspect, check and approve equipment and installation prior to start-up and test; and to supervise testing of equipment.
- B. Adjust or replace equipment which does not meet requirements of Contract Documents during test at no extra cost to Owner.
- C. Include costs of equipment testing in the price of equipment to be installed when applicable.

1.06 MATERIAL TESTING

- A. Representatives of the testing laboratory shall have access to the Work at all times. Provide facilities for access in order that laboratory may perform its functions properly. These may include, but are not limited to, acceptable access to working areas, sampling stations, sample environment control (as necessary), sampling material availability.
- B. Testing Schedules
 - 1) Consult testing laboratory in advance to determine time required to perform tests and issue each of the findings. Include required time within construction schedule.
 - 2) When changes of the construction schedule are necessary, coordinate such changes with the testing laboratory as required.
- C. All samples for testing, unless otherwise provided elsewhere in these Specifications, shall be taken by the testing laboratory. All sampling equipment and personnel shall be provided by the testing laboratory unless otherwise specified. All deliveries of samples to the testing laboratory shall be performed by the testing laboratory unless otherwise specified.
- D. Samples for testing conducted by contractor or contractor's own testing lab will not be acceptable to Engineer.
- E. Contractor cannot acquire the services of the project testing laboratory firm for any other work that relates to the project.
- F. If any conflicts arise during the course of the project with the testing laboratory on record, Engineer shall recommend to owner a temporary testing laboratory until the conflicts are resolved or if conflicts cannot be resolved, the recommendation would be for replacement.

END OF SECTION

SECTION 01600

MATERIALS AND EQUIPMENT

PART 1 GENERAL

1.01 DESCRIPTION

- A. All materials, appliances and types of construction shall be in accordance with the Specifications and shall, further, conform to the requirements of applicable laws, ordinances and codes.
- B. All materials and equipment shall be new, unused and designed as specified. They shall be of standard first-grade quality, produced by expert workmen, and be intended for the use for which they are offered. Materials or equipment which are inferior or of a lower grade than indicated, specified or required will not be accepted.
- C. The quality of workmanship and materials entering into the Work under each Section shall conform to the requirements of pertinent sections, clauses, paragraphs and sentences, both directly and indirectly applicable thereto, of the Specifications.
- D. Equipment and appurtenances shall be designed in conformity with AWWA, NSF, ASME, AIEE, and NEMA standards and shall be of rugged construction and of sufficient strength to withstand all stresses, which may occur during fabrication, test, transportation, installation and all conditions of operation. Protect bearings and moving parts against wear by bushings or other approved means and fully lubricate by readily accessible devices. Design details for appearance as well as utility. Protruding members, joints, corners, gear covers and the like shall be finished in appearance. Grind exposed welds smooth. Miter corners of structural shapes.

1.02 MANUFACTURER

- A. Submit names of proposed manufacturers, material men and dealers who are to furnish materials, fixtures, equipment, appliances or other appurtenances for review as early as possible to afford proper investigation and checking. No manufacturer will be approved for materials or equipment to be furnished under this Contract unless he shall be of good reputation and have a plant of ample capacity suited to the efficient production of the materials or equipment offered. He shall, upon request, be required to submit evidence that he has manufactured a similar product to the one specified and that it has been previously used for a like purpose for a sufficient length of time to demonstrate that it will fulfill all requirements of the Project.
- B. The availability of the manufacturer's service facilities for the maintenance of equipment Offered will be considered in the evaluation.
- C. All transactions with the manufacturers or subcontractors shall be through the Contractor.
- D. Any two (2) or more pieces of material or equipment of the same kind, type or classification being used for identical types of service, shall be made by the same manufacturer.

1.03 DRINKING WATER MATERIALS

- A. All chemicals, coatings, and linens which come in direct or indirect contact with public drinking water in any stage of treatment must conform to ANSI/NSF Standard 60 for direct additives, and ANSI/NSF Standard 61 for indirect additives. Conformance of these materials must be certified by an organization accredited by ANSI [§290.44(a)(1)].

1.04 SAMPLES

- A. When required, the Contractor shall submit for approval typical samples of materials and appliances. Identify samples by tags and submit sufficiently in advance of the time when they are to be incorporated into the Work so rejections will not cause delay. A letter of transmittal, in triplicate, from the Contractor requesting approval shall accompany all such samples.

1.05 EQUIVALENT QUALITY

- A. Whenever in the Contract Documents an article, material, apparatus, equipment, or process is called for by trade name of a patentee, manufacturer or dealer, or by reference to catalogue of a manufacturer or dealer, it shall be understood as intending to mean and specify the article, material, apparatus, equipment or process designated, or any approved equal in quality, finish, design, efficiency, and durability and equally serviceable for the purpose for which it is intended.
- B. Upon rejection of material or equipment submitted as the equivalent of that specifically named in the Contract, the Contractor shall proceed immediately to furnish the designated material or equipment.

1.06 DELIVERY

- A. The Contractor shall deliver materials in ample quantities to ensure the most speedy and uninterrupted progress of the Work, so as to complete the Work within the allotted time. The Contractor shall also coordinate deliveries in order to avoid delay in or impediment of the progress of the Work of any related contractor. Furnish delivery slips to the Engineer on receipt of material. Shipment by weights shall show the weights.

1.07 CARE AND PROTECTION

- A. General. The Contractor shall be solely responsible for unloading, properly storing and protecting all materials, equipment and the entire work furnished under this Contract from the time such materials and equipment are delivered at the site of the Work until final acceptance of the entire Work. Contractor shall at all times take necessary precautions to prevent injury or damage by water or by inclemencies of weather to such materials, equipment and work. All injury or damage to materials, equipment or work shall be corrected by the Contractor. Stack materials in an approved manner for convenience in counting. Do not place materials directly on the ground. Materials, equipment and work not meeting these requirements shall be removed from the project site and new materials, equipment and work shall be furnished.
- B. Equipment. Box, crate or otherwise completely enclose and protect equipment during shipment, handling and storage. Protect equipment from exposure to the elements and keep thoroughly dry at all times. Store pumps, motors, electrical equipment and other equipment having antrification or sleeve bearings in weathertight buildings that are maintained at a minimum

temperature of 60 F.

- C. Painting. Protect painted surfaces against impact, abrasion, discoloration and other damage. Repaint painted surfaces, which are damaged prior to acceptance of equipment in accordance with Section 09902.
- D. Electrical. Protect electrical equipment, controls and insulation against moisture or water damage. Connect space heaters provided in the equipment storage areas and operate at all times until equipment is placed in service.

1.08 INSTALLATION OF EQUIPMENT

- A. The Contractor shall have on hand equipment and machinery of ample capacity to facilitate this work and to handle emergencies normally encountered in work of this character.
- B. Erect equipment on the foundations at the locations and elevations shown on the Drawings, unless otherwise directed during construction or installation.
- C. Furnish, install and protect necessary anchor and attachment bolts and other appurtenances needed for the installation of the devices included in the equipment specified. Anchor bolts shall be of ample size and strength for the purpose intended. Furnish templates and working drawings for installation.
- D. The Contractor shall, at his own expense, furnish all materials and labor for, and shall properly bed in cement grout as specified, each piece of equipment of its supporting base resting on masonry or concrete foundations. Grout shall completely fill the space between the equipment base on the foundation.

1.09 WARRANTY

- A. Unless specified otherwise, all equipment and materials furnished under this contract shall be warranted for a period of one year following testing, start-up, and final acceptance in writing by the Engineer and Owner via Substantial Completion Letter.

END OF SECTION

SECTION 01890

PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 SCOPE

- A. Provide all labor, material, equipment, services, paper, documents, and incidentals necessary to effectively closeout the project.

PART 2 - DETAIL REQUIREMENTS

2.01 DETAIL

- A. Cleaning-up - As the project draws to a close, a program of total clean-up will be initiated by the Contractor. All trades will effectively take care of their areas of responsibilities to insure a clean and ready to occupy building both inside and out. This will take place prior to the issuance of the Letter of Substantial Completion.
- B. Guarantees - Bonds and Affidavits - Prior to project close-out, the Contractor will submit to the Engineer, three (3) copies of all guarantees, bonds, affidavits, testing reports, color selections etc., as appropriate to material, service or equipment installation affecting the building. List General Contractor and all major subs and suppliers as well as Project Architect. List addresses and telephone numbers for each. Bind into three (3) loose-leaf binders and organize by Section.
- C. Project Record Drawings - The Contractor shall maintain and then furnish the Engineer with "as-built" drawings upon completion of project, showing actual location in line and elevation, of all exterior utility lines within the limits of the site and of any relocation of piping or conduit with the lines of the building form that shown on drawings. Any changes to the details, plans or elevation should also be recorded on these drawings. All copies of drawings and specifications, except the Contractor's executed contract sets, remain the property of the Engineer and shall be returned to him at the completion of the project.

If required the drawing may be returned to the Contractor where more information is necessary prior to acceptance of the drawings.

- D. Final Inspection - At Final Inspection prior to the issuance of the final Certificate of Payment and in compliance with the General Conditions, all previous punch-list items will be verified by the Contractor in writing that he has corrected said items to conform to the plans and specifications. Also, at this time, individual affidavits, from all sub-Contractors stating that they have been paid in full for their services by the General Contractor will be presented to the Engineer.

The Final Inspection will be made in company with a representative of the Owner, the Engineer and the Contractor.

END OF SECTION

Division 3
CONCRETE

SECTION 03100

STRUCTURAL CONCRETE FORMWORK

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included: Furnish all materials, equipment, transportation and facilities, and perform all labor necessary for the construction of concrete formwork as required by the Drawings and Specifications.
- B. Related Work Specified Elsewhere:
1. Section 03200 – Concrete Reinforcement
 2. Section 03250 - Concrete Joints and Embedded Items
 3. Section 03300 - Cast-in-place concrete
 4. Section 03605 - Nonshrink Grout

1.02 SUBMITTALS

All work shall comply with "Specification for Structural Concrete Buildings" ACE-301 unless otherwise amended herein.

1.03 CODES

All work shall comply with "Specification for Structural Concrete Buildings" ACE-301 unless otherwise amended herein.

PART 2 PRODUCTS

2.01 FORM MATERIALS

- A. Wood forms for unexposed concrete surfaces shall be built of No. 2 Common southern Yellow Pine lumber or other material of equal qualifications (subject to the approval of the Engineers), of sufficient thickness to be capable of sustaining the loads to be imposed thereon, dressed to uniformly smooth contact surfaces, and so constructed as to be readily removable.
- B. Wood forms for exposed concrete surfaces indicated to be smooth shall be constructed of Commercial Standard Douglas Fir, moisture-resistant, concrete form plywood, not less than five (5) ply, and at least nine-sixteenth inch (9/16)" thick, with one (1) smooth face, or shall be forms with linings of one (1) of the following types:
1. Plywood: Commercial Standard Douglas Fir, concrete form, exterior, three (3) ply, not less than one-quarter inch (1/4") thick, having one (1) smooth face, or
 2. Fiberboard: Treated, hard-pressed fiberboard having a low degree of water absorptivity, not less than three-sixteenths inch (3/16") thick, with one (1) smooth side.

2.02 FORM PATTERNS

Rustifications and bevels in exposed concrete shown on the drawings shall be formed with steel, polyvinyl chloride or milled and sealed white pine.

