

PROJECT MANUAL

Ascension Parish Courthouse Green Infrastructure Improvements

OWNER:



ASCENSION PARISH GOVERNMENT

Clint Cointment

Parish President

COUNCIL MEMBERS

Oliver Joseph, District 1
Joel Robert, District 2
Travis Turner, District 3
Brett Arceneaux, District 4
Michael "Todd" Varnado, District 5
Chase Melancon, District 6

Brian Hillensbeck, District 7
Blaine Petite, District 8
Pamela "Pam" Alonso, District 9
Dennis Cullen, District 10
Michael Mason, District 11

PARISH STAFF

Ricky Compton
Randy Mullis

Director of Planning & Facilities
Project Manager

DATE:

February 1, 2024

LANDSCAPE ARCHITECT:

Quality Engineering & Surveying, LLC
18320 Hwy. 42
Port Vincent, LA 70726
225-698-1600

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ADVERTISEMENT FOR BIDS

Sealed bids will be received by Ascension Parish Government at the Ascension Parish Government Purchasing Office, 615 E. Worthey Street, Gonzales, Louisiana 70737 (mailing address PO Box 2392, Gonzales, LA 70707- 2392) until **February 27, 2024, at 10:00 a.m.** local time. The bids will be publicly opened and read aloud for the following:

Ascension Parish Courthouse Green Infrastructure Improvements

Statement of Work:

THE PROPOSED PROJECT INCLUDES THE MODIFICATION AND EXPANSION OF PUBLIC PARKING FOR THE COURTHOUSE, AS WELL AS MODIFICATIONS TO PEDESTRIAN PATHWAYS AND A NEW FLAGPOLE PLAZA. ADDITIONALLY, LANDSCAPE PLANTINGS FOR THE SITE ARE INCLUDED IN THE SCOPE OF WORK. AN AUTOMATIC IRRIGATION SYSTEM AND A PLAZA, WITH ELECTRICAL AND SITE FURNISHINGS ARE INCLUDED AS ALTERNATES TO THE PROJECT.

All Bids must be in accordance with the Contract Documents on file at the **Ascension Parish Purchasing Department, 615. E. Worthey Road, Gonzales, LA 70737.**

Copies of Specifications, Bid Documents, Contract Documents and Construction Drawings for use in preparing Bids may be obtained from **Ascension Parish Government, Located 615. East Worthey St. 70737, Gonzales LA.** Documents can be mailed to bidders with a provided shipping account number. No refunds will be made for returned drawings.

Where bids are to be received on forms furnished by the awarding authority, no contract documents shall be issued to anyone except a Licensed Contractor or his/ her authorized Representatives. **In no event shall any document for bidding be issued later than seventy- two (72) hours prior to the hour and date set for receiving bids.**

Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, his/her address, contractor's state license number and the name of the project for which the bid is submitted. If forward by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed to the **Ascension Parish Purchasing Department, 615 E. Worthey, Gonzales, Louisiana 70737, mailed certified mail and must be received no later than the bid opening.**

Bid security in the amount of five percent (5%) of the Total Bid must accompany each bid and shall be made payable to the Owner.

The Owner reserves the right to waive any informalities or to reject any or all bids.

No bidder may withdraw his/her bid within forty-five (45) days after the actual date of opening thereof.

A Mandatory Pre-Bid Conference will be held on **February 15, 2024, at the Ascension Parish Courthouse, 607 East Worthey St., Gonzales, LA 70737 at 8:00 am.**

All questions regarding this project and the bid package shall be submitted to the Purchasing Department via purchasing@apgov.us by **4:00 PM on February 20, 2024.** Responses will be coordinated with the Project Landscape Architect and posted on the www.centralauctionhouse.com by **4:00 pm on February 22, 2024.**

In addition to paper bids, electronic bids and electronic bid bonds for the following project will be downloaded by the Ascension Parish Purchasing Department. Electronic bids and electronic bid bonds must be submitted through www.centralauctionhouse.com prior to the electronic bidding deadline. Beginning at **10:00 am local time on February 27, 2024**, all bids will be downloaded. **No bids are accepted after 10:00 am local time.**

RS 38:2218. Evidence of good faith; countersigning

- A. The public entity advertising for bids for work shall require the bidders to attach a certified check, cashier's check, or bid bond for not more than five percent of the contract price of work to be done, as an evidence of good faith of the bidder. The public entity advertising for bids for work may require the bidders to attach a certified check, cashier's check, or bid bond for not more than five percent of the estimated price of supplies or materials, as evidence of good faith of the bidder.

To address the above requirement for electronic bids Ascension Parish Government will allow electronic bids submitted via the parish approved on-line bid site to be submitted as follows:

- A. A copy of the bid bond **must** be attached to the bid document submitted electronically.
- B. The original bid bond document must be received in our office no later than 48 hours after bid opening date and time **(Ascension Parish Purchasing Department, 615 E. Worthey, Gonzales, Louisiana (P.O. Box 2392, Gonzales, Louisiana 70707).**
- C. The bid-bond envelope must be clearly labeled as a "Bid Bond" with the project name, vendor's name as it appears on the bid documents and address.

All addenda, Amendments, Letters of Clarification, and Withdrawal Notices will be posted online in addition to electronic copies being distributed. Construction proposal information may be accessed via the internet at www.centralauctionhouse.com. Users must click on Login and create a New User Registration to view and download drawings. Once logged in, users must click on Ascension Parish Government to view current advertisement listings. This listing is titled **"Ascension Parish Courthouse Green Infrastructure Improvements."** Registered users will have access to view Project Information, submit a question concerning the project, and view the drawings. All project specific notices are found here. It will be the responsibility of the bidder to check for updates. All submitted questions will be forwarded by email to the Project Manager and the Project Landscape Architect for a response.

Ascension Parish Government shall not be responsible if the bidder cannot complete and submit a bid due to failure or incomplete delivery of the files submitted via the internet.

Ascension Parish Government reserves the right to reject any and all bids for just cause.

ASCENSION PARISH GOVERNMENT
CLINT COINTMENT, PARISH PRESIDENT

WEEKLY - 2/1/24, 2/8/24, 2/15/24
CHIEF - 2/1/24, 2/8/24, 2/15/24

END OF SECTION

DRAFT AIA® Document A701™ – 2018

Instructions to Bidders

for the following Project:

(Name, location, and detailed description)

«Ascension Parish Courthouse Green Infrastructure Improvements»
«607 East Worthey Street
Gonzales, LA 70737»« »

THE OWNER:

(Name, legal status, address, and other information)

«Ascension Parish Government»«»
«615 East Worthey Street
Gonzales, La 70737»«»
«»

THE ARCHITECT:

(Name, legal status, address, and other information)

«Quality Engineering & Surveying, LLC »«»
«18320 Hwy. 42, Port Vincent, LA 70726»
«Telephone Number: (225) 698-1600»
«»

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ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

FEDERAL, STATE, AND LOCAL LAWS MAY IMPOSE REQUIREMENTS ON PUBLIC PROCUREMENT CONTRACTS. CONSULT LOCAL AUTHORITIES OR AN ATTORNEY TO VERIFY REQUIREMENTS APPLICABLE TO THIS PROCUREMENT BEFORE COMPLETING THIS FORM.

It is intended that AIA Document G612™-2017, Owner's Instructions to the Architect, Parts A and B will be completed prior to using this document.

ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding Requirements and the Proposed Contract Documents. The Bidding Requirements consist of the advertisement or invitation to bid, Instructions to Bidders, supplementary instructions to bidders, the bid form, and any other bidding forms. The Proposed Contract Documents consist of the unexecuted form of Agreement between the Owner and Contractor and that Agreement's Exhibits, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda, and all other documents enumerated in Article 8 of these Instructions.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, or in other Proposed Contract Documents apply to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Architect, which, by additions, deletions, clarifications, or corrections, modify or interpret the Bidding Documents.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

§ 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents, to which Work may be added or deleted by sums stated in Alternate Bids.

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from, or that does not change, the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, as described in the Bidding Documents.

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment, or labor for a portion of the Work.

ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 By submitting a Bid, the Bidder represents that:

- .1 the Bidder has read and understands the Bidding Documents;
- .2 the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;
- .3 the Bid complies with the Bidding Documents;
- .4 the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Proposed Contract Documents;
- .5 the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception; and
- .6 the Bidder has read and understands the provisions for liquidated damages, if any, set forth in the form of Agreement between the Owner and Contractor.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Distribution

§ 3.1.1 Bidders shall obtain complete Bidding Documents, as indicated below, from the issuing office designated in the advertisement or invitation to bid, for the deposit sum, if any, stated therein.

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall obtain Bidding Documents.)

« Via electronic form at www.centrauctionhouse.com »

§ 3.1.2 Any required deposit shall be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within ten days after receipt of Bids. The cost to replace missing or damaged paper

documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.

§ 3.1.3 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the advertisement or invitation to bid, or in supplementary instructions to bidders.

§ 3.1.4 Bidders shall use complete Bidding Documents in preparing Bids. Neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete Bidding Documents.

§ 3.1.5 The Bidding Documents will be available for the sole purpose of obtaining Bids on the Work. No license or grant of use is conferred by distribution of the Bidding Documents.

§ 3.2 Modification or Interpretation of Bidding Documents

§ 3.2.1 The Bidder shall carefully study the Bidding Documents, shall examine the site and local conditions, and shall notify the Architect of errors, inconsistencies, or ambiguities discovered and request clarification or interpretation pursuant to Section 3.2.2.

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Architect at least seven days prior to the date for receipt of Bids.
(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall submit requests for clarification and interpretation.)

«Requests for Clarification shall be made to the Ascension Parish Purchasing Department via email
(purchasing@apgov.us)»

§ 3.2.3 Modifications and interpretations of the Bidding Documents shall be made by Addendum. Modifications and interpretations of the Bidding Documents made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3 Substitutions

§ 3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.

§ 3.3.2 Substitution Process

§ 3.3.2.1 Written requests for substitutions shall be received by the Architect at least ten days prior to the date for receipt of Bids. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in Section 3.2.2.

§ 3.3.2.2 Bidders shall submit substitution requests on a Substitution Request Form if one is provided in the Bidding Documents.

§ 3.3.2.3 If a Substitution Request Form is not provided, requests shall include (1) the name of the material or equipment specified in the Bidding Documents; (2) the reason for the requested substitution; (3) a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, performance and test data, and relevant drawings; and (4) any other information necessary for an evaluation. The request shall include a statement setting forth changes in other materials, equipment, or other portions of the Work, including changes in the work of other contracts or the impact on any Project Certifications (such as LEED), that will result from incorporation of the proposed substitution.

§ 3.3.3 The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

§ 3.3.4 If the Architect approves a proposed substitution prior to receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3.5 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 3.4 Addenda

§ 3.4.1 Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents.

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Addenda will be transmitted.)

« »

§ 3.4.2 Addenda will be available where Bidding Documents are on file.

§ 3.4.3 Addenda will be issued no later than four days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

§ 3.4.4 Prior to submitting a Bid, each Bidder shall ascertain that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with or identified in the Bidding Documents.

All bidders shall submit the following forms:

1. Louisiana Uniform Public Work Bid Form

§ 4.1.2 All blanks on the bid form shall be legibly executed. Paper bid forms shall be executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in both words and numbers, unless noted otherwise on the bid form. In case of discrepancy, the amount entered in words shall govern.

§ 4.1.4 Edits to entries made on paper bid forms must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change" or as required by the bid form.

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder's refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall neither make additional stipulations on the bid form nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name and legal status of the Bidder. As part of the documentation submitted with the Bid, the Bidder shall provide evidence of its legal authority to perform the Work in the jurisdiction where the Project is located. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further name the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached, certifying the agent's authority to bind the Bidder.

§ 4.1.8 A Bidder shall incur all costs associated with the preparation of its Bid.

§ 4.2 Bid Security

§ 4.2.1 Each Bid shall be accompanied by the following bid security:

(Insert the form and amount of bid security.)

« 5% of Bid Amount via Bid Bond »

§ 4.2.2 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and shall, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty. In the event the Owner fails to comply with Section 6.2, the amount of the bid security shall not be forfeited to the Owner.