2.03 FIBER-BOARD FORMS (Void Boxes)

Forms shall be trapezoidal, corrugated fiberboard as manufactured by the VOIDCO Co. Cover, ribs and caps shall be made of corrugated fiberboard capable (by recorded independent testing laboratory test) of sustaining a load of six hundred (600) pounds per square foot. All contact surfaces of fiberboard forms shall be coated with an approved moisture-resistant compound.

Forms for slabs shall be covered with a waterproof, corrugated cap sheet.

2.04 FORM TIES

- A. Form ties for exposed concrete surfaces shall be manufactured to allow a positive breakback of no less than one inch (1") inside the concrete surface. Ties shall be equipped with a plastic cone of not less than five eights inch (5/8") diameter and one inch (1") long which will completely cover the hole and prevent the leakage of any mortar.
- B. Form ties for unexposed surfaces shall be bolt rods or patented devices having a minimum tensile strength of three thousand (3000) pounds when fully assembled. Ties shall be adjustable in length and free of lugs, cones, washers or other features, which would leave a hole larger than seven-eighths inch (7/8") in diameter, or depressions back of the exposed surface of the concrete.
- C. When the forms are removed, there shall be no metal remaining within one inch (1") of the finished surface of the concrete.

2.05 FORM OIL

Form oil shall be non-staining, paraffin-base oil having a specific gravity of between eight-tenths (0.8) and nine-tenths (0.9). The form oil used shall not prevent the bonding of any required finish materials.

2.06 FORM RELEASE AGENT

Form release agent shall be synthex as manufactured by Industrial Synthetics Corporation, Chicago, Illinois or equivalent and shall not stain or prevent bonding of subsequent finish materials.

2.07 FORM SEALER

Form sealer shall be two coats of FORMFILM as manufactured by W.R. Grace Construction Materials Company, or approved equal.

PART 3 EXECUTION

3.01 MATERIAL STORAGE

Form lumber shall be delivered to the job site as far in advance of its use as is practical, and shall be carefully stacked clear of the ground in such manners as to facilitate air-drying.

3.02 GENERAL

- A. The design and engineering of the formwork as well as its construction shall be the responsibility of the Contractor.
- B. All concrete members shall be adequately shored to safely support all loads and lateral pressures outlined in "Recommended Practice for Concrete Formwork: (A.C.I. 347) without distortion, excessive deflection or other damage".
- C. All necessary forms, centering, shores and molds shall be built to conform to the shapes, lines and dimensions of the various members of concrete construction, as shown or scheduled on the drawings.
- D. Forms shall be sufficiently tight and substantially assembled to prevent bulging, or leakage or mortar. Forms shall be assembled to facilitate removal without damage to the concrete. Concrete surfaces shall not have unsightly or objectionable form marks in exposed areas. Lumber once used as forms shall have all contact surfaces thoroughly cleaned before reuse.

3.03 FORMS

- A. Forms for concrete walks may be of steel or wood. If wood forms are used, they shall be of nominal two-inch thickness. If steel frames are used, the Architect's approval will be required. The forms shall be held firmly in place by stakes or pins.
- B. Form ties shall be employed in such places and at such intervals as to securely hold the forms in position during the placing of concrete, and to withstand the weight and pressure of the wet concrete. Ties of a type intended to be entirely removed shall be coated with an approved lubricant to safeguard against damaging the concrete during such removal. Wire ties shall not be used.
- C. Place in the forms wood strips, blocking, moldings, nailers, etc., as required to produce the finished profiles and surfaces shown on the Drawings and to provide nailing for wood members or other features required to be attached to concrete surfaces. Coat wood strips, blocking, and moldings with form sealer.
- D. Coat the contact surfaces of all wood forms for unexposed surfaces, before placing any metal reinforcement, with form oil.
- E. Coat the contact surfaces of all wood forms for architectural exposed concrete surfaces with form release agent prior to each use.

3.04 CONSTRUCTION JOINTS

- A. Except as otherwise specifically indicated on the Drawings each footing, pier, column, beam, or slab shall be considered as a single unit of operation, and forms shall be constructed so that such unit will be monolithic in construction. Should construction joints prove to be absolutely unavoidable, the same shall be located at or near the midpoints of spans. Additional construction joints shall not be made under any circumstances without the written approval of the Engineer.
- B. All construction joints must be either plum or level. In order to avoid an irregular line at horizontal construction joints in exposed concrete faces, tack a continuous strip of dressed lumber, one inch (1") thick, to the inside of the wall or grade beam form, with its lower edge at the line of the construction joint. About one (1) hour after placing the concrete in the lower part of the wall or grade beam, remove the strip, level off any irregularities which may appear in the joint line with a wood float and remove any laitance

present. Vertical construction joints in exterior concrete walls shall be arranged in pattern as approved by the Engineer. Provide appropriate keys in ALL construction joints, whether horizontal or vertical.

3.05 WALLS AND COLUMNS

Provide temporary openings at the bottoms of all wall forms to facilitate cleaning and inspection. Close such openings securely immediately in advance of pouring concrete in the wall forms.

3.06 VOID BOXES

- A. Void boxes shall be protected from rain and mud. Excavations shall be clean and dry before placing void boxes.
- B. Void boxes shall be placed carefully and in level position end-to-end with adjacents taped
- C. Void boxes partially or wholly collapsed due to rain, impact, etc. shall be replaced.

3.07 REMOVAL OF FORMS

- A. Forms shall be removed carefully to avoid damage to concrete surfaces. Forms to be re-used shall be thoroughly cleaned.
- B. Forms shall not be removed until concrete has adequately hardened and set. Clamps or tie rods may be loosened twenty-four (24) hours after the concrete is placed; ties, except for a sufficient number to hold the forms in place, may be removed at that time. Through-wall ties that are to be wholly withdrawn shall be pulled toward the inside face of the respective wall or beam. Cutting ties back from the face of the concrete will not be permitted, and care shall be exercised to avoid spalling concrete surfaces.
- C. The results of suitable strength tests shall be used as evidence that concrete has attained sufficient strength to permit removal of the supporting forms. In general, supporting forms or shoring shall not be removed until the strength of control test specimens has attained a value of at least-two thousand (2,000) pound per square inch. Exercise care to assure that the newly unsupported portions of the structure are not subjected to heavy construction or material loading during the re-shoring operation.

END OF SECTION

SECTION 03200

CONCRETE REINFORCEMENT

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included: Furnish all materials, equipment transportation and facilities, and perform all labor necessary for the following:
1. Prepare shop drawings.
 2. Fabricate, place and secure reinforcing.
 3. Furnish pier reinforcing.
- B. Related Work Specified Elsewhere:
1. Section 03300 - Cast-in-place Concrete

1.02 SUBMITTALS

- A. Shop Drawings: Submit shop and installation drawings for review of the Engineer. Shop drawings shall indicate all details of bending, bar lengths and placement requirements, and methods and hardware for support and spacing of bars.
- Shop drawings shall reference the bar types given on the Drawings for scheduled beams, slabs, joists, columns, etc., and all notes given on the Drawings relating to placement of bars shall be reproduced on the installation drawings.
- Review of shop drawings will be for bar sizes, spacings and general detail only. Quantities, lengths and fit of materials are the sole responsibility of the Contractor.
- B. Mill Test Reports: Certified copies, evidencing compliance with all requirements of these Specifications, shall be delivered to the Engineer with all deliveries of reinforcing steel.
- C. Submit copies of laboratory inspection reports.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Reinforcing:
1. Bars shall be new deformed billet steel conforming to the requirements of ASTM A615. Grades of steel for the various sizes and conditions shall be grade 60 unless otherwise noted on the Plans.
 2. Spirals shall be smooth bars conforming to ASTM Designation A615 Grade 60.

2.02 CONCRETE ACCESSORIES

Concrete accessories include bar supports, chairs, spacers, etc., shall be cold-drawn wire and shall be fabricated in accordance with the requirements of Chapter Seven of the A.C.I. Standard 315 with heights as required. Bar supports for concrete resting on earth shall be precast concrete bricks having tie wires embedded therein, or INDIVIDUAL HIGH CHAIRS with welded plates on bottom. Supports shall be hot-dipped galvanized after fabrication where concrete will be exposed.

PART 3 EXECUTION

3.01 MATERIAL STORAGE

Reinforcing steel shall be stacked in tiers. Care shall be exercised to maintain all reinforcement free of dirt, mud, paint, rust, etc.

3.02 GENERAL

Reinforcing steel of the sizes, shapes, lengths, spacing and other dimensions shown shall be placed where shown on the drawings. Details of reinforcing shall conform to A.C.I. Building Code Requirements for Reinforced Concrete (A.C.I. 318).

3.03 MARKING

Bars shall be plainly marked. Bundles shall be limited to one size and one length, and each bundle shall be tagged with metal tags.

3.04 CLEANING

Reinforcement shall be thoroughly cleaned or rust, mill scale, dirt, oil or other coatings which might tend to reduce the bonding to the concrete.

3.05 BENDING

Bars shall be bent cold. Heating of reinforcement, or handling by makeshift methods, will not be permitted and bars having kinks or bends not required shall not be used.

3.06 PLACING

- A. Reinforcement shall be accurately placed and securely saddle-tied at least at every other intersection with No. 18 gauge black annealed wire, and shall be rigidly held in place during the placing of the concrete by means of metal chairs or spacers.
- B. Bars in concrete walls shall be held in position, and to proper clearance, by means of concrete or metal spacers made especially for the locations where spacers are required.
- C. Bars in beams and slabs shall be held to exact location during placing of concrete by spacers, chairs, or other necessary supports with the following tolerances:
 1. Top bars in slabs and beams
 - a. Members 8 in. deep or less: + ¼ in.
 - b. Members more than 8 in. but not over 2 ft. deep: + ½ in.
 - c. Members more than 2 ft deep + 1 in.
 2. Lengthwise of members: + 2 in.
 3. Concrete cover to formed surfaces: + ¼ in.
 4. Minimum spacing between bars: ¼ in.
- D. Bar supports shall not be placed against exposed faces of precast beams, column, walls or copings.

- E. Tie wire shall not be in contact or within 1-1/2" of any exposed surface.
- F. Reinforcement in slabs on grade shall be supported on bolsters or blocks. Hooking and lifting of reinforcements will not be permitted.

END OF SECTION

SECTION 03250

CONCRETE JOINTS AND EMBEDDED ITEMS

PART 1 GENERAL

1.01 WORK INCLUDED

This section specifies requirements for all concrete joints and embedded items for all cast-in-place concrete except paving.

1.02 RELATED WORK

- A. Division 5 — Structural Steel, Miscellaneous Metals, Anchors.
- B. Division 11 - Equipment.
- C. Division 15 - Mechanical.
- D. Coordinate work of this section with all other sections to obtain a proper installation. Review all drawings and specifications for additional requirements for joints and embedded items.

1.03 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ANSI/ASTM)
 - 1. ANSI/ASTM A 120 - Standard Specification for Pipe, Steel, Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless, for Ordinary Uses.
 - 2. ANSI/ASTM C - 881 - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete.
 - 3. ANSI/ASTM D 994 - Standard Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
 - 4. ANSI/ASTM D 1190 - Standard Specification for Concrete Joint Sealer, Hot-Poured Elastic Type.
 - 5. ANSI/ASTM D 1751 - Standard Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
 - 6. ANSI/ASTM D 1752 - Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
 - 7. ANSI/ASTM D 1850 - Standard Specification for Concrete Joint Sealer, Cold-Application Type.
 - 8. ANSI/ASTM D 2628 - Standard Specification for Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements.
- B. Federal Specifications
 - 1. TT-S-00227E - Sealing Compound Elastomeric Type, Multi-Component (for Caulking, Sealing and Glazing in Buildings and Other Structures).
 - 2. TT-S-00230C - Sealing Compound Elastomeric Type, Single Component (for Caulking, Sealing and Glazing in Buildings and Other Structures).
- C. U.S. Army Corps of Engineers (CRD. CRD-0572 - Corps of Engineers Specifications for Polyvinyl Chloride Waterstops.

- D. American Concrete Institute (ACI). ACI 503.2 - Standard Specification for Bonding Plastic Concrete to Hardened Concrete with a Multi-Component Epoxy Adhesive.

1.04 SUBMITTALS

Submittals shall be made in accordance with the requirements of the General Conditions and Division 1 - General Requirements. Submit the following items:

- A. Shop Drawings. Submit shop drawings showing all concrete joints, proposed sequences for concrete placement and type of concrete specified.
- B. Product Data.
 - 1. When substitutions are proposed by the Contractor for acceptable brands of materials specified herein, submit brochures and samples of proposed substitutions to the Engineer for approval before delivery to the project.
 - 2. Submit manufacturer's technical literature on product brands, proposed for use by the Contractor, to the Engineer for review. The submittal shall include the manufacturer's installation and/or application instruction. Submittals shall be made on the following products:
 - a. Joint sealing compound and primer.
 - b. Bonding agent.
 - c. Elastomeric compression seal.

PART 2 PRODUCTS

2.01 EXPANSION JOINT FILLER

Preformed bituminous type conforming ANSI/ASTM D 994. Provide 3/4-inch thick filler unless otherwise shown. Use bituminous for exterior slabs and paving.

2.02 EXPANSION JOINT FILLERS, NONBITUMINOUS

Preformed Type III self-expanding cork filler conforming ANSI/ASTM D 1752. Use nonbituminous for interior slabs.

2.03 JOINT SEALING COMPOUND (BITUMINOUS JOINT FILLER)

Catalytically blown asphalt type to be used with bituminous type joint filler. Gulf Seal No. 622X Medium Special Catalytically Blown Asphalt Joint and Crack Filler as manufactured by Gulf States Asphalt Company Inc., Houston, Texas or approved equal. Use Gulf States Asphalt Company primer No. 207, or approved equal for priming joints before pouring seal.

2.04 JOINT SEALING COMPOUNDS (NONBITUMINOUS JOINT FILLER)

Single- or multi-component cold-applied elastomeric type joint sealants conforming to Federal Specification TT-S-00227E for a multi-component sealant or Federal Specification TT-S-00230C for a single-component sealant. Sealant shall be Class A, Type I or II as required by the project application. Sealant shall be gray in color. Provide joint primer according to manufacturer's recommendation.

2.05 CONCRETE BONDING AGENT

Shall permanently bond fresh wet concrete to cured concrete and shall conform to ANSI/ASTM C 881, Type II. Grade and class shall be as required for the project application. A field service representative of the manufacturer shall be available during initial application to instruct the Contractor in the proper use of the product when so requested by the Engineer or the Contractor.

2.06 BOND BREAKER

30-pound asphalt saturated felt.

2.07 EXPANSION JOINT DOWELS

Smooth steel bars conforming to the requirements of the Concrete Reinforcement section. Cut dowels to length at shop or mill before delivery to the site. Dowels must be straight and clean, free of loose flaky rust and loose scale. Dowels may be sheared to length provided deformation from true shape caused by shearing does not exceed 0.04 inch on the diameter of the dowel and extends no more than 0.04 inch from the end.

2.08 SLEEVES

ANSI/ASTM A 120, standard weight galvanized pipe.

2.09 WATERSTOPS

- A. Waterstops shall be made of virgin polyvinyl chloride compound and shall conform to the requirements of the Corps of Engineers Specification CRD-0572. The waterstops shall be produced by an extrusion process and shall be uniform in dimension, homogenous and free from porosity. Unless otherwise shown, use waterstops of 6-inch minimum width and 3/8-inch minimum thickness. Waterstop construction:
1. Construction Joints. Serrated type with center bulb.
 2. Expansion Joints. Dumbbell type with a minimum 3/4-inch inside diameter center bulb.

2.10 MISCELLANEOUS EMBEDDED METAL ITEMS

Miscellaneous embedded metal items shall conform to the requirements of the section of the specifications to which they apply.

PART 3 EXECUTION

3.01 PLACEMENT OF EMBEDDED ITEMS

- A. Place embedded items to least impair strength of the structure. Obtain approval of locations for embedded items not shown on the structural drawings before placement of concrete. Should locations of embedded items be detrimental to the strength of the structure, notify the Engineer and relocate items as directed by the Engineer.
- B. Do not cut or reposition reinforcing steel to facilitate installation or inserts, conduit, sleeves, anchor bolts, mechanical openings and similar items without prior approval of the Engineer, except that reinforcing bars may be moved one bar diameter or within tolerances specified in the Concrete Reinforcement section without approval of the Engineer.

3.02 CONSTRUCTION JOINTS

- A. Make construction joints only at locations shown on the contract drawings, the reviewed shop drawings or as directed or approved by the Engineer. Any additional construction joints or relocation of construction joints shown on the drawings, proposed by the Contractor, must be submitted to the Engineer for review and approval.
- B. Joints shall be located to least impair strength of the structure. In general, locate joints near the middle of spans of slabs, beams and girders. However, if a beam intersects a girder at the joint, offset joints in girders a distance equal to twice the width of the beam. Locate joints in walls and columns at the underside of floors, slabs, beams or girders and at tops of footings or floor slabs. Place beams, girders, column capitals and drop panels monolithic with slabs. Place brackets and haunches monolithic with walls and columns.
- C. All joints shall be perpendicular to main reinforcement. Continue all reinforcing steel. Unless otherwise shown, provide longitudinal keys at least 1-1/2 inches deep by one third of the wall thickness, centered in the wall in all joints in walls and slabs and between walls and slabs or footings. When joints in beams are allowed, provide shear key and inclined dowels as directed by the Engineer.
- D. Construction joints in slabs on ground shall have a groove in the top of the slab, at the joint, as detailed to receive joint sealant.
- E. Prepare joints by roughening the concrete surface in a manner that will expose aggregate uniformly. Remove laitance, loosened particles of aggregate, damaged concrete at surface, and other substances, which may prevent complete adhesion. Prior to placing concrete, coat the joint surface with a mixture of neat cement grout.
- F. In lieu of the above method for securing bond between new and set concrete, the following optional method may be used. Use a bonding agent applied to roughened and cleaned surfaces of set concrete in strict accordance with manufacturer's recommendation and these specifications with respect to preparation of surfaces and applications of bond agent.
- G. Provide waterstops in all wall and slab construction joints as specified or at locations shown on the drawings.

3.03 EXPANSION JOINTS

- A. Do not extend reinforcement or other embedded metal items that are continuously bonded to concrete through any expansion joints.
- B. Position expansion joint filler material accurately. Support against displacement during concrete placement and vibration. Place filler the full depth of the member less an allowance to form a groove for sealant as detailed.

3.04 DOWEL

Where indicated on drawings, install dowels at right angles to construction joints and expansion joints. Align dowels accurately with finished surface. Rigidly hold in place and support during concrete placement. Unless otherwise shown on the drawings, apply oil or grease to one end of all dowels through expansion joints.

3.05 CONTRACTION JOINTS

- A. Make top grooves for contraction joints in slabs on grade as detailed and seal as specified. Grooves may be made with forms or may be sawed.

- B. If contraction joints are sawed, properly time cutting with concrete set. Start cutting as soon as concrete has hardened sufficiently to prevent aggregates from being dislodged by the saw. Complete cutting before shrinkage stresses have developed sufficiently to induce cracking.

3.06 BONDED JOINTS

Bonded joints shall be used only where shown on the drawings, where specified, or upon written approval of the Engineer. Prepare surface to be bonded and apply bonding agent in strict accordance with the manufacturer's instructions and ACI 503.2, except that surface preparation by acid etching will not be allowed. When ACI 503.2 references ACI 301, delete ACI 301 and substitute the project specification's Cast-in-Place Concrete section. Forms in the area of the bonded joint shall be properly protected so that any bonding agent that may be inadvertently applied to the form will not bond the form to the concrete.

3.07 WATERSTOPS

- A. Provide waterstops in all horizontal and vertical joints in foundation slabs and peripheral walls of all structures up to a minimum of 12 inches above final ground level and all walls and slabs of liquid-containing structures or compartments to a minimum of 12 inches above maximum liquid level unless specifically shown otherwise on the drawings.
- B. Each piece of premolded waterstop must be of maximum practicable length for a minimal number of end joints.
- C. Make joints at intersections and at ends of pieces in a manner most appropriate to the material being used and in accordance with manufacturer's recommendations. Joints must develop effective water tightness fully equal to that of continuous waterstop material, must permanently develop not less than 50 percent of mechanical strength of parent section, and must permanently retain flexibility. The manufacturer's thermostatic splicing tool shall be used.
- D. Accurately position and support waterstops against displacement during concrete placement.

3.08 SEALING JOINTS

- A. Thoroughly clean and prime joints to be sealed before applying sealant. Joints to be sealed are identified on the drawings.
- B. Apply sealants in accordance with manufacturer's recommendations.
- C. Sealant shall be applied when the ambient temperature is between 40 F and 90 F, unless recommended otherwise by the sealant manufacturer.
- D. During pouring operations, exercise care to prevent sealant from spilling onto surfaces adjacent to grooves.

3.09 SETTING ANCHOR BOLTS

- A. Set anchor bolts for structural steel specified in Division 5 - Metals according to this section.
- B. Install equipment anchor bolts as required by the equipment manufacturer.
- C. Provide accurately made templates for positioning anchor bolts.

3.10 OTHER EMBEDDED ITEMS

- A. It is the Contractor's responsibility to coordinate the requirements for embedded items and to ensure that embedded items are properly placed. Embedment of appurtenant items and other equipment shall be as recommended by equipment manufacturer.
- B. Accurately position and support embedded items against displacement during concrete placement.
- C. Voids in sleeves, insets, anchors, etc., shall be filled temporarily with readily removable material to prevent the entry of concrete into the voids.
- D. Steel items, except reinforcing shall be galvanized unless specified or shown otherwise.
- E. Conduits, pipes and inserts of aluminum shall not be embedded in structural concrete unless effectively coated with 3M "Scotchkote" or covered to prevent aluminum-concrete reaction or electrolytic action between aluminum and steel.
- F. Except when plans for conduits and pipes are approved by the Engineer, conduits and pipes embedded within a slab, wall or beam (other than those merely passing through) shall satisfy the following:
 - 1. They shall not be larger in outside dimension than 1/3 the overall thickness of slab, wall or beam in which they are embedded.
 - 2. They shall not be spaced closer than three diameters or width on center.
 - 3. They shall not significantly impair the strength of the member.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SCOPE

This section gives requirements for normal weight and structural concrete.