§ 4.2.3 If a surety bond is required as bid security, it shall be written on AIA Document A310™, Bid Bond, unless otherwise provided in the Bidding Documents. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected. However, if no Contract has been awarded or a Bidder has not been notified of the acceptance of its Bid, a Bidder may, beginning « » days after the opening of Bids, withdraw its Bid and request the return of its bid security.

§ 4.3 Submission of Bids

§ 4.3.1 A Bidder shall submit its Bid as indicated below:

(Indicate how, such as by website, host site/platform, paper copy, or other method Bidders shall submit their Bid.)

- A. Sealed bids are requested to be filled in by typewriter or manually in ink and submitted using the Louisiana Uniform Public Work Bid Form attached to the Bidding Documents. All blanks on the Bid Form must be filled in prior to the signature line to include acknowledgement of addenda, base bid, alternates, if any, and the name, title, address of the bidder and the name of the firm or entity of the bidder. If applicable, when utilized any unit prices on the bid form are to be filled in. Submit the Bid Form, Bid security or bond, a corporate resolution or written evidence of the authority of the person to sign the Bid Form in a sealed opaque envelope addressed as follows:

Ascension Parish Purchasing Department
615 East Worthey Street
Gonzales, LA 70737

The envelope shall be plainly marked with the name of the project as shown in the Advertisement for Bids and with the date the bids are to be opened. Also, as required by La. R.S. 37:2163 A (1) on the envelope include the Bidder's name, address, and Louisiana Contractor's license number. Failure to show the contractor's license number on the envelope containing the bid shall result in the bid being automatically rejected and returned to the Bidder. If the bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "BID ENCLOSED" on the face of the envelope. Enclose in the envelope the other documents listed on the Bid Form.

1. Oral, telephonic, or facsimile transmitted bids will not be considered.
2. Bidders shall assume full responsibility for timely delivery at the location designated for receipt of Bids.
3. Bids received after the time and date for receipt of Bids will be returned unopened.

- B. Electronic Bidding Option: Bidders may use Central Bidding from Central Auction House to submit their bids. Go to <https://www.centralauctionhouse.com/> and click the Register hyperlink and follow the given steps. The Basic Subscription has a recurring monthly charge of \$99.99. For an electronic bid, La. R. S. 37:2163 A (1) allows a contractor to submit an authentic digital signature on the electronic bid proposal accompanied by the contractor's license number in order to comply with La. R. S. 37:2163 A (1)

§ 4.3.2 Paper copies of the Bid, the bid security, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address, and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.3 Bids shall be submitted by the date and time and at the place indicated in the invitation to bid. Bids submitted after the date and time for receipt of Bids, or at an incorrect place, will not be accepted.

§ 4.3.4 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.5 A Bid submitted by any method other than as provided in this Section 4.3 will not be accepted.

§ 4.4 Modification or Withdrawal of Bid

§ 4.4.1 Prior to the date and time designated for receipt of Bids, a Bidder may submit a new Bid to replace a Bid previously submitted, or withdraw its Bid entirely, by notice to the party designated to receive the Bids. Such notice shall be received and duly recorded by the receiving party on or before the date and time set for receipt of Bids. The receiving party shall verify that replaced or withdrawn Bids are removed from the other submitted Bids and not considered. Notice of submission of a replacement Bid or withdrawal of a Bid shall be worded so as not to reveal the amount of the original Bid.

§ 4.4.2 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids in the same format as that established in Section 4.3, provided they fully conform with these Instructions to Bidders. Bid security shall be in an amount sufficient for the Bid as resubmitted.

§ 4.4.3 After the date and time designated for receipt of Bids, a Bidder who discovers that it made a clerical error in its Bid shall notify the Architect of such error within two days, or pursuant to a timeframe specified by the law of the jurisdiction where the Project is located, requesting withdrawal of its Bid. Upon providing evidence of such error to the reasonable satisfaction of the Architect, the Bid shall be withdrawn and not resubmitted. If a Bid is withdrawn pursuant to this Section 4.4.3, the bid security will be attended to as follows:

(State the terms and conditions, such as Bid rank, for returning or retaining the bid security.)

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ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

If stipulated in an advertisement or invitation to bid, or when otherwise required by law, Bids properly identified and received within the specified time limits will be publicly opened and read aloud. A summary of the Bids may be made available to Bidders.

§ 5.2 Rejection of Bids

Unless otherwise prohibited by law, the Owner shall have the right to reject any or all Bids.

§ 5.3 Acceptance of Bid (Award)

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest responsive and responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents. Unless otherwise prohibited by law, the Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's best interests.

§ 5.3.2 Unless otherwise prohibited by law, the Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the lowest responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted.

ARTICLE 6 POST-BID INFORMATION

§ 6.1 Contractor's Qualification Statement

Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request and within the timeframe specified by the Architect, a properly executed AIA Document A305™, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted for this Bid.

§ 6.2 Owner's Financial Capability

A Bidder to whom award of a Contract is under consideration may request in writing, fourteen days prior to the expiration of the time for withdrawal of Bids, that the Owner furnish to the Bidder reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. The Owner shall then furnish such reasonable evidence to the Bidder no later than seven days prior to the expiration of the time for withdrawal of Bids.

Unless such reasonable evidence is furnished within the allotted time, the Bidder will not be required to execute the Agreement between the Owner and Contractor.

§ 6.3 Submittals

§ 6.3.1 After notification of selection for the award of the Contract, the Bidder shall, as soon as practicable or as stipulated in the Bidding Documents, submit in writing to the Owner through the Architect:

- .1 a designation of the Work to be performed with the Bidder's own forces;
- .2 names of the principal products and systems proposed for the Work and the manufacturers and suppliers of each; and
- .3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

§ 6.3.2 The Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

§ 6.3.3 Prior to the execution of the Contract, the Architect will notify the Bidder if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, withdraw the Bid or submit an acceptable substitute person or entity. The Bidder may also submit any required adjustment in the Base Bid or Alternate Bid to account for the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.

§ 6.3.4 Persons and entities proposed by the Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 Bond Requirements

§ 7.1.1 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

§ 7.1.3 The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of the Contract Sum.

(If Payment or Performance Bonds are to be in an amount other than 100% of the Contract Sum, indicate the dollar amount or percentage of the Contract Sum.)

« »

§ 7.2 Time of Delivery and Form of Bonds

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to commence sooner in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section 7.2.1.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond.

§ 7.2.3 The bonds shall be dated on or after the date of the Contract.

§ 7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix to the bond a certified and current copy of the power of attorney.

ARTICLE 8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS

§ 8.1 Copies of the proposed Contract Documents have been made available to the Bidder and consist of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor, unless otherwise stated below.

(Insert the complete AIA Document number, including year, and Document title.)

« »

- .2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds, unless otherwise stated below.

(Insert the complete AIA Document number, including year, and Document title.)

« »

- .3 AIA Document A201™–2017, General Conditions of the Contract for Construction, unless otherwise stated below.

(Insert the complete AIA Document number, including year, and Document title.)

« »

- .4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:

(Insert the date of the E203-2013.)

« »

- .5 Drawings

Number	Title	Date

- .6 Specifications

Section	Title	Date	Pages

- .7 Addenda:

Number	Date	Pages

- .8 Other Exhibits:

(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

[« »] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:

(Insert the date of the E204-2017.)

« »

[« »] The Sustainability Plan:

Title	Date	Pages

[« »] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

- .9 Other documents listed below:
(List here any additional documents that are intended to form part of the Proposed Contract Documents.)

<< >>



LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: Ascension Parish Government
615 East Wortheys Street
Gonzales, LA 70737
(Owner to provide name of project and other identifying information)

BID FOR: Ascension Parish Courthouse Green
Infrastructure Improvements
607 East Wortheys Street
Gonzales, LA 70737
(Owner to provide name and address of owner)

The undersigned bidder hereby declares and represents that she/he: a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: Quality Engineering & Surveying, LLC and dated: February 1, 2024.

(Owner to provide name of entity preparing bidding documents.)

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging) _____.

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * but not alternates) the sum of:

_____ Dollars (\$ _____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 *(Automatic Irrigation System)* for the lump sum of:

_____ Dollars (\$ _____)

Alternate No. 2 *(Plaza with Electrical and Site Furnishings)* for the lump sum of:

_____ Dollars (\$ _____)

Alternate No. 3 *(Not Applicable)* for the lump sum of:

_____ Dollars (\$ _____)

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER:** _____

DATE: _____

THE FOLLOWING ITEMS ARE TO BE INCLUDED WITH THE SUBMISSION OF THIS LOUISIANA UNIFORM PUBLIC WORK BID FORM:

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** **A CORPORATE RESOLUTION OR WRITTEN EVIDENCE** of the authority of the person signing the bid for the public work as prescribed by LA R.S.38:2212(B)(5).

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA R.S. 38:2218(A) attached to and made a part of this bid.

DRAFT AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

« »« »
« »

SURETY:

(Name, legal status and principal place of business)

« »« »
« »

OWNER:

(Name, legal status and address)

«Ascension Parish Government»«»
«615 East Worthey Street
Gonzales, La 70737»

BOND AMOUNT: \$ « »

PROJECT:

(Name, location or address, and Project number, if any)

«Ascension Parish Courthouse Green Infrastructure Improvements»
«607 E. Worthey St.
Gonzales, LA 70737»
« »

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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

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furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this « » day of « », « »

(Witness)

(Witness)

« »

(Contractor as Principal)

(Seal)

« »

(Title)

« »

(Surety)

(Seal)

« »

(Title)





**CONTRACT DOCUMENTS, TECHNICAL SPECIFICATIONS AND
CONSTRUCTIONS DRAWING
FOR**

PROJECT #: _____
FISCAL YEAR: _____
ASCENSION PARISH

PARISH PRESIDENT
Clint Cointment

COUNCILMEMBERS

Oliver Joseph, District 1
Joel Robert, District 2
Travis Turner, District 3
Brett Arceneaux, District 4
Todd Varnado, District 5
Chase Melancon, District 6
Brian Hillensbeck, District 7
Blaine Petite Jr., District 8
Pam Alonso, District 9
Dennis Cullen, District 10
Michael Mason, District 11

Prepared by-

For

Ascension Parish Administration: Recreation Department
615 E. Worthey
Gonzales, LA 70737



STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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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.
- 11. A demand for money or services by a third party is not a *Clai 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.
- 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.

42. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
43. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
44. *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.
45. *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.
46. *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.
47. *Unit Price Work*—Work to be paid for on the basis of unit prices.
48. *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.

49. *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 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.

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.

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.

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.

- E. 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.
- F. 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.
- G. 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.
- H. 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.
- I. 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.

- J. 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.
- *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).
 - *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).
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- The correction period specified as one year after the date of Substantial Completion in Paragraph 15.08.A of the General Conditions is hereby revised to be **[number—either 2, 3, or other]** years after Substantial Completion.
 - 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 **[number—either 10, 15, or other]** percent of the final Contract Price. The warranty bond period will extend to a date **[number—either 2, 3, or other]** years after Substantial Completion of the Work. Contractor shall deliver the fully executed warranty bond to Owner prior to or with the final application for payment, and in any event no later than 11 months after Substantial Completion.
 - 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.
- 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.
 - Contractor may obtain worker's compensation insurance from an insurance company that has not been rated by A.M. Best, provided that such company (a) is domiciled in the state in which the Project is located, (b) is certified or authorized as a worker's compensation insurance provider by the appropriate state agency, and (c) has been accepted to provide worker's compensation insurance for similar projects by the state within the last 12 months.
- 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. For the following Subcontractors, Suppliers, or categories of Subcontractor or Supplier, Contractor shall require the following specified insurance, with policy limits as stated:
[Identify Subcontractors, Suppliers, or categories of same, and insert specific insurance requirements and policy limits]
- 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. *Owner 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.

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.

7.12 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. *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. 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.

C. 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).

- D. 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.
- E. 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.
- F. 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.
- G. 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.
- H. 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).
- I. 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

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.

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

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

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.

- A. 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.
- B. 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.
- C. 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.
- D. 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, (1) 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

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.

A. 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 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.
5. *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.
6. *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.



- B. *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.
- C. *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*

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.

- 1) 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.
 - 2) 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.



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.



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.

2. 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.
3. 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 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.

15.04 Substantial Completion

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.

- A. 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.
- B. 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.
- C. 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.
- D. 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.



- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.05 Partial Use or Occupancy

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.