1.02 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM).
- B. American Concrete Institute (ACI).
 - 1. ACI 613, Recommended Practice for Selecting Proportions for Concrete.
 - 2. ACI 68-63, Placing Concrete by Pumping Methods.
 - 3. ACI 318, Building Code Requirements for Reinforced Concrete.
- C. Mixer Manufacturer's Bureau of the Associated General Contractors of America.

1.03 SUBMITTALS

- A. Admixtures: Submit brochures on admixtures proposed for use if different from those specified.
 - 1. A submittal is required from the manufacturer of the approved air-entraining admixture. Give requirements to control percent of air content under all conditions including temperature variations.
 - 2. A submittal is required from the manufacturer of the approved water-reducing retarder. Give requirements for quantities and types to be used under various temperatures and job conditions to produce a uniform, workable concrete mix.
- B. Concrete Design Mix.
- C. Provide concrete pour schedule and concrete joint schedule prior to commencing work.

1.04 STORAGE OF MATERIALS

- A. Cement: Store cement in watertight buildings, bins or silos to provide protection from dampness and contamination and to minimize warehouse set.
- B. Aggregate: Arrange and use aggregate stockpiles to avoid excessive segregation or contamination with other material or with other sizes of like aggregates. Build stockpiles in successive, horizontal layers not exceeding three feet in thickness. Complete each layer before the next is started. Do not use frozen or partially frozen aggregates.
- C. Sand: Before using, allow sand to drain until a uniform moisture content is reached.
- D. Admixtures: Store admixtures to avoid contamination, evaporation or damage. For those used in the form of suspensions or non-stable solutions, provide suitable agitating equipment to assure uniform distribution of ingredients. Protect liquid admixtures from freezing and other temperature changes, which would adversely affect their characteristics.

1.05 CONTROL OF CONCRETE MIXTURES

- A. Consistency: Test for slump shall be performed at the job site immediately prior to placing in accordance with Method of Slump Test for Consistency of Portland Cement Concrete (ASTM C143). If the slump is greater than that specified, the concrete shall be rejected. Concrete shall not be poured until temp, sump, and sample materials have been obtained, or as determined by Engineer. Concrete showing either poor cohesion or poor coating of the coarse aggregate with paste shall be remixed. If the slump is within the allowable limit, but excessive bleeding, poor workability, or poor finish ability are observed, changes in the concrete mix shall be obtained only by an adjustment of one or more of the following:
1. The gradation of aggregate.
 2. The proportion of fine and coarse aggregate.
 3. The percentage of entrained air, within the allowable limits.
- B. Air Content: Test for air content shall be made on a fresh concrete sample. Air content for concrete made of ordinary aggregates having low absorption shall be made in accordance with either Method of Test for Air Content of Freshly Mixed Concrete by the Pressure Method (ASTM C231), or Method of Test for Air Content of Freshly Mixed Concrete by the Volumetric Method (ASTM C173). If lightweight aggregates or aggregates with high absorptions are used, the latter test method shall be used.
- C. Unit Weight: Test in accordance with Method of Test for Weight per Cubic Foot, Yield, and Air Content (Gravimetric) of Concrete (ASTM C138), may be used in lieu of the air content test, provided the relationship between air content and unit weight has been established for the materials being used.
- D. Strength: Compression test specimens shall be made and cured in accordance with Method of Making and Curing Concrete Compression and Flexural Test Specimens in the Field (ASTM C31); Strength of Molded Concrete Cylinders (ASTM C39).
- E. Number of Specimens: Number of sets of concrete test cylinders to be cast for each concrete pour shall be as follows:

<u>No. of C.Y. Concrete Poured</u>	<u>Minimum No. of Sets of Cylinders</u>
0 – 25	1
-25 – 75	2
75 – 150	3
150 – 250	4
250 – 400	5
400 – 500	6

A "set" of test cylinders consists of three cylinders, one to be broken and strengths averaged at seven days; and two broken and strengths averaged at 28 days.

*Contractor can request addition cylinders from testing laboratory at the Contractor's expense.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Portland Cement. Use cement conforming to ASTM C 150, Type II. Use the same brand of cement upon which the selection of concrete was based. Only one brand of each type will be permitted in any one structure, unless otherwise specified.
- B. Admixtures: Using the following admixtures as required or permitted. The use of calcium chloride will not be permitted. The products must conform to the referenced standards.
 - 1. Air-entraining Admixtures. Conform to ASTM C 260, such as Sika's "AER," Sonneborn's Aerolith," or approved equal.
 - 2. Chemical Admixtures. Conform to ASTM C 494, "Tentative Specifications for Chemical Admixtures for Concrete."
 - 3. Water-reducing Retarder. Use of an admixture containing chloride is not permitted. The product must be non-staining. User Master Builder's "MBHC," Sika's "Plastiment," or approved equal.
 - 4. High-Range Water Reducer (Superplasticizer). Conform to ASTM C 494 Type F. Acceptable products are W. R. Grace - "WRDA-19," American Admixtures - "Melment," Gifford-Hill - "PSI-Super," or approved equal.
- C. Mixing Water: Fresh, clean and drinkable.
- D. Aggregates: Use coarse aggregate from only one source and fine aggregate from only one source for exposed concrete in a single structure.
 - 1. Coarse aggregate for concrete of normal weight shall conform to ASTM C 33. Grading limits for precast, pre stressed members and for all members six inches or less in least dimension, one inch to No. 4. Grading for all other normal weight concrete, 1-1/2 inches to No. 4.
 - 2. Use natural sand complying with ASTM C 33 for fine aggregate in normal weight concrete.
- E. Membrane-forming Curing Compound: ASTM C 309, commercial curing compound that will not permanently discolor concrete.
- F. Sheet Material for Curing Concrete: ASTM C 171, waterproof paper, polyethylene film or white burlap-polyethylene sheeting.

2.02 PROPORTIONING

- A. Objective: Select proportion of ingredients to produce concrete having proper placability, durability, strength, appearance and other required properties. Proportion ingredients to produce a homogeneous mixture, which will work readily into corners and angles of forms and around reinforcement by methods of placing and consolidation employed on the work, but without permitting materials to segregate or allowing excessive free water to collect on the surface.
- B. Strength: Provide ultimate strength concrete in all portions of the work. Strength must conform to values for the class of concrete specified for each portion of the structure. Requirements are based on 28-day compressive strength. If high early-strength concrete is specified, requirements are based on 7-day compressive strength.
- C. Entrained Air: Air-entrain all concrete, unless otherwise specified. Provide for not less than three percent or more than five percent by volume of total entrained air for normal

weight concrete.

- D. Slump: The maximum permissible slump for concrete is 4 inches; the minimum is 2-1/2 inches. Determine slump by methods given in ASTM C 143.
- E. Admixtures: Proportion admixtures according to the manufacture's recommendations. Use of an approved accelerator is permitted when the air temperature of placed concrete exceeds 65 F.
- F. Clarification.

Class	Minimum 28-day compressive strength (PSI)	Water-Cement Ratio (Max. gal./sack)	Minimum Cement contents sacks per cubic yard*
Normal Weight			
A	3000	6.5	5.0
B	200	8.0	4.0
C	3600	6.0	6.0
F	4200	5.5	6.5

* If the required strength is not secured with the minimum cement content as specified, add cement or provide other aggregates as necessary.

- G. Water-Cement Ratio for Normal Weight Concrete: If the relationship between strength and the water-cement ratio has been determined previously for materials specified for normal weight concrete, the ratio may be used. Otherwise, determine the proper water-cement ratio by using the following procedures.
 1. Make concrete trial mixtures having suitable proportions and consistency. Use at least three different water-cement ratios, which will produce a range of strengths encompassing those required. Design trial mixes to produce the maximum allowable slump.
 2. Determine proportions of ingredients and conduct tests in accordance with basic relationships and procedures outlined in ACI 613, "Recommended Practice for Selecting Proportions for Concrete."
 3. Make and cure specimens in sets of six (6) according to ASTM C 192, "Method of Making and Curing Concrete Compression and Flexure Test Specimens in the Laboratory." For each water-cement ratio prepare at least three specimens for each age, test. Test for strength at 7, 14, 21, and 28 days, or other age as required. Conduct tests according to ASTM C 39, "Method of Test for Compressive Strength of Molded Concrete Cylinders."
 4. From results of these tests, plot a curve showing the relationship between water-cement ratio and compressive strength. Determine the maximum permissible water-cement ratio for ultimate strength concrete by using the value from the curve that corresponds to a minimum strength 25 percent greater than the specified strength.

2.03 MIXING NORMAL WEIGHT CONCRETE

- A. Ready-Mixed Concrete: Mix and transport ready-mixed concrete according to ASTM C 94, "Specifications for Ready-Mixed Concrete." In addition to normal batch plant procedures as outlined in ASTM C 94, provisions must be made at the batch plant for the following items:

1. Arrangement. Provide separate bins or compartments for different sized aggregates and for bulk cement. Compartments of ample size constructed so that materials will be kept separate under all working conditions are required.
2. Weighing of Material. Aggregates may be weighed in separate weigh batchers with individual scales. Weigh bulk cement on a separate scale in a separate weigh batcher. Observe the following limits of accuracy when weighing or measuring materials.

<u>Materials</u>	<u>Percent Accuracy</u>
Cement	1
Water	1
Aggregates	2
Admixtures	3

3. Water Meter or Batchers. Provide a suitable measuring device capable of measuring mixing water within the specified accuracy for each batch. Note the number of gallons of water as batched on printed batching tickets.
 4. Moisture Control. Provide a moisture meter to measure the amount of free water in fine aggregates within 0.3 of a percent. Compensate for varying moisture contents of fine aggregates and change batch weights of materials if necessary before batching.
 5. Scales. Provide adequate facilities for accurate measurement and control of each material entering each batch of concrete. Accuracy of weighing equipment must conform to applicable requirements of ASTM and NRMCA for such equipment.
 6. Recorders or Printers. Provide recorders/printers to produce tickets. Each ticket will provide a printed record of weights for cement as batched and for separate aggregates as batched individually. Use the type of indicator that returns for zero punch or to zero after a batch is discharged. Clearly indicate by stamped letters or numerals the difference between aggregates and cement as batched. Show the time of day stamped or printed at intervals of not more than six minutes. Deliver recorded ticket copies with concrete. The testing agency will keep one copy. Batch will be rejected if it arrives at jobsite without a complete ticket showing weights, time and all required information as per this section or as required by Engineer.
 7. Protection. Protect weighing, indicating, recording or printing, and control equipment against exposure to dust and weather.
- B. Transit Mix Truck Requirements.
1. Clean each transit mix truck drum and reverse drum rotation before the truck proceeds under the batching plant.
 2. Keep the water tank valve on each transit truck locked at all times that the truck is in use. Any addition of water must be directed by the Engineer on a batch basis. Added water must be incorporated by additional mixing of at least 35 revolutions. Additions of water without Engineer approval will result in rejection of entire batch or removing batch.
 3. Equip each transit-mix truck with a continuous, nonreversible, revolution counter showing the number of revolutions at mixing speeds.