15.06 Final Inspection

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

15.07 Final Payment

A. Application for Payment

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, 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.

15.08 *Waiver of Claims*

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.

- A. 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.

15.09 *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.

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.

- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, 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.
- F. 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 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.

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

16.05 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.

Clint Cointment
Parish President



SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT



SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

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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.

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.

2.02 *Copies of Documents*

SC-2.02 Amend the first sentence of Paragraph 2.02.A. to read as follows:

Owner shall furnish to Contractor one printed copies of the Contract Documents (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF).

SC-2.02 Delete Paragraph 2.02.A in its entirety and insert the following new paragraph in its place:

- A. Owner shall furnish to Contractor one printed copies of conformed Contract Documents incorporating and integrating all Addenda and any amendments negotiated prior to the Effective Date of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies of the conformed Contract Documents will be furnished upon request at the cost of reproduction.



2.06 *Electronic Transmittals*

SC-2.06 Delete Paragraphs 2.06.B and 2.06.C in their entirety and insert the following in their place:

- A. *Electronic Documents Protocol*: The parties shall conform to the following provisions in Paragraphs 2.06.B and 2.06.C, together referred to as the Electronic Documents Protocol ("EDP" or "Protocol") for exchange of electronic transmittals.

1. *Basic Requirements*

- a. To the fullest extent practical, the parties agree to and will transmit and accept Electronic Documents in an electronic or digital format using the procedures described in this Protocol. Use of the Electronic Documents and any information contained therein is subject to the requirements of this Protocol and other provisions of the Contract.
- b. The contents of the information in any Electronic Document will be the responsibility of the transmitting party.
- c. Electronic Documents as exchanged by this Protocol may be used in the same manner as the printed versions of the same documents that are exchanged using non-electronic format and methods, subject to the same governing requirements, limitations, and restrictions, set forth in the Contract Documents.
- d. Except as otherwise explicitly stated herein, the terms of this Protocol will be incorporated into any other agreement or subcontract between a party and any third party for any portion of the Work on the Project, or any Project-related services, where that third party is, either directly or indirectly, required to exchange Electronic Documents with a party or with Engineer. Nothing herein will modify the requirements of the Contract regarding communications between and among the parties and their subcontractors and consultants.
- e. When transmitting Electronic Documents, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the receiving party's use of software application packages, operating systems, or computer hardware differing from those established in this Protocol.
- f. Nothing herein negates any obligation 1) in the Contract to create, provide, or maintain an original printed record version of Drawings and Specifications, signed and sealed according to applicable Laws and Regulations; 2) to comply with any applicable Law or Regulation governing the signing and sealing of design documents or the signing and electronic transmission of any other documents; or 3) to comply with the notice requirements of Paragraph 18.01 of the General Conditions.

2. *System Infrastructure for Electronic Document Exchange*

- a. Each party will provide hardware, operating system(s) software, internet, e-mail, and large file transfer functions ("System Infrastructure") at its own cost and sufficient for complying with the EDP requirements. With the exception of minimum standards set forth in this EDP, and any explicit system requirements



specified by attachment to this EDP, it is the obligation of each party to determine, for itself, its own System Infrastructure.

- 1) Email attachments for exchange of Electronic Documents under this EDP, a link will be shared by either party for large contract attachments.
 - 2) Each Party assumes full and complete responsibility for any and all of its own costs, delays, deficiencies, and errors associated with converting, translating, updating, verifying, licensing, or otherwise enabling its System Infrastructure, including operating systems and software, for use with respect to this EDP.
- b. Each party is responsible for its own system operations, security, back-up, archiving, audits, printing resources, and other Information Technology ("IT") for maintaining operations of its System Infrastructure during the Project, including coordination with the party's individual(s) or entity responsible for managing its System Infrastructure and capable of addressing routine communications and other IT issues affecting the exchange of Electronic Documents.
 - c. Each party will operate and maintain industry-standard, industry-accepted, ISO-standard, commercial-grade security software and systems that are intended to protect the other party from: software viruses and other malicious software like worms, trojans, adware; data breaches; loss of confidentiality; and other threats in the transmission to or storage of information from the other parties, including transmission of Electronic Documents by physical media such as CD/DVD/flash drive/hard drive. To the extent that a party maintains and operates such security software and systems, it shall not be liable to the other party for any breach of system security.
 - d. In the case of disputes, conflicts, or modifications to the EDP required to address issues affecting System Infrastructure, the parties shall cooperatively resolve the issues; but, failing resolution, the Owner is authorized to make and require reasonable and necessary changes to the EDP to effectuate its original intent. If the changes cause additional cost or time to Contractor, not reasonably anticipated under the original EDP, Contractor may seek an adjustment in price or time under the appropriate process in the Contract.
 - e. Each party is responsible for its own back-up and archive of documents sent and received during the term of the contract under this EDP, unless this EDP establishes a Project document archive, either as part of a mandatory Project website or other communications protocol, upon which the parties may rely for document archiving during the specified term of operation of such Project document archive. Further, each party remains solely responsible for its own post-Project back-up and archive of Project documents after the term of the Contract, or after termination of the Project document archive, if one is established, for as long as required by the Contract and as each party deems necessary for its own purposes.
 - f. If a receiving party receives an obviously corrupted, damaged, or unreadable Electronic Document, the receiving party will advise the sending party of the incomplete transmission.
 - g. The parties will bring any non-conforming Electronic Documents into compliance with the EDP. The parties will attempt to complete a successful transmission of the Electronic Document or use an alternative delivery method to complete the



communication.

B. Software Requirements for Electronic Document Exchange; Limitations

1. Each party will acquire the software and software licenses necessary to create and transmit Electronic Documents and to read and to use any Electronic Documents received from the other party (and if relevant from third parties), using the software formats required in this section of the EDP.
 - a. Prior to using any updated version of the software required in this section for sending Electronic Documents to the other party, the originating party will first notify and receive concurrence from the other party for use of the updated version or adjust its transmission to comply with this EDP.
2. The parties agree not to intentionally edit, reverse engineer, decrypt, remove security or encryption features, or convert to another format for modification purposes any Electronic Document or information contained therein that was transmitted in a software data format, including Portable Document Format (PDF), intended by sender not to be modified, unless the receiving party obtains the permission of the sending party or is citing or quoting excerpts of the Electronic Document for Project purposes.
3. Software and data formats for exchange of Electronic Documents will conform to the requirements set forth in Exhibit A to this EDP, including software versions, if listed.

SC-2.06 Supplement Paragraph 2.06 of the General Conditions by adding the following paragraph:

A. Requests by Contractor for Electronic Documents in Other Formats

1. Release of any Electronic Document versions of the Project documents in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be at the sole discretion of the Owner.
2. To extent determined by Owner, in its sole discretion, to be prudent and necessary, release of Electronic Documents versions of Project documents and other Project information requested by Contractor ("Request") in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be subject to the provisions of the Owner's response to the Request, and to the following conditions to which Contractor agrees:
 - a. The content included in the Electronic Documents created by Engineer and covered by the Request was prepared by Engineer as an internal working document for Engineer's purposes solely, and is being provided to Contractor on an "AS IS" basis without any warranties of any kind, including, but not limited to any implied warranties of fitness for any purpose. As such, Contractor is advised and acknowledges that the content may not be suitable for Contractor's application, or may require substantial modification and independent verification by Contractor. The content may include limited resolution of models, not-to-scale schematic representations and symbols, use of notes to convey design concepts in lieu of accurate graphics, approximations, graphical simplifications, undocumented intermediate revisions, and other devices that may affect subsequent reuse.
 - b. Electronic Documents containing text, graphics, metadata, or other types of data that are provided by Engineer to Contractor under the request are only for convenience of Contractor. Any conclusion or information obtained or derived from such data will be at the Contractor's sole risk and the Contractor waives any claims



against Engineer or Owner arising from use of data in Electronic Documents covered by the Request.

- c. Contractor shall indemnify and hold harmless Owner and Engineer and their subconsultants from all claims, damages, losses, and expenses, including attorneys' fees and defense costs arising out of or resulting from Contractor's use, adaptation, or distribution of any Electronic Documents provided under the Request.
 - d. Contractor agrees not to sell, copy, transfer, forward, give away or otherwise distribute this information (in source or modified file format) to any third party without the direct written authorization of Engineer, unless such distribution is specifically identified in the Request and is limited to Contractor's subcontractors. Contractor warrants that subsequent use by Contractor's subcontractors complies with all terms of the Contract Documents and Owner's response to Request.
3. In the event that Owner elects to provide or directs the Engineer to provide to Contractor any Contractor-requested Electronic Document versions of Project information that is not explicitly identified in the Contract Documents as being available to Contractor, the Owner shall be reimbursed by Contractor on an hourly basis (at \$175.00 per hour) for any engineering costs necessary to create or otherwise prepare the data in a manner deemed appropriate by Engineer.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

SC-3.01 Delete Paragraph 3.01.C in its entirety.

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 threshold precipitation quantity of precipitation (as rain equivalent, based on the snow/rain conversion indicated in the table entitled Foreseeable Bad Weather Days; such table is hereby incorporated in this SC-4.05.C by reference.
- 2) Determination of actual bad weather days during performance of the Work will be based on the weather records measured and recorded by NOAA weather monitoring station for the state of Louisiana.
- 3) In each month, every bad weather day exceeding the number of foreseeable bad weather days established in the table in Exhibit SC-4.05 C— 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.
- c. The following are considered reasonably anticipated days of adverse weather on a monthly basis:

January	<u>11</u> days	May	<u>5</u> days	September	<u>4</u> days
February	<u>10</u> days	June	<u>6</u> days	October	<u>3</u> days
March	<u>8</u> days	July	<u>6</u> days	November	<u>5</u> days
April	<u>7</u> days	August	<u>5</u> days	December	<u>8</u> days

The Contractor shall ask for total adverse weather days, the Contractor’s request shall be considered only for days over the allowable number of days stated above.

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

5.03 *Subsurface and Physical Conditions*

6. Paragraph GC-5.06 requires disclosure of documents relating to Hazardous Environmental Conditions at the Site. Note that these requirements differ from the requirements regarding disclosure of documents relating to subsurface and physical conditions in GC-5.03, and here in SC-5.03.
7. If Owner elects to furnish a Geotechnical Baseline Report (GBR), use the alternate SC/GBR-5.03 and SC/GBR-5.04 presented in Exhibit C to this document, rather than the SC-5.03 version immediately following.

SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.D:

- E. The following table lists the reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data, and specifically identifies the Technical Data in the report upon which Contractor may rely: [If there are no such reports, so indicate in the



table.]

Report Title	Date of Report	Technical Data
		[Identify Technical Data]

- F. The following table lists the 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 specifically identifies the Technical Data upon which Contractor may rely: [If there are no such drawings, so indicate in the table.]

Drawings Title	Date of Drawings	Technical Data
		[Identify Technical Data]

- G. Contractor may examine copies of reports and drawings identified in SC-5.03.E and SC-5.03.F that were not included with the Bidding Documents during regular business hours, or may request copies from Engineer.

5.06 Hazardous Environmental Conditions

SC-5.06 Add the following new paragraphs immediately after Paragraph 5.06.A.3:

4. The following table lists the reports known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and the Technical Data (if any) upon which Contractor may rely: [If there are no such reports, so indicate in the table]

Report Title	Date of Report	Technical Data
		[Identify Technical Data]

5. The following table lists the drawings known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and Technical Data (if any) contained in such Drawings upon which Contractor may rely: [If there are no such drawings, so indicate in the table]

Drawings Title	Date of Drawings	Technical Data
		[Identify Technical Data]

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. 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.

6.02 Insurance—General Provisions

SC-6.02 Add the following paragraph immediately after Paragraph 6.02.B:

1. Contractor may obtain worker's compensation insurance from an insurance company that has not been rated by A.M. Best, provided that such company (a) is domiciled in the state in which the Project is located, (b) is certified or authorized as a worker's compensation insurance provider by the appropriate state agency, and (c) has been accepted to provide worker's compensation insurance for similar projects by the state within the last 12 months.

6.03 Contractor's Insurance

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

- D. *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	\$
Bodily injury by disease—aggregate	\$
Employer's Liability	
Each accident	\$
Each employee	\$
Policy limit	\$
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:	\$
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- E. *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.
- F. *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.
- G. *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.