C. Admixtures:

1. Charge air-entraining and chemical admixtures into the mixer as a solution using an automatic dispenser or similar metering device. Measure admixture to an accuracy within \pm three percent. Do not use admixtures in powdered form.
2. Two or more admixtures may be used in the same concrete, provided that the admixtures in combination retain full efficiency and have no deleterious effect on the concrete or on the properties of each other. Inject the admixtures separately during the batching sequence.
3. Add retarding admixtures as soon as practicable after the addition of cement.

D. Temperature Control:

1. When the mean temperature falls below 40° F, keep the admixed temperature above 55° F to maintain concrete temperature at the time for placement in the forms above 60° F nor more than 85° F.
2. If water or aggregate has been heated, combine water with aggregate in the mixer before cement is added. Do not add cement to mixtures of water and aggregate when the temperature of the mixtures is greater than 90° F.
3. In hot weather, cool ingredients before mixing to maintain temperature of the concrete below the maximum placing temperature. If necessary, substitute well-crushed ice for all or part of the mixing water. The maximum time interval between the addition of mixing water and/or cement to the batch, and the placing of concrete in the forms shall not exceed the following:

Air or Concrete Temperature (whichever is higher) AGITATED CONCRETE	Maximum Time
(32.2° C) 90° F or above	45 minutes
(23.9° C) 75° F to 89° F (31.6° C)	60 minutes
(5.0° C) 40° F to 74° F (23.3° C)	90 minutes

PART 3 EXECUTION

3.01 PREPARATION

- A. Coordination: Mix concrete only in quantities for immediate use. Discard concrete that has set. Re-tempering of set concrete is not permitted. Completely discharge concrete at the site within one hour and 30 minutes after adding cement to aggregate. In hot weather, reduce this time to one hour or less to prevent stiffening of concrete before it is placed
- B. Protection from Adverse Weather: Contracting to provide and have readily available means of protection of concrete in anticipation of adverse weather. If such means are not provided, concrete placement shall not take place. If adverse weather is imminent, no concrete placement is permitted. Do not permit rainwater to increase mixing water or to damage the surface finish. If rainfall occurs after placing operations begin, provide adequate covering to protect the work.
- C. Placing Temperature:
 1. Cold Weather Concreting. Except as modified herein, cold weather concreting shall

comply with ACI 306. The temperature of concrete at the time of mixing shall be not less than that shown in the following table for corresponding outdoor temperature (in shade) at the time of placement:

OUTDOOR TEMPERATURE	CONCRETE TEMPERATURE
Below 40° F	No concrete placement
Between 40° F and 45° F	60° F
Above 45° F	45° F

When placed, heated concrete shall not be warmer than 80o F.

When freezing temperatures may be expected during the curing period, the concrete shall be maintained at a temperature of at least 50o F for five days or 70o F for three days after placement. Concrete and adjacent form surfaces shall be kept continuously moist. Sudden cooling of concrete shall not be permitted.

2. Hot Weather Concreting. Except as modified herein, hot weather concreting shall comply with ACI 305. At air temperature of 90 F or above, concrete shall be kept as cool as possible during placement and curing. The temperature of the concrete when placed in the work shall not exceed 90 F.

Plastic shrinkage cracking, due to rapid evaporation of moisture, shall be prevented. Concrete shall not be placed when the evaporation rate (actual or anticipated) equals or exceeds 0.2 pound per square foot per hour, as determined by Figure 2.1.5 in ACI 305.

- D. Adjusting Slump. If concrete arrives at the project with slump below that specified, water may be added only once as allowed by Engineer. Indiscriminate addition of water to increase slump is prohibited. Do not exceed either the maximum permissible water-cement ratio or maximum slump. Mix adjustments to obtain specified slump must be approved and directed by the Engineer.

3.02 CONVEYING

- A. Objectives: Handle concrete from mixer to placement as quickly as practicable while providing concrete of required quality in the placement area. Use methods that prevent loss of ingredients and segregation.
- B. Equipment: Obtain approval of the conveying equipment. Select equipment of size and design to ensure continuous flow of concrete at the delivery end. Conform to the following equipment and operation requirements.
 1. Provide truck mixers, agitators and non-agitating units and manner of operation conforming to requirements of ASTM C 94, "Specifications for Ready-Mixed Concrete."
 2. Provide metal or metal-lined chutes. Arrange for slopes not exceeding one vertical to two horizontal and not less than one vertical to three horizontal. Chutes more than 20 feet long and chutes not meeting slope requirements may be used if concrete is discharged into a hopper before distribution.
 3. Pumping of concrete will be permitted only after written approval. Use a batch design and aggregate sizes suitable for pumping.

3.03 PLACING

- A. Preparation: In addition to the previous requirements, confirm that formwork has been completed. Remove ice, excess water, dirt and other foreign materials from forms. Confirm that reinforcement is securely in place and positioned. Have a competent workman at the pour location who can assure that a reinforcement and embedded items remain in design locations while concrete is being placed. Sprinkle semi-porous subgrades to eliminate suction. Seal extremely porous subgrades in an approved manner.
- B. General Procedure:
1. Deposit concrete continuously, or in layers of such thickness that no concrete will be deposited on concrete which has hardened sufficiently to cause formation of seams or planes of weakness within the section. If the section cannot be placed continuously, place construction joints as specified or as approved.
 2. Proceed with placement at a rate such that concrete that is being integrated with fresh concrete is still plastic. Do not deposit concrete that has partially hardened or has been contaminated by foreign materials.
 3. Remove temporary spreaders from forms when the spreader is no longer useful. Temporary spreaders may remain embedded in concrete only if made of galvanized metal or concrete, and if prior approval has been obtained.
 4. Do not start placing of concrete in supported elements until concrete previously placed in columns and walls is no longer plastic.
 5. Deposit concrete as nearly as practicable in its final position to avoid segregation due to re-handling or flowing. Do not subject concrete to a procedure that will cause segregation.
 6. Where surface mortar is to be the basis of a finish, especially those designated to be painted, work coarse aggregate back from forms with a suitable tool to bring the full surface of mortar against the form. Prevent formation of excessive surface voids.
 7. Consolidate concrete by vibration, spading, rodding or forking so that concrete is thoroughly worked around reinforcement, around embedded items and into corners of forms. Eliminate air or stone pockets that may cause honeycombing, pitting or planes of weakness. A minimum frequency of 7000 revolutions per minute is required for mechanical vibrators. Do not use vibrators to transport concrete within forms. Insert vibrators and withdraw at points from 18 to 30 inches apart. At each insertion, vibrate sufficiently to consolidate concrete, generally from five to 15 seconds. Do not over vibrate causing segregation. Keep a spare vibrator on the site during concrete placing operations.
- C. Slabs:
1. After suitable bulkheads, screeds and if specified, jointing materials, have been positioned the concrete shall be placed continuously between construction joints, beginning at a bulkhead, edge form, or corner. Each batch shall be placed into the edge of the previously placed concrete to avoid stone pockets and segregation.
 2. If there is a delay in casting, the concrete placed after the delay shall be thoroughly spaded and consolidated at the edge of that previously placed to avoid cold joints. Concrete shall then be brought to correct level with a straightedge and struck off. Bullfloats or darbies shall be used to smooth the surface, leaving it free of humps or hollows.

D. Formed Concrete:

1. Place concrete in forms using tremie tubes and taking care to prevent segregation. Bottom of tremie tubes shall not be in contact with the concrete already placed. Do not drop concrete free more than five feet, or so that it can ricochet from reinforcing steel.
2. In walls, place concrete in 12" to 24" lifts, keeping the surface horizontal. Compaction shall be by vibrator and by puddling stick. The vibrator shall be inserted vertically at regular intervals through the fresh concrete and slightly into the previous lift, if any. It shall be removed as soon as the surface begins to liquefy around the vibrator.
3. Vibration shall be supplemented by hand puddling; puddling shall be continuous while pouring concrete and shall be done primarily between forms and reinforcing steel, around openings, or wherever needed to prevent honeycomb, fill voids or drive out large air bubbles.

E. Concrete Poured Against Rock:

1. Where concrete is poured against undisturbed rock, especially in drilled shafts, place concrete as soon as practicable after excavation to prevent weathering of exposed rock.
2. Remove all water from excavation or shaft before placing concrete.

3.04 COMPACTION OF CONCRETE

- A. General: All concrete shall be placed and compacted with mechanical vibrators. The number, type, and size of the units shall be approved by the Engineer in advance of placing operations. No concrete will be ordered until sufficient approved vibrators (including standby units in working order) are on the job.
- B. Concrete Slabs: Concrete for slabs less than 8" thick shall be consolidated with Vibrating Screeds; slabs 8" to 12" thick shall be compacted with Vibrating Screeds and internal vibrators and (optionally) with Vibrating Screeds.
- C. Walls and Columns: Internal vibrators shall be used wherever possible, rather than form vibrators. In general, for each vibrator needed to melt down the gatch at the point of discharge, one or more additional vibrators must be used to densify, homogenize and perfect the surface.
- D. Amount of Vibration: Vibrators are to be used to consolidate properly placed concrete, but not to move or transport concrete in the forms. Vibration shall continue until:
1. Frequency returns to normal.
 2. Surface appears liquefied, flattened and glistening.
 3. Trapped air ceases to rise.
 4. Coarse aggregate has blended into surface, but has not disappeared.

3.05 JOINTS

- A. General: Construction, control and isolation joints shall be installed and sealed as called for by the plans.
- B. Construction Joints:
1. Construction joints shall be cast in such a manner that abutting members are bonded, and free of honeycomb or voids.
 2. The joint surface of the previously cast member shall be cleaned free of all oil,

grease, curing compound, dirt, or laitance film, and shall be wetted and coated with grout immediately prior to casting the adjacent member. Cleaning shall be accomplished by high-pressure water jet, wet sand blasting, or scrubbing - singly or in combination - as required. Scrubbing shall be done initially when concrete is green, so that any laitance film will be removed.

C. Control Joints:

1. Control joints shall be formed by sawing, or as otherwise shown. Sawing shall be done as soon as the concrete hardens sufficiently to prevent raveling of the concrete at the edges. Sawing shall not be done while the concrete temperature is falling. Joint shall be cut 1-1/2" deep or as otherwise shown.
2. The Contractor shall have at least one spare saw available during the sawing operation.
3. Control joints shall be cleaned and filled with sealant. Inject sealant through a nozzle into the bottom of the joint, filling the joint without air voids.

3.06 REPAIRING SURFACE DEFECTS

A. Defective Areas: Repair defective areas immediately after the removal of forms. Engineer may reject if necessary.

1. Remove honeycombed and other defective concrete down to sound concrete. To prevent absorption of water from patching mortar, dampen the defective area and a strip six inches wide surrounding the area to be patched. Prepare bonding grout by mixing approximately one part cement to one part fine sand passing a No. 30 mesh sieve. Mix to a consistency of thick cream, and brush thoroughly into the surface.
2. Make patching mortar of the same materials and of approximately the same proportions as concrete, except omit coarse aggregate. Prepare mortar with not more than one part cement to 2-1/2 parts sand by damp loose volume. Substitute white Portland cement for part of the gray Portland cement on exposed concrete in order to produce a color matching the color of surrounding concrete. Determine color by making a trial patch.
3. Use no more mixing water than necessary for handling and placing. Mix patching mortar in advance and allow to stand. Mix frequently with a trowel until it has reached the stiffest consistency that will permit placing. Do not add water.
4. After surface water has evaporated from the area to be patched, thoroughly brush a coat of bond grout into surface. When bond grout begins to lose its water sheen, apply the premixed patching mortar. Thoroughly consolidate the mortar into place and strike off to leave the patch slightly higher than the surrounding surface. To permit initial shrinkage, leave undisturbed for at least one hour before final finishing. Keep the patched area damp for seven days. Do not use metal tools in finishing patches in a formed wall that will be exposed.