H. Commercial General Liability—Minimum Policy Limits

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

- 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	\$
Each Accident	\$
Property Damage	
Each Accident	\$
[or]	
Combined Single Limit	
Combined Single Limit (Bodily Injury and Property Damage)	\$

- 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	\$
General Aggregate	\$



- L. *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	\$
General Aggregate	\$

- M. *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	\$
Annual Aggregate	\$



- N. *Railroad Protective Liability Insurance*: Prior to commencing any Work within 50 feet of railroad-owned and controlled property, Contractor shall (1) endorse its commercial general liability policy with ISO CG 24 17, removing the contractual liability exclusion for work within 50 feet of a railroad, (2) purchase and maintain railroad protective liability insurance meeting the following requirements, (3) furnish a copy of the endorsement to Owner, and (4) submit a copy of the railroad protective policy and other railroad-required documentation to the railroad, and notify Owner of such submittal.

[Insert additional specific requirements, commonly set by the railroad, here.]

Railroad Protective Liability Insurance	Policy limits of not less than:
Each Claim	\$
Aggregate	\$

- O. *Unmanned Aerial Vehicle Liability Insurance*: If Contractor uses unmanned aerial vehicles (UAV—commonly referred to as drones) at the Site or in support of any aspect of the Work, Contractor shall obtain UAV liability insurance in the amounts stated; name Owner, Engineer, and all individuals and entities identified in the Supplementary Conditions as additional insureds; and provide a certificate to Owner confirming Contractor’s compliance with this requirement. Such insurance will provide coverage for property damage, bodily injury or death, and invasion of privacy.

Unmanned Aerial Vehicle Liability Insurance	Policy limits of not less than:
Each Claim	\$
General Aggregate	\$

6.04 Builder’s Risk and Other Property Insurance

SC-6.04 Delete Paragraph 6.04.A and insert the following in its place:

- A. Owner 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.

SC-6.04 Supplement Paragraph 6.04 of the General Conditions with the following provisions:

- F. *Builder’s Risk Requirements*: The builder’s risk insurance must:
1. be written on a builder’s risk “all risk” policy form that at a minimum includes insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment stored and in transit, and must not exclude the coverage of the following risks: fire; windstorm; hail; flood; earthquake, volcanic activity, and other earth movement; lightning; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; collapse; explosion; debris removal; demolition



occasioned by enforcement of Laws and Regulations; and water damage (other than that caused by flood).

- a. Such policy will include an exception that results in coverage for ensuing losses from physical damage or loss with respect to any defective workmanship, methods, design, or materials exclusions.
 - b. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake, volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance will be provided through other insurance policies acceptable to Owner and Contractor.
2. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
 3. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of contractors, engineers, and architects).
 4. allow for the waiver of the insurer's subrogation rights, as set forth in this Contract.
 5. allow for partial occupancy or use by Owner by endorsement, and without cancellation or lapse of coverage.
 6. include performance/hot testing and start-up, if applicable
 7. be maintained in effect until the Work is complete, as set forth in Paragraph 15.06.D of the General Conditions, or until written confirmation of Owner's procurement of property insurance following Substantial Completion, whichever occurs first.
 8. include as named insureds the Owner, Contractor, Subcontractors (of every tier), and any other individuals or entities required by this Contract to be insured under such builder's risk policy. For purposes of Paragraphs 6.04, 6.05, and 6.06 of the General Conditions, and this and all other corresponding Supplementary Conditions, the parties required to be insured will be referred to collectively as "insureds."
 9. include, in addition to the Contract Price amount, the value of the following equipment and materials to be installed by the Contractor but furnished by the Owner or third parties:

SC-6.04 Supplement Paragraph 6.04 of the General Conditions with the following provision:

- G. *Coverage for Completion Delays:* The builder's risk policy will include, for the benefit of Owner, loss of revenue and soft cost coverage for losses arising from delays in completion that result from covered physical losses or damage. Such coverage will include, without limitation, fixed expenses and debt service for a minimum of 12 months with a maximum deductible of 30 days, compensation for loss of net revenues, rental costs, and attorneys' fees



and engineering or other consultants' fees, if not otherwise covered.

SC-6.04 Supplement Paragraph 6.04 of the General Conditions with the following provisions:

H. *Builder's Risk and Other Property Insurance Deductibles:* The purchaser of any required builder's risk, installation floater, or other property insurance will be responsible for costs not covered because of the application of a policy deductible.

1. The builder's risk policy (or if applicable the installation floater) will be subject to a deductible amount for direct physical loss in any one occurrence.

SC-6.04 Delete Paragraph 6.04.A of the General Conditions and substitute the following in its place:

A. *Installation Floater*

1. Contractor shall provide and maintain installation floater insurance on a broad form or "all risk" policy providing coverage for materials, supplies, machinery, fixtures, and equipment that will be incorporated into the Work ("Covered Property"). Coverage under the Contractor's installation floater will include loss from covered "all risk" causes (perils) to Covered Property:
 - a. of the Contractor, and Covered Property of others that is in Contractor's care, custody, and control;
 - b. while in transit to the Site, including while at temporary storage sites;
 - c. while at the Site awaiting and during installation, erection, and testing;
 - d. continuing at least until the installation or erection of the Covered Property is completed, and the Work into which it is incorporated is accepted by Owner.
2. The installation floater coverage cannot be contingent on an external cause or risk, or limited to property for which the Contractor is legally liable.
3. The installation floater coverage will be in an amount sufficient to protect Contractor's interest in the Covered Property. The Contractor will be solely responsible for any deductible carried under this coverage.
4. This policy will include a waiver of subrogation applicable to Owner, Contractor, Engineer, all Subcontractors, and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them.

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 7am to 5pm.

SC-7.03 Delete Paragraph 7.03.C in its entirety, and insert the following:

- C. In the absence of any Laws or Regulations to the contrary, Contractor may perform the Work



on holidays, during any or all hours of the day, and on any or all days of the week, at Contractor's sole discretion.

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

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.

7.10 *Taxes*

SC-7.10 Add a new paragraph immediately after Paragraph 7.10.A:

- B. Owner is exempt from payment of sales and compensating use taxes of the State of Louisiana and of cities and counties thereof on all materials to be incorporated into the Work.
 - 1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.
 - 2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

ARTICLE 8—OTHER WORK AT THE SITE

8.02 *Coordination*

SC-8.02 Add the following new Paragraph 8.02.C immediately after Paragraph 8.02.B:

- B. Owner intends to contract with others for the performance of other work at or adjacent to the Site.
 - 1. Contractor shall have authority and responsibility for coordination of the various subcontractors and work forces at the Site.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.13 *Project Manager*

SC-9.13 Add the following new paragraph immediately after Paragraph 9.12 of the General Conditions:

9.13 *Project Manager*

- A. Owner will furnish an "Project Manager" to represent Owner at the Site and assist Owner in observing the progress and quality of the Work. The Owner's Project Manager is not Engineer's consultant, agent, or employee.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.03 *Resident Project Representative*



SC-10.03 Add the following new subparagraph immediately after Paragraph 10.03.A:

1. On this Project, by agreement with the Owner, the Engineer will not furnish a Resident Project Representative to represent Engineer at the Site or assist Engineer in observing the progress and quality of the Work.

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

13.03 Unit Price Work

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

C. 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. 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

15.01 Progress Payments

SC-15.01 Add the following new Paragraph 15.01.F:

- F. For contracts in which the Contract Price is based on the Cost of Work, if Owner determines that progress payments made to date substantially exceed the actual progress of the Work (as measured by reference to the Schedule of Values), or present a potential conflict with the Guaranteed Maximum Price, then Owner may require that Contractor prepare and submit a plan for the remaining anticipated Applications for Payment that will bring payments and progress into closer alignment and take into account the Guaranteed Maximum Price (if any), through reductions in billings, increases in retainage, or other equitable measures. Owner will review the plan, discuss any necessary modifications, and implement the plan as modified for all remaining Applications for Payment.

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

17.02 Arbitration



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

17.02 Arbitration

- A. All matters subject to final resolution under this Article will be settled by arbitration administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules (subject to the conditions and limitations of this Paragraph SC-17.02). Any controversy or claim in the amount of \$100,000 or less will be settled in accordance with the American Arbitration Association's supplemental rules for Fixed Time and Cost Construction Arbitration. This agreement to arbitrate will be specifically enforceable under the prevailing law of any court having jurisdiction.
- B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitration administrator, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the specific time required in Article 17, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event will any such demand be made after the date when institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations.
- C. The arbitrator(s) must be licensed engineers, contractors, attorneys, or construction managers. Hearings will take place pursuant to the standard procedures of the Construction Arbitration Rules that contemplate in-person hearings. The arbitrators will have no authority to award punitive or other damages not measured by the prevailing party's actual damages, except as may be required by statute or the Contract. Any award in an arbitration initiated under this clause will be limited to monetary damages and include no injunction or direction to any party other than the direction to pay a monetary amount.
- D. The Arbitrators will have the authority to allocate the costs of the arbitration process among the parties, but will only have the authority to allocate attorneys' fees if a specific Law or Regulation or this Contract permits them to do so.
- E. The award of the arbitrators must be accompanied by a reasoned written opinion and a concise breakdown of the award. The written opinion will cite the Contract provisions deemed applicable and relied on in making the award.
- F. The parties agree that failure or refusal of a party to pay its required share of the deposits for arbitrator compensation or administrative charges will constitute a waiver by that party to present evidence or cross-examine witness. In such event, the other party shall be required to present evidence and legal argument as the arbitrator(s) may require for the making of an award. Such waiver will not allow for a default judgment against the non-paying party in the absence of evidence presented as provided for above.
- G. No arbitration arising out of or relating to the Contract will include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:
 - 1. the inclusion of such other individual or entity will allow complete relief to be afforded among those who are already parties to the arbitration;
 - 2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration, and which will arise in



such proceedings;

3. such other individual or entity is subject to arbitration under a contract with either Owner or Contractor, or consents to being joined in the arbitration; and
 4. the consolidation or joinder is in compliance with the arbitration administrator's procedural rules.
- H. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.
- I. Except as may be required by Laws or Regulations, neither party nor an arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of both parties, with the exception of any disclosure required by Laws and Regulations or the Contract. To the extent any disclosure is allowed pursuant to the exception, the disclosure must be strictly and narrowly limited to maintain confidentiality to the extent possible.

17.03 Attorneys' Fees

SC-17.03 Add the following new paragraph immediately after Paragraph 17.02. [Note: If there is no Paragraph 17.02, because neither arbitration nor any other dispute resolution process has been specified here in the Supplementary Conditions, then revise this to state "Add the following new Paragraph immediately after Paragraph 17.01" and revise the numbering accordingly].

17.03 Attorneys' Fees

- A. For any matter subject to final resolution under this Article, the prevailing party shall be entitled to an award of its attorneys' fees incurred in the final resolution proceedings, in an equitable amount to be determined in the discretion of the court, arbitrator, arbitration panel, or other arbiter of the matter subject to final resolution, taking into account the parties' initial demand or defense positions in comparison with the final result.

ARTICLE 18—MISCELLANEOUS

18.08 Assignment of Contract

SC-18.08 Add the following new paragraph immediately after Paragraph 18.08.A:

- B. The contract between Owner as "buyer" and Contractor as "seller" for procurement of goods and special services ("procurement contract") is hereby assigned to Contractor by Owner, and Contractor accepts such assignment. A form documenting
1. This assignment will occur on the effective date of the contract, and will relieve the Owner as "buyer" from all further obligations and liabilities under the procurement contract.
 2. Upon assignment, the "seller" will be a Subcontractor or Supplier of the Contractor, and Contractor will be responsible for seller's performance, acts, and omissions, as set forth in Paragraph 7.07 of the General Conditions just as Contractor is responsible for all other Subcontractors and Suppliers.



3. Notwithstanding this assignment, all performance guarantees and warranties required by the procurement contract will continue to run for the benefit of the Owner and, in addition, for the benefit of the Contractor.
4. Except as noted in the procurement contract, all rights, duties and obligations of Engineer to "buyer" and "seller" under the procurement contract will cease upon the assignment to Contractor.



EXHIBIT A—SOFTWARE REQUIREMENTS FOR ELECTRONIC DOCUMENT EXCHANGE

Item	Electronic Documents	Transmittal Means	Data Format	Note (1)
a.1	General communications, transmittal covers, meeting notices and responses to general information requests for which there is no specific prescribed form.	Email	Email	
a.2	Meeting agendas, meeting minutes, RFI's and responses to RFI's, and Contract forms.	Email w/ Attachment	PDF	(2)
a.3	Contactors Submittals (Shop Drawings, "or equal" requests, substitution requests, documentation accompanying Sample submittals and other submittals) to Owner and Engineer, and Owner's and Engineer's responses to Contractor's Submittals, Shop Drawings, correspondence, and Applications for Payment.	Email w/ Attachment	PDF	
a.4	Correspondence; milestone and final version Submittals of reports, layouts, Drawings, maps, calculations and spreadsheets, Specifications, Drawings and other Submittals from Contractor to Owner or Engineer and for responses from Engineer and Owner to Contractor regarding Submittals.	Email w/ Attachment or LFE	PDF	
a.5	Layouts and drawings to be submitted to Owner for future use and modification.	Email w/ Attachment or LFE	DWG	
a.6	Correspondence, reports and Specifications to be submitted to Owner for future word processing use and modification.	Email w/ Attachment or LFE	DOC	
a.7	Spreadsheets and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or LFE	EXC	
a.8	Database files and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or LFE	DB	
Notes				
(1)	All exchanges and uses of transmitted data are subject to the appropriate provisions of Contract Documents.			
(2)	Transmittal of written notices is governed by Paragraph 18.01 of the General Conditions.			
Key				
Email	Standard Email formats (.htm, .rtf, or .txt). Do not use stationery formatting or other features that impair legibility of content on screen or in printed copies			
LFE	Agreed upon Large File Exchange method (FTP, CD, DVD, hard drive)			
PDF	Portable Document Format readable by Adobe® Acrobat Reader			
DWG	Autodesk® AutoCAD .dwg format			
DOC	Microsoft® Word .docx format			
EXC	Microsoft® Excel .xls or .xml format			
DB	Microsoft® Access .mdb format			



EXHIBIT B—FORESEEABLE BAD WEATHER DAYS

Month	Number of Foreseeable Bad Weather Days in Month Based on Precipitation as Rain Equivalent (inches) (1)	Ambient Outdoor Air Temperature (degrees F)	
		Number of Foreseeable Bad Weather Days in Month Based on Low Temperature (at 11:00 a.m.)	Number of Foreseeable Bad Weather Days in Month Based on High Temperature (at 3:00 p.m.)
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
Notes:			
1. Two inches of sleet equal one inch of rain. Five inches of wet, heavy snow equal one inch of rain. Fifteen inches of “dry” powder snow equals one inch of rain.			

EXHIBIT C—GEOTECHNICAL BASELINE REPORT SUPPLEMENT TO THE SUPPLEMENTARY CONDITIONS

1.01 Definitions

SC-1.01 Add to the list of definitions in Paragraph 1.01.A by inserting the following as numbered items in their proper alphabetical positions:

1. *Geotechnical Baseline Report (GBR)*—The interpretive report prepared by or for Owner regarding subsurface conditions at the Site, and containing specific baseline geotechnical conditions that may be anticipated or relied upon for bidding and contract administration purposes, subject to the controlling provisions of the Contract, including the GBR’s own terms. The GBR is a Contract Document.
2. *Geotechnical Data Report (GDR)*—The factual report that collects and presents data regarding actual subsurface conditions at or adjacent to the Site, including Technical Data and other geotechnical data, prepared by or for Owner in support of the Geotechnical Baseline Report. The GDR’s content may include logs of borings, trenches, and other site investigations, recorded measurements of subsurface water levels, the results of field and laboratory testing, and descriptions of the investigative and testing programs. The GDR does not include an interpretation of the data. If opinions, or interpretive or speculative non-factual comments or statements appear in a document that is labeled a GDR, such opinions, comments, or statements are not operative parts of the GDR and do not have contractual standing. Subject to that exception, the GDR is a Contract Document.

**** Draft contract – Final contract subject to final negotiations and special conditions that may arise for this project, until such agreement approved by Parish Legal****

MASTER CONTRACT
for
PUBLIC WORKS/CONSTRUCTION
(INCLUDES FEDERAL GUIDELINE COMPLIANCE PROVISIONS)
(project name here)

BE IT KNOWN that on this ____ day of _____, 2021,

Ascension Parish Government, by and through the Office of the Parish President (hereinafter sometimes referred to as the "Parish"), as approved by Resolution adopted by the Parish Council of Ascension

And

_____ qualified to do and doing business in this State and Parish (hereinafter referred to as "Provider") and authorized to enter into this contract;

do hereby enter into contract under the following terms and conditions:

NOTE: This Contract or Agreement governs the relationship and rights between the Parties. While there may be other Documents (for example, General Conditions) which might exist between the Parties, those documents **do not** control in the event or to the extent that there is any conflict or contradiction with the terms of this Agreement or Contract. In the event that there is any conflict between the terms of this Agreement/Contract and any other document between the parties, THE PARTIES AGREE THAT THIS AGREEMENT/CONTRACT SHALL CONTROL AND GOVERN.

1. SCOPE OF SERVICES

A. CONTRACTOR shall complete all WORK as specified or indicated in the Contract Document in conjunction with:

(PROJECT NAME HERE)

B. The Scope of services to be provided by the Consultant may be entered as a scope document, or written proposal signed by both parties to this contract. The Scope shall be attached hereto as Exhibit A and made a part hereof as if written herein in full. All work shall be under the direction of the _____, herein called the PROJECT MANAGER, and all plans, specifications, and the like shall be submitted to him, and all approvals and administration of this contract shall be through him.

**** Draft contract – Final contract subject to final negotiations and special conditions that may arise for this project, until such agreement approved by Parish Legal****

2. TERM OF CONTRACT

- A. The Work will be substantially completed within ____ calendar days from the date identified on the Notice to Proceed from the Engineer.
- B. The Notice to Proceed shall be issued within thirty (30) days from the execution of this contract unless the Owner or Owner's representative and the Contractor agree in writing to another specified date.
- C. This construction contract shall remain in full force and effect until all work has been completed and accepted by OWNER and all payments required to be made to the Contractor.
- D. However, this contract may be terminated for any of the following:
 - 1. As per the terms and conditions of Paragraph 15 and/or
 - 2. As per operation of law, and/or
 - 3. As per agreement between the parties, and/or
 - 4. As per the Parish Charter.

3. ENGINEER

- A. The Drawings have been prepared by Engineer, PEO., the Ascension Parish Engineering Department, 42077 Churchpoint Road, Gonzales, Louisiana 70737, who is hereinafter call ENGINEER and who is to act as OWNER'S representative, assume all duties and responsibilities and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

4. PROJECT SCHEDULE

- A. CONTRACTOR shall submit and strictly adhere to a project construction schedule throughout the allocated contract and associated time frame. CONTRACTOR is aware that OWNER may have a representative at each site where WORK is being performed and that CONTRACTOR need to coordinate with the OWNER'S REPRESENTATIVE or PROJECT MANAGER where Work on the CONTRACT will be performed. CONTRACTOR will coordinate with the OWNER'S REPRESENTATIVE by strictly following the project construction schedule or Progress Schedule. OWNER recognizes and understands that changes in project construction schedule or Progress Schedule may become necessary during the course of the project. However, in the event of any such change, the CONTRACTOR shall notify the OWNER'S REPRESENTATIVE **in writing** of a proposed change. Said written notice shall be provided at least 12 hours prior to the revised construction

**** Draft contract – Final contract subject to final negotiations and special conditions that may arise for this project, until such agreement approved by Parish Legal****

activity. Said notice shall be provided by emailing notice of change to _____ and _____, and other contacts including testing company that is a team for member for the project.

- B. Should the CONTRACTOR fail to timely notify the OWNER'S REPRESENTATIVE of such change, the OWNER'S REPRESENTATIVE will document the CONTRACTOR'S failure to notify of the change in work and SHALL assess stipulated damages as follows. For EACH failure to notify the OWNER'S REPRESENTATIVE of any change in the project construction schedule or Progress Schedule, the CONTRACTOR AGREES TO PAY **\$150.00 per failure to notify the OWNER'S REPRESENTATIVE**. CONTRACTOR agrees that these stipulated damages reflect the lost time, manpower, and mileage incurred by OWNER attempting to locate the CONTRACTOR where a change in schedule occurs and the required notice was not provided. CONTRACTOR further agrees **that said amount shall be paid** by directly reducing the amount of monthly invoices/pay applications by the amount of penalties issued. The Penalty fees shall be itemized on monthly invoices.

5. LIQUIDATED DAMAGES

- A. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and the OWNER will suffer financial loss if the Work is not completed within the times specified in section 2 above, plus any extensions thereof allowed in accordance with the contract conditions and approved time changes thereto. There are delays, expenses and difficulties involved in proving in a legal arbitration preceding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER the amount of _____ Dollars for each day that expires after the time specified in section 2 for Substantial Completion until the Work is substantially complete.

6. CONTRACT PRICE

- A. OWNER shall pay CONTRACTOR for completion of the Work completed in accordance with the Contract Documents in the amount specified therein, subject to adjustment as provided in the Contract Documents or amendments thereto. This is unit price contract based on the estimated quantities and unit cost awarded with an estimated total of \$_____.

7. PAYMENT PROCEDURES

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of

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the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

- A. Invoices for services shall be submitted by CONTRACTOR to the FINANCE DEPARTMENT for review and approval:

Ascension Parish Government
P.O. Box 2392
Gonzales, LA 70707

- B. Progress Payments. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment as recommended by ENGINEER, once each month. All progress payments will be on the basis of progress of the Work measured by the schedule of values established in paragraph 2.07.A of the General Conditions (and in each case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provide in the General Requirements. Payment will be made on work that has been installed, inspected, tested, verified, and done so to the satisfaction of the engineer.
- C. Pursuant to LA. R.S. 38:2248 (Public Contract Law), Owner shall withhold retainage from each progress payment until payment is due under terms and conditions governing substantial completion or final payment. Retainage shall be ten percent of the amount of work completed to date if the contract amount is up to \$500,000 and five percent of the work complete to date if the contract amount is over \$500,000.
- D. **Fuel or Asphalt/Concrete Adjustments.** There shall be NO adjustments for prices or costs of any fuel or asphalt/concrete on this project, arising out of the work on this project/contract, or arising out of this contract. Further, the CONTRACTOR hereby waives any price adjustment for fuel or asphalt/concrete or the ability or right to request any price adjustment for fuel or asphalt/concrete. Particularly, the Louisiana DOTD provisions (or any such or similar provisions by any other third party) pertaining to or related to fuel or asphalt/concrete adjustments are not part of this contract, are not incorporated by reference or otherwise in this Contract, and shall not apply in any form or fashion to the contract. Any language in this Contract which implies that the CONTRACTOR may obtain an adjustment in price for fuel or asphalt/concrete in hereby to be interpreted that CONTRACTOR shall **not** receive any such adjustment. CONTRACTOR shall not assert that any language in the CONTRACT creates any vagueness or ambiguity in the CONTRACT entitling CONTRACTOR to price adjustments for fuel or asphalt/concrete. CONTRACTOR hereby waives any right or ability to request any price adjustment for fuel or asphalt/concrete and CONTRACTOR shall **not** submit any request for any change in price for fuel or asphalt/concrete adjustments to the OWNER in any form.

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- E. Final Payment. Upon final completion and acceptance of Work, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER.
- F. There shall be no fees charged by, nor paid to, CONTRACTOR for consultation with the Parish.
- G. CONTRACTOR hereby agrees that the responsibility for payment of taxes from the funds thus received under this agreement shall be said CONTRACTOR'S obligation and identified under the Federal Tax Identification Number as listed in the Scope.
- H. The Parish agrees to make payment to CONTRACTOR for services upon receipt and approval of each invoice. The Parish will pay CONTRACTOR the amount due and payable within thirty (30) days or unless a conflict results in a delay of payment. Upon receipt of each invoice, the Parish shall have the right and opportunity to review, confirm or otherwise determine the accuracy of each invoice and performance of service. IN the event that the Parish disputes or otherwise may question the accuracy of each invoice or quality of all work performed, the Parish may withhold payment of any invoice until a successful and satisfactory resolution can be had between the parties. Parish agrees to not unreasonably withhold payments of any invoice.
- I. Other than the fee schedule herein, there will be absolutely no additional fees due CONTRACTOR to cover its overhead costs, general expenses, capital expenses, expenses for principal/branch/field offices, employees' salaries, direct and indirect costs, additional costs or profit of any nature whatsoever in excess of the previously agreed hourly rate.