B. Tie Holes: Patch tie holes immediately after removal of forms. After cleaning and thoroughly dampening the tie hole, fill solid with non-shrink, non-metallic grout.

C. Proprietary Materials: If permitted or required, proprietary compounds for adhesion or as patching ingredients may be used in lieu of or in addition to the forgoing patching procedures. Use such compounds according to the manufacturer's recommendations.

3.07 FINISHING OF FORMED SURFACES

A. Surfaces Requiring No Finish: A finish is not required on surfaces concealed from view by earth, etc., in the completed structure.

- B. Smooth Form Finish
 1. Use plywood or fiberboard linings or forms in as large sheets as practicable and with smooth, even edges and close joints.
 2. Patch tie holes and defects. Rub fins and joint marks with wooden blocks to leave a smooth, unmarred finish surface.
 3. Use a smooth form finish on all surfaces exposed to view and liquid.
- C. Related Unformed Surfaces: Tops of piers, walls, bent caps and similar unformed surfaces occurring adjacent to formed surfaces shall be struck smooth after concrete is placed. Float unformed surfaces to a texture reasonably consistent with that of the formed surfaces. Final treatment on formed surfaces shall continue uniformly across the unformed surfaces.

3.08 FINISHING SLABS AND SIMILAR FLAT SURFACES

- A. Shaping to Contour: Use strike-off templates or approved compacting-type screeds riding on screed strips or edge forms to bring concrete surface to the proper contour. See the section on Concrete Formwork for edge forms and screeds.
- B. Consolidation: Thoroughly consolidate concrete in slabs and use internal vibration in beams and girders of framed slabs and along bulkheads of slabs on grade. Obtain consolidation of slabs and floors with vibrating bridge screeds, roller pipe screeds, or other approved means. Concrete to be consolidated must be as dry as practicable. Do not permit manipulation of surfaces prior to finishing operations.
- C. Tolerances for Finished Surfaces: Tolerances are checked by placing a straightedge of specified length anywhere on the slab. The gap between slab and straightedge must not exceed the tolerance listed for the specified class.

<u>Class</u>	<u>Straightedge Length in Feet</u>	<u>Tolerance in Inches</u>
A	10	1/8
B	10	1/4
C	10	1/4

- D. Floated Finish:
 1. After concrete has been placed, struck off, consolidated and leveled, do not work further until ready for floating. Begin floating when water sheen has disappeared, or when the mix has stiffened sufficiently to permit proper operation of a power-driven float. Consolidate the surface with power-driven floats. Use hand floating with wood or cork-faced floats in locations inaccessible to a power-driven machine and on small, isolated slabs.
 2. Recheck tolerance of the surface after initial floating with a 10-foot straightedge applied an not less than two different angles. Cut down high spots and fill low spots to Class B tolerance. Immediately refloat slab to uniform, smooth, granular texture. 3. Provide a floated finish for the sidewalks.
- E. Troweled Finish:
 1. To obtain a troweled finish, a floated finish as previously specified must be applied. After power floating, use a power trowel to produce a smooth surface which is relatively free of defects but which may still contain some trowel marks. Do additional trowelings by hand after the surface has hardened sufficiently. Do final troweling when a ringing sound is produced as the trowel is moved over the surface. Thoroughly consolidate the surface by hand troweling operations.

2. Produce a finished surface free of trowel marks, uniform in texture and appearance and conforming to Class A tolerance. On surfaces intended to support floor coverings, remove defects that might show through covering by grinding. 3. Provide a troweled finish for inside floors intended as walking surfaces.
- F. Broom or Belt Finish:
1. Immediately after completing the floated finish, draw a broom or burlap belt across the surfaced to give a coarse transverse scored texture.
 2. Provide a broom or belt finish for exterior paving and walks, dry pit floor.
- G. Rubbed Finish: All fins shall be removed, ties and wires broken off and driven back, holes pointed up with mortar. The surface shall be wetted and rubbed with carborundum until a cement film is formed. This shall be rubbed into the surface until all voids are filled and the entire surface has a uniform appearance. The surface shall turn white and set hard. It must not dust off. All interior and exterior exposed structural concrete surfaces not receiving a painted texture coating shall be rubbed. Rubbing should begin immediately on form removal.
- H. All Freshly Cast Concrete: Shall be protected from damaging effects of the elements -freezing, rapid drop in temperature, and loss of moisture - and from subsequent construction operations. When necessary, the Contractor shall provide and use insulation and tarpaulins to maintain the concrete temperature above 50 F for the first week.
- I. Curing for Slabs and Footings:
1. Initial Curing: Immediately after the finishing operations are completed, the concrete shall be covered with two thicknesses of 10-ounce burlap or other approved materials, thoroughly saturated with water before placement. This covering shall remain in contact with the concrete and be kept saturated with water by spraying until the peak temperature produced by hydration has passed but for at least 24 hours. At the end of this time, initial curing may be terminated and final curing begun.
 2. Final Curing: Cover concrete with an approved curing compound conforming to ASTM Designation C309 (latest). Color to be white. Waterproof curing paper conforming to ASTM Designation C171 (latest) is also acceptable. Total curing time shall be at least seven days during which interface temperature of concrete shall be above 50 F. The curing compound shall be applied heavily and evenly in two coats until no pinhole or other coating break remains, and an opaque white coating is achieved. "Curing compound will not be allowed for final curing of structural floor slabs. Final curing will be accomplished by continuing initial curing process for the time with regard to temperature as stated above."
- J. Curing for Walls and Columns:
1. Initial Curing: Immediately after concrete forms are removed, the exposed surface of the concrete shall be covered with two thicknesses of 10-ounce burlap or other approved absorptive materials, thoroughly saturated with water before placement. This covering shall remain in contact with the concrete and be kept saturated with water by spraying for at least 96 hours. At the end of this time, initial curing may be terminated and final curing begun.
 2. Final Curing: Cover concrete with an approved curing compound conforming to ASTM Designation C309. Color to be white. Waterproof curing paper conforming to ASTM Designation C171 is also acceptable. Total curing time shall be at least ten days, during which interface temperature of concrete shall be above 50 F. "Curing compound will not be allowed for final curing of any interior or exterior exposed structural concrete. Final curing will be accomplished by continuing initial curing process for an additional ten days."

3. Alternate Initial Curing: In case forms are removed before end of initial cure period, or in the case of unformed wall surfaces (shot-crete), the exposed surfaces of the concrete shall be covered with two thicknesses of 10-ounce burlap or other approved absorptive materials, thoroughly saturated with water before placement. This covering shall be held in contact with the concrete and be kept saturated with water by spraying until the end of the initial curing period (96 hours curing).
-
- K. Curing Labor: One or more men as required shall be on 24-hour duty at all times during curing operation to maintain spraying equipment and blankets in constant service.
 - L. Protection. If at any time during the progress of work the temperature is, or in the opinion of the Engineer will drop below 40 F, the Contractor shall make suitable provisions to protect the concrete. This protection shall consist of the use of insulating materials such as blankets, mats, etc., and equipment for providing artificial heat. Unvented salamanders or other heaters, which produce carbon dioxide as a by-product shall not be permitted in the building during the casting operation or for the following 36 hours. Salamanders or other heaters shall be placed in the building prior to concreting to maintain the temperature above 50 F, and to remove any frost from the subgrade. A thermometer accurate ± 2 degrees F shall be placed at the interface of the slab under the curing blanket to record the temperature. If the temperature at this position falls below 50 F, additional insulating material shall be supplied to maintain the temperature above 50 F. If heaters are used, precautions shall be taken to prevent drying to the slab. Water jackets or other suitable devices shall be provided on all heaters to maintain the relative humidity of the atmosphere as high as possible.
 - M. After the curing period, the temperature of the exposed surface shall not be permitted to drop faster than 30 F, in 24 hours.
 - N. In hot weather, suitable precautions shall be taken to avoid drying of the slab prior to the finishing operation in accordance with ACI 305. During extremes in weather, floors shall not be cast unless the slab is protected by a roof and other suitable measures can be taken. After curing has been completed, the floor shall be exposed to the air for at least 48 hours prior to allowing wheel traffic on the floor.

END OF SECTION

SECTION 03605

NON-SHRINK GROUT

1.0 GENERAL

1.01 WORK INCLUDED

This section specifies requirements for non-metallic non-shrink grout for leveling column base plates, steel beams bearing on concrete, machinery and other equipment, for anchoring handrail posts into sleeves embedded in concrete, and at all other locations shown or reasonably implied by the drawings.

1.02 RELATED WORK

- A. Division 5 - Metals
 - 1. Structural Steel
 - 2. Aluminum Handrails and Railings

1.03 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM). ASTM C 309 Liquid Membrane-Forming Compounds for Curing Concrete.
- B. Corps of Engineers (CRD). CRD C-588, Corps of Engineers Specification for Non-shrink Grout.

1.04 SUBMITTALS

Acceptable brands of materials are specified herein. If substitutions of equal quality are proposed by the Contractor, submit the following information on the proposed substitution for approval by the engineer before delivery to the project:

- A. Manufacturer's technical literature including manufacturer's specifications for mixing and placing of the grout.
- B. Test results of test performed by a certified independent testing laboratory showing conformance to the following:
 - 1. CRD C-588.
 - 2. The requirements of this specification.

1.05 MANUFACTURER'S ASSISTANCE

Manufacturer's shall make available, at no cost and upon 72 hours' notification, the services of a qualified, full time employee to aid in assuring proper use of the product under job conditions.

1.06 DELIVERY AND STORAGE

- A. Non-shrink grout shall be delivered to the project in unopened containers and shall bear intact manufacturer's labels.
- B. Store all non-shrink grout material in dry shelter and protect from moisture.

- C. Containers that are torn or damaged such that the non-shrink grout material has been exposed to the elements shall be discarded.

1.07 MEASUREMENT AND PAYMENT

The exact dimensions for machinery and equipment bases will depend upon the dimensions of the actual machinery and equipment furnished. No change in the contract price will be allowed if the dimensions are different from those shown on the drawings.