8. CONTRACTOR'S REPRESENTATIVES

In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

- A. CONTRACTOR is familiar with the nature and extent of the Contract Documents. Work site, locality and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance or furnishing of the Work.
- B. CONTRACTOR has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies, or similar information or data in respect of said Underground Facilities are or will be required by CONTRACTOR in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents.

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- C. CONTRACTOR has correlated the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Contract Documents.
- D. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER in acceptable to CONTRACTOR.

9. CONTRACT DOCUMENTS

The Contract Documents which comprise of the contract between OWNER and CONTRACTOR, attached hereto and made a part hereof, consist of the documents listed in Table of Contents, and the documents identified below.

- a. Agreement
- d. Payment Bond
- e. Performance Bond
- f. Notice of Award
- g. Notice to Proceed
- h. Technical Specifications prepared by engineer
- i. Standard General Conditions
- j. Drawings prepared by engineers

10. CONTRACTOR DOCUMENTS

- A. The CONTRACTOR shall also furnish sufficient as-built sets of plans, specifications & contract document.
- B. All data collected by the CONTRACTOR and all documents, notes, drawings, tracings, and files shall remain the property of the Owner except as otherwise provided herein. The CONTRACTOR shall furnish to the PROJECT MANAGER originals of any project documents used in completion of the project or in any way related to this project to the Project Manager.
- C. The Owner shall furnish without charge all standard plans and specifications and any other information which the Owner now has in its files which may be of use to the CONTRACTOR. CONTRACTOR has the duty to and must confirm and verify all information contained therein.
- D. Construction Documents. The CONTRACTOR shall use the most current versions of the standard forms of documents adopted and specified by the Owner in the performance of the Contract, all as of the date of the signing of this contract.

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Notwithstanding anything to the contrary in any other provision of this contract, none of the contract documents provided by the Owner are or will become the property of the CONTRACTOR but shall remain the property of the Owner to the extent the Owner has a property interest therein.

E. Notwithstanding any Section hereinafter, there will be retention of all related records:

- (1) All records, reports, documents and other material delivered or transmitted to CONTRACTOR by Parish shall remain the property of Parish, and shall be returned by CONTRACTOR to Parish, at CONTRACTOR'S expense, at termination or expiration of this contract. All records, reports, documents, exhibits or other material related to this contract and/or obtained or prepared by CONTRACTOR in connection with the performance of the services contracted for herein shall become the property of Parish, and shall be returned by CONTRACTOR to Parish, at CONTRACTOR'S expense, at termination or expiration of this contract.
- (2) The Parish and CONTRACTOR acknowledge and agree that the Parish has the right to review retain all records, reports, worksheets or any other material of either party related to this contract. CONTRACTOR further agrees that CONTRACTOR will furnish to the Parish copies of any and all records, reports, worksheets, bills, statements or any other material of CONTRACTOR or Parish related to this contract.
- (3) CONTRACTOR shall maintain all books, documents, papers, accounting records and other evidence pertaining to costs incurred and shall make such materials available at its offices at any reasonable time for inspection and copying by the Parish.
- (4) CONTRACTOR shall retain all of its records and supporting documentation applicable to this contract with the Parish for a period of **three (3) years** after termination of the contract in accordance with state law, except as follows:
 - (a) Records that are subject to Federal Funds and/or audit findings shall be retained for **three (3) years** after such findings have been resolved and close out has been issued.
 - (b) All such records and supporting documentation shall be made readily available for inspection, copying or audit by representatives of the Parish. In the event the CONTRACTOR goes out of existence, it shall turn over to the Parish all of its records relating to this contract to be retained by the Parish for the required period

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of time.

(c) The State of Louisiana, the Department of Housing and Urban Development, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers and records of the Consultant which are directly pertinent to this specific contract, for the purpose of audits, examinations, and making excerpts and transcriptions. All records connected with this contract will be maintained in a central location by the unit of local government and will be maintained for a period of **three (3) years** from the official date of the State's final closeout of the grant.

(d) The State Legislative auditor, DHS-OIG, FEMA and federal auditors shall have the option to audit all accounts directly pertaining to the contract for a period of three (3) years from the date of final payment or as required by applicable State and Federal Law. Records shall be made available during normal working hours for this purpose.

Access to Records. The following access to records requirements apply to this contract:

1) The contractor agrees to provide GOHSEP, Agency/Parish/City/Town, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, records or the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.

2) The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpt and transcriptions as reasonably needed.

3) The Contractor agrees to provide the FEMA Administrator or his authorized representative's access to construction or other work sites pertaining to the work being completed under the contract.

F. In the event there is re-use of any documents created by CONTRACTOR, CONTRACTOR invokes the privileges afforded it as per LA. Revised Statute R.S. 38:2317.

G. The Parish agrees not to use CONTRACTOR'S work product on any other project

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without the express written notice to the CONTRACTOR.

- H. All of CONTRACTOR'S pre-existing or proprietary computer programs, software, information, standard details or material developed by CONTRACTOR outside of this agreement shall remain the exclusive property of the CONTRACTOR.

11. NON-ASSIGNABILITY

- A. CONTRACTOR shall not assign nor transfer any interest in this contract (whether by assignment or novation) without prior written consent of the Parish, provided however, that claims for money due or to become due to the CONTRACTOR from the Parish under this contract may be assigned to a bank, trust company, or other financial institution without such prior written consent. Notice of any such assignment or transfer shall be furnished promptly to the Parish.
- B. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation moneys that may become due and moneys that are due may not be assigned without consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
- C. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representative to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

12. BUDGET LIMITATION

- A. It is the responsibility of the CONTRACTOR to advise the Parish in advance if contract funds or contract terms may be insufficient to complete contract objectives. CONTRACTOR understands and specifically warrants that it assumes the sole responsibility to advise the Parish in advance if contract funds or contract terms may be insufficient to complete contract objectives. In providing opinions of probable construction cost, the Parish understands that the CONTRACTOR has no control over costs and price of labor, equipment or materials or over the general CONTRACTOR'S method of pricing, and that the opinion of probable costs provided herein are made on the basis of the CONTRACTOR'S qualifications and experience.
- B. The continuation of this contract is contingent upon the appropriation of funds by the Parish to fulfill the requirements of the contract. If the Parish fails to appropriate

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sufficient monies to provide for the continuation of this or any other related contract, or if such appropriation is reduced by the veto of Parish President by any means provided in the appropriations Ordinance to prevent the total appropriation for the year from exceeding revenues for that year, or for any other lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the contract, the contract shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated.

13. PERFORMANCE BOND

The CONTRACTOR shall provide a Performance Bond for the full value of the contract, to insure the successful performance under the terms and conditions of this contract. The performance bond shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Services list of approved bonding companies which is established annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A-rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to 10 percent of policyholder's surplus as shown in the A.M. Best's Key Rating Guide or by an insurance company that is either domiciled in Louisiana or owned by Louisiana residents and is licensed to write surety bonds.

No surety or insurance company shall write a performance bond which is in excess of the amount indicated as approved by the U.S. Department of Treasury Financial Management Service list or by a Louisiana domiciled insurance company with an A-rating by A.M. Best up to a limit of 10 percent of policyholder's surplus as shown by A.M. Best; companies authorized by this Paragraph who are not on the treasury list shall not write a performance bond when the penalty exceeds 15 percent of its capital and surplus, such capital and surplus being the amount by which the company's assets exceed its liabilities as reflected by the most recent financial statements filed by the company with the Louisiana Department of Insurance.

In addition, any performance bond furnished shall be written by a surety or insurance company that is currently licensed to do business in the State of Louisiana.

The CONTRACTOR shall maintain the performance bond for the full term of this Contract. Failure to comply shall be grounds for termination of this Contract.

14. INSURANCE

- A. The CONTRACTOR shall secure and maintain at its expense such insurance that will protect it and the Parish from claims under the Workmen's Compensation Acts and from claims for bodily injury, death or property damage which may arise from the performance of services under this agreement. All certificates of insurance shall be furnished to the Parish and shall provide that insurance shall not be canceled without thirty (30) days prior notice of cancellation given to the

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Parish of Ascension, in writing, on all of the required coverage provided to Ascension Parish. Where possible, all policies and notices should name the CONTRACTOR and Parish. The Parish may examine the policies at any time.

- B. All policies and certificates of insurance shall contain the following clauses:
1. The CONTRACTOR'S insurers will have no right of recovery or subrogation against the Parish of Ascension, it being the intention of the parties that the insurance policy so affected shall protect both parties and be the primary coverage for any and all losses covered by the below described insurance.
 2. The Parish of Ascension shall be named as additional named insured with respect to automobile and general liability.
 3. The insurance companies issuing the policy or policies shall have no recourse against the Parish of Ascension for payment of any premiums or for assessments under any form of policy.
 4. Any and all deductible in the described insurance policies shall be assumed by and be at the sole risk of the CONTRACTOR.
- C. Prior to the execution of this agreement, the CONTRACTOR shall provide at its own expense, proof of the following insurance coverage required by the contract to the Parish of Ascension by insurance companies authorized to do business in the State of Louisiana. Insurance is to be placed with insurers with an A.M. Best rating of no less than B+.
1. Worker's compensation Insurance: As required by Louisiana State Statute exception; employer's liability shall be at least \$500,000 per occurrence.
 2. Commercial General Liability Insurance in an amount not less than \$1,000,000.00 per occurrence, and \$2,000,000.00 aggregate combined single limit for bodily injury, personal injury and property damage, naming Ascension Parish as additional insured. This insurance shall include coverage for bodily injury and property damage, and indicate on the certificate of insurance the following:
 - a) Premises - operations;
 - b) Broad form contractual liability;
 - c) Products and completed operations;
 - d) Personal Injury;
 - e) Broad form property damage;

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- f) Explosion, collapse and underground coverage. Not needed for design
- 3. Business Automobile Liability Insurance with a Combined Single Limit of \$1,000,000 per Occurrence for bodily injury and property damage, unless otherwise indicated. This insurance shall include for bodily injury and property damage the following coverage:
 - a) Any automobiles;
 - b) Owned automobiles;
 - c) Hired automobiles;
 - d) Non-owned automobiles;
 - e) Uninsured motorist.
- 4. An umbrella policy or excess policy may be used to meet minimum requirements where applicable.
- 5. All policies of insurance shall meet the requirements of the Parish of Ascension prior to the commencing of any work. The Parish of Ascension has the right, but not the duty, to approve all insurance policies prior to commencing of any work. If at any time, it becomes known that any of the said policies shall be or becomes unsatisfactory to the Parish of Ascension as to form or substance; or if a company issuing any such policy shall be or become unsatisfactory to the Parish of Ascension, the CONTRACTOR shall promptly obtain a new policy, timely submit same to the Parish of Ascension for approval and submit a certificate thereof as provided above. The Parish agrees to not unreasonably withhold approval of any insurance carrier selected by CONTRACTOR. In the event that Parish cannot agree or otherwise authorize said carrier, CONTRACTOR shall have the option of selecting and submitting new insurance carrier within 30 days of said notice by the Parish. In the event that the second submission is insufficient or is not approved, then the Parish shall have the unilateral opportunity to thereafter select a responsive and responsible insurance carrier all at the cost of CONTRACTOR and thereafter deduct from CONTRACTOR'S fee the cost of such insurance.
- 6. Upon failure of CONTRACTOR to furnish, deliver and/or maintain such insurance as above provided, this contract, at the election of the Parish of Ascension, may be forthwith declared suspended, discontinued or terminated. Failure of the CONTRACTOR to maintain insurance shall not relieve the CONTRACTOR from any liability under the contract, nor shall the insurance requirements be construed to conflict with the obligation of the CONTRACTOR concerning indemnification.