2.0 PRODUCTS

2.01 MATERIALS

- A. Non-shrink Grout. Non-shrink grout material shall be a pre-blended factory-packaged material manufactured, under rigid quality control, specially for use in transferring heavy loads. The non-shrink grout shall conform to the following requirements.
 - 1. Grout shall contain nonmetallic natural aggregate and shall be non-sustaining and noncorrosive. Acceptable products are Gifford-Hill "Supreme," Master Builders' "Masterflow 713," or equal.
 - 2. Corps of Engineers CRD-C-588.
 - 3. Resist attack by oil and water.
 - 4. Have minimum initial setting time of approximately 1 hour at 70 F.
 - 5. Have a minimum compressive strength of 5000 psi at 28 days.
 - 6. Free of gas-producing or -releasing agents.
- B. Water. Water used for mixing the grout shall be potable.
- C. Pea Gravel. Clean pea gravel conforming ASTM C 33 coarse aggregate graded so that at least 90 percent passes a 3/8-inch sieve and 90 percent is retained by a No. 4 sieve.
- D. Membrane-Forming Curing Compound. Commercial curing compound conforming to ASTM C309, which will not permanently discolor the grout.

3.0 EXECUTION

3.01 PROCEDURES

Installation methods and procedures shall conform to the printed instructions of the grout manufacturer and these specifications. Where there is a conflict between these specifications and the printed instructions of the grout manufacturer, the printed instructions of the grout manufacturer shall take precedence.

3.02 SURFACE PREPARATION

- A. Remove all defective concrete, laitance, dirt, oil, grease and other foreign material from concrete surfaces by bush-hammering, chipping, or other similar means, until a sound, clean concrete surface is achieved.

- B. Lightly roughen the concrete, but not enough to interfere with the proper placement of grout.
- C. Remove foreign materials from all surfaces in contact with grout.
- D. Aline, level and maintain final positioning all components to be grouted. Coat shims with a thin film of grease or wax to facilitate removal.
- E. Provide relief holes, if required, to avoid trapping air beneath the base plate.
- F. Take special precautions during extreme weather conditions according to the manufacturer's written instructions.
- G. Saturate all concrete surfaces with clean water for the period of time specified by the manufacturer. Remove excess water and leave none standing.
- H. Immediately before grouting clean any contaminated surfaces.

3.03 FORMWORK

- A. Build leak proof forms that are strong and securely anchored and shored to withstand grout pressures. Forms shall be built high enough to provide a "head" of grout where it is required to force grout into difficult locations.
- B. Provide enough clearance between the formwork and the area to be grouted to permit proper placement of grout.

3.04 MIXES

- A. For less than a 4-inch clearance, or where size or shape of space makes grouting difficult, grout mix shall consist of grout material and water.
- B. For greater than 4-inch clearances where coarse aggregate will not obstruct free passage of the grout, the grout may be extended by adding clean pea gravel if allowed or recommended by the grout manufacturer. Follow the manufacturer's recommendation for the maximum amount of pea gravel that may be added.
- C. Use the minimum amount of water necessary to produce a flowable grout without causing either segregation or bleeding.

3.05 MIXING

- A. Mixing of non-shrink grout shall be in strict conformance to the recommendations of the grout manufacturer.
- B. Mix grout as close to the work area as possible and transport the mixture quickly and in a manner that does not permit segregation of materials.
- C. After the grout has been mixed, do not add more water for any reason.

3.06 PLACING

- A. Place non-shrink grouting material quickly and continuously by the most practical means permissible: pouring, pumping or under gravity pressure. Do not use either pneumatic-pressure or dry packing methods without written permission of the engineer.

- B. Follow established concreting procedures observing precautions for hot and cold weather concreting.
- C. When practical, apply grout from one side only to avoid entrapping air.
- D. Final installation shall be thoroughly compacted and free from air pockets. To facilitate placement, a 1/2 to 1-inch chain or metal strap may be pulled back and forth under the equipment during grouting. Remove chain or strap before initial set takes place.
- E. Do not vibrate the placed grout moisture or allow it to be placed if the area is being vibrated by nearby equipment, except when approved by the grout manufacturer.
- F. Do not remove leveling shims for at least 48 hours after grout has been placed. After shims have been removed, fill voids with non-shrink grout.

3.07 CURING

Cure grout for 3 days after placing by keeping wet and covering with curing paper by coating with a concrete membrane-forming curing compound or by other approved method.

END OF SECTION

Division 15
MECHANICAL

SECTION 15200

FILTER UNDERDRAIN SYSTEM

PART 1.0 GENERAL

1.1 SCOPE OF WORK

A. Work Included

All of the equipment described in this section shall be supplied by a single underdrain manufacturer regularly engaged in that business. This section requires the furnishing and installation of replacement filter underdrains for **two existing** filter basins cells located in at the City of Edinburg Downtown Water Treatment Plant, as shown on the contract drawings.

**Existing Filter No.1 basin cell is approximately 12 feet x 15 feet, and
Existing Filter No.3 basin cell is approximately 12 feet x 11 feet,**

The equipment to be supplied and installed shall consist of:

1. Filter Underdrains with media retainer.
2. Filter media.

NOTE: Contractor performing the installation of the filter drains must have successfully completed least three similar filter replacement projects of similar size and scope

B. References

1. NSF - Standard 61 - Drinking Water Systems Components - Health Effects.
2. AWWA B100 Water Treatment Filtering Material latest edition.

1.2 PERFORMANCE AND DESIGN REQUIREMENTS

A. General Requirements

1. The filter underdrain system shall be designed and installed to ensure long term stability in its operating characteristics. It shall be resistant to changes in head loss, flow uniformity, and any other effects which would in time cause loss of efficiency or effectiveness in its operation.
2. The underdrain system is intended to allow for the uniform collection of filtered water and uniform distribution of backwash water and air over the total area of the filter floor.
3. The backwash system shall allow for separate air scouring and water backwashing and for the simultaneous use of air and water at the specified rates.
4. The system shall be designed to avoid localized areas of excessive flow (maldistribution) which may cause mounding, lateral displacement, or other deleterious disturbances in the filter media.
5. When subjected to a backwash flow rate of 20 gpm/sf of filter area the headloss through an underdrain lateral 16 feet long shall not exceed 36 inches water column.

6. To ensure the underdrain will control distribution (limit maldistribution) and not be over-powered by the media headloss, the minimum headloss through the orifices (primary and secondary) of an individual underdrain block shall not be less than 20 inches water column at a backwash flow rate of 20 gpm/sf of filter area.
 7. The filters shall consist of **12 inches** of silica sand media, and **18 inches** of anthracite media.
- B. Design Flow Rates:** The filter underdrain system shall be furnished and installed to perform satisfactorily and as specified when operated under the following conditions:
1. Downflow of filtered water up to 5 gpm/sf.
 4. Upflow of backwash water up to 20 gpm/sf.
- C. Flow Distribution:** The filter underdrain system, as installed, shall provide acceptable flow uniformity. Maldistribution (MD) of air and water flows during backwash shall be as follows:
1. Lateral Water MD: The maldistribution in a lateral 16 feet long or less shall not exceed +/- 2 percent of the average gpm/sf of filter for a backwash rate of 20 gpm/sf.
 2. Flume Water MD: Note, additional maldistribution, due to specific flume arrangement, entry conditions into both flume and underdrain laterals and flow velocities, must be considered.
- D. Structural Design Requirements**
1. General: The filter underdrain system, including anchorage, supports, etc. shall be designed to safely withstand loadings for the specified conditions.
 2. Internal Loading: The filter underdrain system, when installed, shall be designed for a net internal loading during backwash of the greater of either 600 psf or 200 percent of the maximum pressure at maximum backwash rates. No credit shall be taken for the weight of gravel or filter media.
 3. Downward Load: The filter underdrain system shall also be designed to withstand a net downward loading of not less than 1,400 psf.

1.3 QUALITY ASSURANCE

- A. Manufacturer:** The filter system shall be supplied by one manufacturer that shall assume total responsibility for the parts operating as a whole and shall be manufactured by Xylem Water Solutions Zelenople LLC *or prior approved equal*.
- B. NSF Certification:** All materials used in contact with the water and backwash air shall meet National Sanitation Foundation (NSF) Standard 61 Drinking Water System Components - Health Effects.
- C. Underdrain:** The dual-parallel block units with integral flow metering elements and any specialties required for installation such as special anchorage, grout retaining plates, closures, gaskets, etc., shall be the products of a single manufacturer/supplier.
- F. Media:** The filter equipment manufacturer shall furnish a Quality Control Manual demonstrating that the filter media to be furnished will comply with the requirements of the contract specifications. The Quality Control Manual will define the following:

1. Qualification of the raw feedstock
2. Control procedures at the screening mill
3. Independent testing laboratories
4. Packaging definition
5. Purchase orders
6. Storage procedures

1.4 SUBMITTALS

- A.** Submit to the engineer complete shop drawings showing details of fabrication, materials of construction, installation and leveling data of all items furnished under this section.
- B.** Details submitted shall include as a minimum water backwash headloss, installation details, flow distribution calculations, certification of compatibility of the underdrain system with the filter media specified in this section, details for installing reinforcing and other items to be embedded in concrete.
- C.** Testing Procedures: Detailed start-up, hydraulic test procedures.
- D.** Proper documentation showing NSF-61 certification of all underdrain components.
- E.** The media submittal and technical information will be provided and approved by a licensed engineer regularly employed by the filter manufacturer. The engineer shall have at least 15 years experience in water treatment. All submittal shall include the following information as a minimum:
 1. Supplier's Name
 2. Resume of Engineer Providing Submittal
 3. Quality Control Manual
 4. Gradation of Each Media Type
 5. Date of Sampling/Lot Number
 6. Samples of Each Media Type (If Required)
 7. Representative Sample Analysis, (i.e. effective size, uniformity coefficient, specific gravity, acid solubility and Mohs' hardness for Anthracite only.)
 8. Material Quantities
 9. Diagram with Type of Material and Depth of Each
 10. Estimated Shipping Schedule
 11. Media Loading Procedure
 12. All testing shall conform to the requirements of the latest edition of AWWA B100.

1.5 SHIPMENTS

- A.** Media materials will not be shipped until the submittal is approved by the Owner. Approval of the submittal, including the Quality Control Manual, samples and independent testing, shall constitute acceptance of the media.
- B.** The schedule of work shall be submitted to the Owner for approval prior to commencement of work.
- C.** The contractor shall be responsible for coordinating the shipment of supplies of materials and equipment specified herein. Coordination will be required during construction, start-up, and/or testing.
- D.** The Contractor shall provide storage space for filter media and protect it from exposure to sunlight if stored for more than two weeks.

PART 2.0 PRODUCTS

A. Underdrain

1. The underdrain system for the filters shall be a dual parallel lateral type with an integral media support cap whereby feeder and compensating chambers are provided within the cross section of a single block. The cross section of the underdrain shall be so arranged that the feeder (or primary) chamber is adjacent and connected to the compensating (or secondary) chambers through a series of orifices. The orifices shall be located at four different elevations and sized to provide uniform distribution of air and water. All internal orifices shall be integrally molded to provide a smooth bore orifice. Underdrains requiring secondary drilling procedures will not be considered acceptable. The primary chamber should provide at least 30 square inches of cross sectional area per block to reduce flow velocity during backwash.
2. The compensating chambers shall provide the essential uniform pressure and flow distribution from the top of the blocks. The discharge flow from the top of the blocks into the filter bed shall be provided by approximately twenty-three dispersion orifices per square foot of filter area. The orifices shall be not less than 7/32 inches diameter to prevent clogging and shall be recessed from the surface by approximately 1/8 inch. The top of each orifice shall be encircled by a depression approximately 3/8 inch x 3/4 inch .
3. The underdrain shall have a horizontal flat top discharge surface, so that the finished filter bottom is essentially flat, with above stated dispersion orifices for uniform energy intensity of air and water coverage which direct flow vertically for effective penetration and cleaning of the media.
4. A water recovery channel with return holes shall be incorporated into the top of the underdrain block. Underdrains without a water recovery channel will not be considered acceptable.
5. The secondary chambers of the underdrain shall have baffles sized and located to provide reduce level sensitivity. Underdrains without baffles will not be considered acceptable.