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- 7. **WAIVER:** Except as otherwise provided by law, the coverage requirements of this section may be waived in whole or in part on agreements under \$50,000.00, and the Parish is authorized to use its discretion in regard to insurance requirements for such contracts. Except as otherwise provided by law, the Parish President or the Parish Chief Administrative Officer is authorized to omit in whole or in part the insurance requirements of this section in connection with such contracts.
- D. **CONTRACTOR** shall maintain a current copy of all annual insurance policies and provide same to the Parish of Ascension on an annual basis or as may be reasonably requested.

15. OTHER TERMS AND CONDITIONS

- A. **Licenses and Commissions.** The **CONTRACTOR** shall at all times during the term of this contract, maintain valid Louisiana licenses and commissions as are customarily required of such a **CONTRACTOR**, including but not limited to those that may be required by this State and/or Parish. The **CONTRACTOR** agrees to renew and or keep current all licenses and commissions herein. The **CONTRACTOR** agrees to maintain a copy of all such licenses or commissions on file at all time and make same available for review as may be reasonably requested by the Parish of Ascension.
- B. The professional and technical adequacy and accuracy of designs, drawings, specifications, documents, and other work products furnished under this agreement will be conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession in the Baton Rouge Metropolitan area including the parishes surrounding Ascension Parish. In the event the Parish must have work done by change order or addition resulting from an error or omission by the **CONTRACTOR**, **CONTRACTOR** shall provide, at no cost to Parish, all professional services attributable to the change order. This is in addition to Parish's right to recover from **CONTRACTOR** any damages for its errors and omissions.
- C. The **CONTRACTOR** shall defend, indemnify, and hold the Parish harmless from and against any and all actions, claims, demands, complaints, or lawsuits of any kind (whether in tort or in contract) for any sums of money, costs, liabilities, judgments, fines, or penalties asserted or alleged by any person, party, entity, firm for any damage, injury, claim, or cause of action (of any kind) including, but not limited to, pecuniary and non-pecuniary damages/losses to person or property which are alleged to have been caused by or which were caused by (wholly or partially), which grow out of, which arise from or which result from any negligent

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acts, errors, or omissions by CONTRACTOR, its agents, servants, subcontractors, or employees while engaged in connection with services required to be performed by the CONTRACTOR under this agreement. This paragraph is to be broadly interpreted to include any and all causes of action which result wholly or partially from the negligent conduct or the CONTRACTOR.

- D. This agreement shall be binding upon the successors and assigns for the parties hereto.
- E. This agreement represents the entire Agreement between Parish and CONTRACTOR.
- F. Waiver of any breach of any term or condition of this Contract shall not be deemed a waiver of any prior or subsequent breach. No term or condition of this Contract shall be held to be waived, modified or deleted except by the written consent of both parties.
- G. If there is any dispute concerning this agreement, the laws of Louisiana shall apply. The exclusive venue and jurisdiction for all lawsuits, claims, disputes, and other matters in questions between the parties to this agreement or any breach thereof shall be in the 23rd Judicial District Court for the Parish of Ascension, State of Louisiana. It is also understood and agreed that the laws and ordinances of Ascension shall apply.
- H. In the event that the CONTRACTOR modifies the Parish's contract documents without the expressed prior written consent of the Parish, the CONTRACTOR shall indemnify and hold harmless the Parish from any claims, lawsuits, or damages that arise out of or are attributable to the modification. This indemnification and hold harmless obligation shall include not only the damages suffered by the Parish but also all reasonable expenses including, but not limited to, any and all litigation or other dispute resolution costs and any and all professional fees incurred by the Parish as a result of the CONTRACTOR'S deviation from the Parish's contract documents.
- I. CONTRACTOR agrees to a covenant against contingent fees. CONTRACTOR warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the CONTRACTOR, to solicit or secure this Contract, and that it has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the CONTRACTOR, any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, the Parish shall have the right to annul this contract without liability.

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- J. This contract may be amended only by mutual written consent of the respective parties.
- K. Third Party Beneficiary: it is specifically agreed by and between the parties to this contract that no person or party is intended, deemed, considered, or construed to be a third party beneficiary of this contract.
- L. Neither party will be liable for failure to fulfill its obligations when due to causes beyond its reasonable control.
- M. Any failure or delay by either party in exercising any right or remedy will not constitute a waiver.
- N. Severability: if any provision or item in this contract is held invalid or unenforceable for any reason, then such invalidity or unenforceability shall not affect other provisions or items of this contract. In such event, the remaining portions shall be given full force and effect without the invalid provision or item, and to this end the provisions or items of this contract are hereby declared severable.
- O. It is specifically understood that the terms "agreement" and "contract" may be used interchangeably. It is specifically understood that the terms "Parish", "PROJECT MANAGER" and "Parish" and "the Parish of Ascension" may be used interchangeably.
- P. Conflict of Interest: it is understood and agreed between the parties hereto that CONTRACTOR is not retained exclusively by the Parish but that the Parish may retain other CONTRACTORS during the term of this Contract. In the event of reasonably known conflicts of interest or potential conflicts of interest between the Parish and other parties who have engaged CONTRACTOR, the CONTRACTOR agrees to make full disclosure of the same, and that they will take no action on behalf of any other client directly adverse to the Parish, nor will CONTRACTOR take any action on behalf of the Parish directly adverse to any other client.
- Q. CONTRACTOR warrants that CONTRACTOR is qualified to perform the intended purposes of this agreement. In the event that CONTRACTOR becomes not fit nor qualified for any reason whatsoever, then CONTRACTOR agrees to withdraw from work herein at no cost to the Parish. In the event that the Parish determines that CONTRACTOR is not suited for Parish purposes or otherwise fails to represent Parish policies to the satisfaction of the Parish, then CONTRACTOR agrees to withdraw from this agreement.

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- R. CONTRACTOR specifically agrees and understands that CONTRACTOR shall not maintain or otherwise claim that it possesses any security interest in any aspect of the work that forms the basis of this agreement.
- S. CONTRACTOR agrees to ensure that its personnel are, at all times, educated and trained, and further, that CONTRACTOR and its personnel will perform all work and services in a workmanlike and professional manner.
- T. CONTRACTOR recognizes and understands that time is of the essence. CONTRACTOR agrees to perform and provide services in accordance with this agreement and all incorporated attachments.
- U. CONTRACTOR shall be responsible for any and all losses and damages suffered or incurred by the Parish, including but not limited to all costs, attorney's fees, out of pocket expenses, any & all Parish employee time, and any other expenditure by the Parish to defend, remedy, repair, replace, correct, or cure any condition or liability created or arising out of the negligent actions or negligent omissions to act of the CONTRACTOR, it's agents, officer, servants, or employees. This includes the payment of any cost or fees of any type or kind incurred by the Parish in defending any lawsuit, complaint, claim, claim filed or arising out of the negligent action or negligent omission act of the CONTRACTOR.
- V. CONTRACTOR agrees that it will be responsible for all of its own actual and reasonably related expenses for its on-site & off-site office work. CONTRACTOR further agrees that Parish will not be responsible for or in any way liable for CONTRACTOR'S payroll costs, indirect or direct expenses, overhead, or any other amounts associated with CONTRACTOR'S business other than the specific fees & costs generated under the terms of this agreement.
- W. Procurement of Recovered Materials. (1) In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired – (i) Competitively within a timeframe providing for compliance with the contract performance schedule; (ii) Meeting contract performance requirements; or (iii) At a reasonable price. (2) Information about this requirement, along with the list of EPA-designate items, is available at EPA's Comprehensive Procurement Guidelines web site, <http://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.

16. TERMINATION AND SUSPENSION

- A. Termination for Cause

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The Parish may terminate this Contract for cause based upon the failure of the CONTRACTOR to comply with the terms and/or conditions of the Contract, provided that the Parish shall give the CONTRACTOR written notice specifying the failure. If within thirty (30) days after receipt of such notice, the CONTRACTOR shall not have corrected such failure and thereafter proceeded diligently to complete such correction, then the Parish may, at its sole and exclusive option, place the CONTRACTOR in default and this contract shall terminate on the date specified in such notice. Work to be performed during this 30-day period shall not proceed without the actual knowledge of the Parish and specifically supervised by the Parish. Any work performed by CONTRACTOR during this period without the actual knowledge of the Parish and not under the supervision of the Parish shall not be compensated nor honored; CONTRACTOR specifically waives and forfeits any and all claims to payment, compensation, quantum merit, and/or reimbursement from the Parish of any work performed during this period in violation of this paragraph. CONTRACTOR agrees and understands specifically that satisfactory performance shall be unilaterally and exclusively determined by the Parish.

B. Termination for Convenience

Notwithstanding any other section herein, the Parish may terminate this contract at any time for any reason whatsoever by giving thirty (30) days written notice to the CONTRACTOR. The CONTRACTOR shall be entitled to payment for deliverables in progress; to the extent work has been actually and satisfactorily performed.

C. Right to Cancel

(1) The continuation of this contract is contingent upon the appropriation of funds to fulfill the requirements of the contract by the Parish. If the Parish fails to appropriate sufficient monies to provide for the continuation of this or any other contract, or if such appropriation is reduced by the veto of Parish President by any means provided in the appropriations Ordinance to prevent the total appropriation for the year from exceeding revenues for that year, or for any other lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the contract, the contract shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated. It is understood and agreed that the paragraph below may preempt this paragraph, all at the exclusive and unilateral option of the Parish.

(2) Either party shall have the right to cancel this contract, with or without

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cause, by giving the other party (30) days written notice.

D. Additional Causes for Termination or suspension:

1. Either party shall have the right to cancel this contract, with or without cause, by giving the other party (30) days written notice. Parish has the right to cancel this contract upon less than thirty (30) days due to budgetary reductions and changes in funding priorities by the Parish.
2. By mutual agreement and consent of the parties hereto.
3. By the Parish as a consequence of the CONTRACTOR'S failure to comply with the terms, progress or quality of work in a satisfactory manner, proper allowances being made for circumstances beyond the control of the CONTRACTOR.
4. By either party upon failure to fulfill its obligations as set forth in this contract
5. In the event of the abandonment of the project by the Parish.
6. A Stop Work Order can be immediately issued by the Parish if they deem it necessary to protect the health, safety, and welfare of the community.

E. Upon termination, the CONTRACTOR shall be paid for actual work performed prior to the notice of termination on a pro-rata share of the basic fee based on the phase or percentage of work actually completed.

F. Upon termination, the CONTRACTOR shall deliver to the Parish all original documents, notes, drawings, tracings, computer files, and files except the CONTRACTOR'S personal and administrative files.

G. Should the Parish desire to suspend the work, but not definitely terminate the contract, this may be done by thirty (30) day notice given by the Parish to that effect, and the work may be reinstated and resumed in full force & effect upon receipt from the Parish of thirty (30) day notice in writing to that effect. CONTRACTOR shall receive no additional compensation during the suspension period. The parties agree to revisit the terms of this contract during the suspension period which shall not exceed six (6) months, unless mutually agreed upon.

H. There is a right to cancel by the Parish by giving thirty (30) day notice to Provider and paying undisputed fees due for services on that portion of the work that has been satisfactorily, timely and/or professionally completed, all in the exclusive discretion of the Parish at any time herein.

I. In the event of a default and/or breach of this agreement and this matter is forwarded to legal counsel, then the prevailing party may be entitled to collect a

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reasonable attorney fee and all costs associated therewith whether or not litigation is initiated. Attorney fees shall be based upon the current, reasonable prevailing rate for counsel as provided on the fee schedule of the Louisiana Attorney General or in the private sector, whichever is greater. The parties agree to be responsible for such attorney fees, together for all with legal interest from date of agreement breach, plus all costs of collection.

- J. Termination or cancellation of this agreement will not affect any rights or duties arising under any term or condition herein.
- K. As to the filing of bankruptcy, voluntarily or involuntarily, by CONTRACTOR, CONTRACTOR agrees that if any execution or legal process is levied upon its interest in this contract, or if any liens or privileges are filed against its interest, or if a petition in bankruptcy is filed against it, or if it is adjudicated bankrupt in involuntary proceedings, or if it should breach this contract in any material respect, the Parish shall have the right, at its unilateral option, to immediately cancel and terminate this contract. In the event that CONTRACTOR is placed in any chapter of bankruptcy, voluntarily or involuntarily, or otherwise triggers any provision of the preceding sentence herein, it is understood and agreed that all materials, goods and/or services provided shall be and remain the property of the Parish. All rights of CONTRACTOR as to goods, wares, products, services, materials and the like supplied to Parish shall be deemed forfeited.