C. Filter Media

1. Filter sand shall be composed of hard, durable clean siliceous particles, free of all mica with an average specific gravity of 2.6 (+/-0.05) and shall be in strict accordance with AWWA B100, and have an effective size of 0.45 mm to 0.55 mm, and a uniformity coefficient of 1.40 or less, for a finished depth after backwashing and scraping and removal of fines and debris of 12 inches. For depths up to 12 inches , a 1/2-inch skimming allowance shall be provided.
2. Filter anthracite shall be composed of specially selected and graded hard, durable anthracite coal particles. The anthracite shall be composed entirely of deep mined material. A quality control manual shall be included to show the source of the material and the quality of the material produced. The anthracite shall have an average specific gravity of 1.65 (+/-0.05) with a hardness (Mohs' scale) of 2.7 or more and shall be essentially free of iron, clay, shale, extraneous dirt, and excessive dust with moisture less than 4.0 percent as shipped. The anthracite shall be in accordance with AWWA B100, and have an effective size of 0.95 mm to 1.05 mm, and a uniformity coefficient of 1.40 or less for a finished depth after

backwashing and scraping and removal of fines and debris of 16 inches. A skimming allowance of 1 inch shall be provided.

2.1 MATERIALS AND CONSTRUCTION

A. Underdrain

1. **Material:** The individual blocks used in the system shall be of impervious high strength, completely corrosion-resistant, high-density polyethylene (HDPE) material. The blocks shall be resistant to erosion and corrosion and have uniform smooth surfaces.
2. **Dimensions:** The block size and weight shall permit ease of handling and installation. The block nominal dimensions shall be 8 inches high by 11 inches wide by 48 inches long. The weight of the block shall be approximately 19 pounds. One-piece extruded underdrain will not be considered acceptable.
3. **Block Geometry:** The blocks shall be essentially rectangular in shape with dispersion orifices located in the top flat surface. The blocks shall have ridges and pockets for structural rigidity. The sides of the block shall have grout lock-in lugs to key into surrounding grout so that the walls can bond with the grout.
4. **Lateral Construction:** The blocks shall be arranged end-to-end and mechanically joined to form continuous underdrain laterals approximately equivalent to the length of the filter cell. The joints shall be sealed utilizing only one (1) O-Ring seal, bell and spigot type with internal alignment tabs for proper joint alignment, and be air and water-tight. Joints shall be of snap-lock type so that the blocks are joined with integral interlocking snap lugs and lug receptors for ease of assembly and installation of the laterals. One-piece extruded underdrain will not be considered acceptable.
5. **I.M.S® 200 media retainer:** The I.M.S® 200 media retainer shall be made of thermoplastic through the injection molded process and sealed to the top of the underdrain. The opening size shall be sufficient to prevent the media from obstructing or passing through the underdrain. Vertical baffles shall be located on the bottom side of the media retainer to “compartmentalize” the fluid to keep it from moving horizontally along the bottom side of the media retainer thus ensuring each pattern of slots in the media retainer receives equal quantities of air and or water during the backwash cycle. The I.M.S® 200 media retainer shall replace the need for support gravel and shall not increase the underdrain height by more than 1 1/4 inch. The cap shall be attached and sealed to the underdrain at the factory using Type 316 stainless steel self-tapping screws and butyl sealant.

C. Grout Retainer

1. A grout retainer (GROUT-TITE® bridge) shall be utilized over the filter flume. GROUT-TITE® bridge shall be of HDPE and sized appropriately to allow adjustment of lateral center-to-center distance without difficulty. The GROUT-TITE® bridge shall span the width of the flume and shall interlock each structural rib on adjacent underdrain laterals, creating a strong non-flexing homogenous seal to the bottom of the underdrain. GROUT-TITE® bridge shall be supplied by the filter manufacturer and installed by the contractor.

D. Grout

1. Cement: Cement shall be standard brand Portland cement conforming to ASTM C150, Type II, for general use. Cement that has become "lumpy" shall not be used.
2. Water: Water for mixing and curing shall be clean and clear potable water. The water shall be considered potable if it meets the requirements of the local government agencies. Water with a total dissolved solids of 1000 mg/l or higher, or greater than 10 NTU shall not be used.
3. Sand: Sand shall be clean and washed masonry sand. When tested in accordance with ASTM D2419, the sand equivalency shall not be less than 90% for an average of three samples, or less than 85% for any individual sample. 100% of sand particles shall pass No. 4 sieve and not more than 4% of sand particles shall pass No. 200 sieve.
4. Chemical Admixtures: No chemical admixture is needed in most of the applications. The grout can be mixed in a small batch and used immediately.
5. Strength: The grout used in installing the blocks shall have a minimum compressive strength of 3000 psi after 30 days of curing. Normally, use a grout with one part Portland cement and two parts clean silica sand properly mixed and wetted with a maximum water-cement ratio by weight equal to 0.50 to 0.55 for the base grout and 0.61 to 0.67 for the fill grout.

PART 3.0 EXECUTION

3.1 PRODUCT HANDLING, STORAGE AND DELIVERY

- A. Place or store underdrains and specialties only in designated staging areas selected by the Owner and approved by the Engineer.
- B. Store underdrains and specialties off the ground, under ultraviolet-resistant tarps from time of delivery on-site until final installation of the filters.
- C. Replace, at no charge to Owner, underdrains and specialties damaged during storage and delivery.
- D. Underdrains and specialties are subject to inspection at the Engineer's request if visual evidence of damage is observed.
- E. All filter media will be shipped in "semi-bulk" containers having lifting loops and bottom discharge spout 3,000 to 4,000 lbs.
- F. Delivery of "bulk" shipments will not be permitted.

3.2 INSTALLATION

A. Filter Underdrains

1. The CONTRACTOR shall install the filter underdrain system in strict accordance with: (1) the manufacturer's written instructions and recommendations and the manufacturer's installation drawings; (2) the oral and written directions provided by the manufacturer's technical representative who is supervising and observing the work; and (3) any additional requirements specified herein.
2. Floor Preparation
 - a. Care shall be exercised in preparing the filter floor slab and in setting the anchors to assure proper alignment and elevation. Steel anchor rods shall be furnished by the filter manufacturer and set in the floor slab on both sides of the distribution flume in accordance with the drawing provided. The floor slab shall be screeded into a flat level plane and be free of protrusions and depressions, but have a rough, broom finish. **Do not trowel or finish the floor to a smooth finish.**
 - b. **DO NOT PAINT** the floor or wall area where it will come in contact with the grout surrounding the underdrain. The filter floor and filter wall extending twelve (12) inches (305 mm) up from the filter floor is not to be painted.
3. Underdrain Lateral Installation - Monopour
 - a. Utilize galvanized hardware for setting the underdrain system.
 - b. The underdrain manufacturer shall be responsible for and provide all hardware, all-thread, unistrut, rebar, anchor and other appurtenances required for the monolithic pour installation by the contractor.
 - c. After installation of the unistrut the underdrains shall be set in place such that the block are in a true level plane within plus or minus 1/8".
 - d. Make certain that end plates, grout retainers and grout stops are secured in place and completely sealed prior to grouting. Any evidence of grout flowing past a grout stop witnessed during installation shall require that the affected sections be removed and replaced.
 - e. Once the underdrain has been set and leveled place the underdrain grout in a single, monolithic placement.
 - f. Once all grouting is complete, the grout shall be allowed to cure for at least 3 full days before any functional testing.
4. Cleaning and Protection During Installation, Testing, and Startup
 - a. The CONTRACTOR shall take all precautions recommended by the underdrain manufacturer or specified herein to ensure that the filter underdrain system and any piping communicating therewith is completely clean and free of any debris, dirt, or other foreign materials which could clog the underdrain system or interfere with flow. Backwash air and water piping shall be thoroughly flushed clean. All loose debris and dirt within the filter cell and flume shall be removed by brooming down and vacuuming. Care shall be taken to keep grout from being deposited anywhere where it could interfere with flow. Any grout so deposited shall be removed. As installation progresses, partially completed portions of the work shall be protected with

heavy visqueen or other suitable material to maintain the cleanliness of the underdrain system. Such protection shall be maintained until the support gravel is installed.

- b. Any time the underdrain laterals are to be used as a work surface, the underdrain block shall be overlaid with ½ inch (13 mm) minimum plywood sheeting where necessary, to distribute the load of yard buckets, wheel barrows, ladders, scaffolds, etc., to prevent damage to the underdrain.

B. Media

1. Marks shall be placed on the side of the filter designating the top elevation of each layer.
2. Carefully place each layer so as not to disturb the previous layers.
3. Complete the installation of each layer before the next layer above is started. Do not stand or walk directly upon the filter materials. Workers must stand or walk on boards that will sustain their weight without displacing the gravel and media.
4. Measure depth of each layer of media after it has been backwashed and skimmed as recommended by the filter equipment manufacturer.
5. Clean the filter tanks before any media is placed and keep them clean throughout the placing operation.
6. Filter Sand and Filter Anthracite: Place the filter sand and filter anthracite in the bed in the order of their respective specific gravities. Place and level the filter sand first. Then backwash the bed a minimum of three times, and remove the surface fines by scraping as required to the correct elevation. Place the filter anthracite and backwash the bed three times, and remove the surface fines by scraping as required to the correct elevation.

A. Underdrain Lateral Flow Distribution Test

1. The filter underdrain system in each filter cell shall be given a series of visual, qualitative, flow distribution tests to verify that I.M.S® 200 media retainer gaps are not clogged with debris and that flow distribution is uniform. These tests shall be performed before the filter media is placed.
2. During each test, the underdrain laterals shall be visually inspected for uniform distribution of water and for any signs of quiescent zones and excessive surface turbulence.

3.3 MANUFACTURER'S SERVICES

A. Mechanical Filter Equipment Services

1. Install all items in accordance with the filter equipment manufacturer's recommendations. Upon completion of the installation, the technical director shall furnish a certificate of compliance detailing that the filtering materials have been installed in accordance with the manufacturer's instructions.

2. The underdrain manufacturer shall retain on its permanent staff, field service representatives with at least 10 years of experience in the placement of underdrain. (Such persons shall be available on a fee-paid basis to instruct the CONTRACTOR in the proper placement and testing of the underdrain).
3. The CONTRACTOR shall provide the services of the manufacturer's technical representative for not less than (6) working days (8 hours per day) to inspect and supervise the installation and testing of the filter underdrain system in (2) trips.
4. Additional supervision for testing or other purposes in excess of that included above shall be made available by the manufacturer with reasonable notice and at the manufacturer's prevailing per diem rate plus living and travel expenses.

3.7 SPARES

Spares shall be provided as follows:

- Ten (10) underdrain o-rings.
- Five (5) H.I.P.S bridging pieces.
- Five (5) Plastic end caps.

***** END OF SECTION *****