17. AUDITORS

Notwithstanding other Sections herein, CONTRACTOR shall maintain all records for a period of three years after the date of final payment under this contract. It is hereby agreed that the Parish Department of Finance or its designated auditor shall have the sole, unilateral and exclusive option of auditing all accounts of CONTRACTOR which relate to this contract. Such audit may be commenced at any reasonable time. CONTRACTOR agrees not to delay, retard, interrupt or unduly interfere with commencement and completion of such an audit. If in the exclusive and unilateral opinion of the Parish that CONTRACTOR delays, retards, interferes with or otherwise interrupts such an audit, the Parish may seek such relief as per law. In such an event, CONTRACTOR agrees to be liable for all reasonable attorney fees, costs of auditors, court costs, and any other reasonably related expenses with such litigation.

The State Legislative auditor, DHS-OIG, FEMA and federal auditors shall have the option to audit all accounts directly pertaining to the contract for a period of three (3) years from the date of final payment or as required by applicable State and Federal Law. Records shall be made available during normal working hours for this purpose.

Access to Records. The following access to records requirements apply to this contract:

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1) The contractor agrees to provide GOHSEP, Agency/Parish/City/Town, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, records or the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.

2) The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

3) The Contractor agrees to provide the FEMA Administrator or his authorized representative's access to construction or other work sites pertaining to the work being completed under the contract.

18. DISCRIMINATION CLAUSE

CONTRACTOR agrees to comply with the Americans with Disabilities Act of 1990 and any current amendments thereto. All individuals shall have equal access to employment opportunities available to a similarly suited individual. CONTRACTOR agrees not to discriminate in its employment practices, and will render services under this contract without regard to race, color, religion, sex, national origin, veteran status, political affiliation, or disabilities. Any act of discrimination committed by CONTRACTOR, or failure to comply with these statutory obligations when applicable shall be grounds for termination of this contract. CONTRACTOR agrees to abide by the requirements of all local, state, and/or federal law, including but not limited to the following: Title VI and VII of the Civil Rights Act of 1964, as amended by the Equal Opportunity Act of 1972, Federal Executive Order 11246, the Federal Rehabilitation Act of 1973, as amended, the Vietnam Era Veteran's Readjustment Assistance Act of 1974, Title IX of the Education Amendments of 1972, the Age Act of 1975, and the requirements of the Americans with Disabilities Act of 1990. CONTRACTOR warrants and guarantees that it is an Equal Employment Opportunity employer. In all hiring or employment made possible by or resulting from this Contract, there shall not be any discrimination against any person because of race, color, religion, sex, national origin, disability, age or veterans status; and where applicable, affirmative action will be taken to ensure that CONTRACTOR'S employees are treated equally during employment without regard to their race, color, religion, sex, national origin, disability, age, political affiliation, disabilities or veteran status. This requirement shall apply to but not be limited to the following: employment upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. All solicitations or advertisements for employees shall state that all applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability, age or veteran status.

19. INDEPENDENT CONTRACTOR

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- A. While in the performance of services or carrying out obligations herein, the CONTRACTOR shall be acting in the capacity of an independent contractor and not as an employee of the Parish. The Parish shall not be obliged to any person, firm or corporation for any obligations of the CONTRACTOR arising from the performance of its services under this agreement. The CONTRACTOR shall not be authorized to represent the Parish with respect to services being performed, dealings with other agencies, and administration of specifically related contracts, unless done so in writing by the Parish.
- B. CONTRACTOR hereby agrees to be responsible for payment of taxes from the funds thus received under this Contract. CONTRACTOR agrees to be responsible for and to pay all applicable federal income taxes, federal social security tax (or self-employment taxes in lieu thereof) and any other applicable federal or state unemployment taxes. CONTRACTOR agrees to indemnify and hold the Parish harmless for any and all federal and/or state income tax liability, including taxes, interest and penalties, resulting from the Parish's treatment of CONTRACTOR as independent contractor.
- C. CONTRACTOR further agrees to reimburse Parish for any and all costs it incurs, including, but not limited to, accounting fees and legal fees, in defending itself against any such liability.
- D. CONTRACTOR agrees and acknowledges that it (and its employees) is an **independent contractor** as defined in R.S. 23: 1021 (or any other provision of law) and as such nothing herein shall make CONTRACTOR an employee of the Parish nor create a partnership between CONTRACTOR and the Parish.
- E. CONTRACTOR acknowledges exclusion of Workmen's Compensation Coverage. CONTRACTOR acknowledges of the exclusion of Unemployment Compensation coverage.
- F. CONTRACTOR agrees to a waiver of any and all sick and annual benefits from the Parish. It is expressly agreed and understood between the parties entering into this personal service contract, that CONTRACTOR, acting as an independent agent, shall not receive any sick and annual leave from the Parish.

20. NOTICES

All notices shall be by certified mail, return receipt requested, and sent to the following individuals at the following addresses. Changes of person and addresses are to be exchanged in a like manner:

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Parish of Ascension: Office of the Parish President
P.O. Box 1659
Gonzales, LA 70707

Provider:

21. AUTHORITY TO ENTER CONTRACT

The undersigned representative of CONTRACTOR warrants and personally guarantees that he/she has the requisite and necessary authority to enter and sign this contract on behalf of the corporate entity. The undersigned parties warrant and represent that they each have the respective authority and permission to enter this agreement. The Parish shall require, as an additional provision, that CONTRACTOR provide a certified copy of a corporate resolution authorizing the undersigned to enter and sign this agreement in the event that CONTRACTOR is a member of a corporation, partnership, LLC, LLP, and any other juridical entity.

22. EQUAL EMPLOYMENT OPPORTUNITY (Equal Opportunity Clause) (applicable to contracts and subcontracts above \$10,000)

During the performance of this contract, the Consultant agrees as follows:

- A. The Consultant will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Consultant will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- B. The Consultant will, in all solicitations or advertisements for employees placed by or on behalf of the Consultant, state that all qualified applicants will receive consideration without regard to race, color, religion, sex, or national origin.
- C. The Consultant will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the Contract Compliance Officer advising the said labor union or workers' representatives of the Consultant's commitment under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

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D. The Consultant will comply with all provisions of Executive Order 11246 of September 24, 1965, as amended, and the rules, regulations, and relevant orders of the Secretary of Labor.

E. The Consultant will furnish all information and reports required by Executive Order 11246 of September 24, 1965, as amended, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the Department and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and others.

F. In the event of the Consultant's noncompliance with the non-discrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the Consultant may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, as amended, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

G. The Consultant will include the provisions of the sentence immediately preceding paragraph A and the provisions of paragraphs A through G in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, as amended, so that such provisions will be binding upon each sub Consultant or vendor. The Consultant will take such action with respect to any subcontract or purchase order as the Department may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event a Consultant becomes involved in, or is threatened with, litigation with a sub Consultant or vendor as a result of such direction by the Department, the Consultant may request the United States to enter into such litigation to protect the interest of the United States.

23. CERTIFICATION OF NONSEGREGATED FACILITIES

(applicable to contracts and subcontracts over \$10,000)

By the submission of this bid, the bidder, offeror, applicant or sub Consultant certifies that he/she does not maintain or provide for his/her establishments, and that he/she does not permit employees to perform their services at any location, under his/her control, where segregated facilities are maintained. He/she certifies further that he/she will not maintain or provide for employees any segregated facilities at any of his/her establishments, and he/she will not permit employees to perform their services at any location under his/her control where segregated facilities are maintained. The bidder, offeror, applicant or sub Consultant agrees that a breach of this certification is a violation of the equal opportunity clause of this contract.

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As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason.

He/she further agrees that (except where he/she has obtained for specific time periods) he/she will obtain identical certification from proposed sub Consultants prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the equal opportunity clause; that he/she will retain such certifications in his/her files; and that he/she will forward the following notice to such proposed sub Consultants (except where proposed sub Consultants have submitted identical certifications for specific time periods).

24. CIVIL RIGHTS

The Consultant shall comply with the provisions of Title VI of the Civil Rights Act of 1964. No person shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

25. SECTION 109 OF THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1974

The Consultant shall comply with the provisions of Section 109 of the Housing and Community Development Act of 1974. No person in the United States shall on the grounds of race, color, national origin, or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title. Section 109 further provides that discrimination on the basis of age under the Age Discrimination Act of 1975 or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, as amended, is prohibited.

26. SECTION 3 OF THE HOUSING AND URBAN DEVELOPMENT ACT OF 1968 - COMPLIANCE IN THE PROVISION OF TRAINING, EMPLOYMENT AND BUSINESS OPPORTUNITIES

A. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered

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by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.

C. The Consultant agrees to send to each labor organization or representative of workers with which the Consultant has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the Consultant's commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each, and the name and location of the person(s) taking applications for each of the positions, and the anticipated date the work shall begin.

D. The Consultant agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the sub Consultant is in violation of the regulations in 24 CFR part 135. The Consultant will not subcontract with any sub Consultant where the Consultant has notice or knowledge that the sub Consultant has been found in violation of the regulations in 24 CFR part 135.

E. The Consultant will certify that any vacant employment positions, including training positions, that are filled (1) after the Consultant is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the Consultant's obligations under 24 CFR part 135.

F. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

G. With respect to work performed in connection with Section 3 covered Indian housing assistance, Section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-

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owned Economic Enterprises. Parties to this contract that are subject to the provisions of Section 3 and section 7(b) agree to comply with Section 3 to the maximum extent feasible, but not in derogation of compliance with Section 7(b).

27. SECTION 503 OF THE REHABILITATION ACT OF 1973 (29 USC 793)
(applicable to contracts and subcontracts over \$10,000)

A. The Consultant will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is otherwise qualified. The Consultant agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following: employment upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

B. The Consultant agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

C. In the event of the Consultant's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

D. The Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, provided by or through the contracting officer. Such notices shall state the Consultant's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped employees and applicants for employment, and the rights of applicants and employees.

E. The Consultant will notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Consultant is bound by the terms of Section 503 of the Rehabilitation Act of 1973, and is committed to take affirmative action to employ and advance in employment physically and mentally handicapped individuals.

F. The Consultant will include the provisions of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary issued pursuant to Section 503 of the Act, so that such provisions will be binding upon each sub Consultant or vendor. The Consultant will take such action with respect to any subcontract or purchase order as the Director of the Office of Federal Contract Compliance Programs may direct to enforce such provisions, including action for noncompliance.

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28. SECTION 504 OF THE REHABILITATION ACT OF 1973, AS AMENDED

The Consultant agrees that no otherwise qualified individual with disabilities shall, solely by reason of his disability, be denied the benefits, or be subjected to discrimination including discrimination in employment, any program or activity that receives the benefits from the federal financial assistance.

29. AGE DISCRIMINATION ACT OF 1975

The Consultant shall comply with the provisions of the Age Discrimination Act of 1975. No person in the United States shall, on the basis of age, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under, any program or activity receiving federal financial assistance.

30. CERTIFICATION OF COMPLIANCE WITH AIR AND WATER ACTS
(applicable to contracts and subcontracts exceeding \$100,000)

The Consultant and all sub Consultants shall comply with the requirements of the Clean Air Act, as amended, 42 USC 1857 7401 et seq., the Federal Water Pollution Control Act, as amended, 33 USC 1251 et seq., and the regulations of the Environmental Protection Agency with respect thereto, at 40 CFR Part 15, as amended.

In addition to the foregoing requirements, all nonexempt Consultants and sub Consultants shall furnish to the owner, the following:

A. A stipulation by the Consultant or sub Consultants, that any facility to be utilized in the performance of any nonexempt contract or subcontract, is not listed on the List of Violating Facilities issued by the Environmental Protection Agency (EPA) pursuant to 40 CFR Part 15, as amended.

B. Agreement by the Consultant to comply with all the requirements of Section 114 of the Clean Air Act, as amended, (42 USC 1857 c 8) and Section 308 of the Federal Water Pollution Control Act, as amended, (33 USC 1318) relating to inspection, monitoring, entry, reports and information, as well as all other requirements specified in said Section 114 and Section 308, and all regulations and guidelines issued thereunder.

C. A stipulation that as a condition for the award of the contract, prompt notice will be given of any notification received from the Director, Office of Federal Activities, EPA, indicating that a facility utilized, or to be utilized for the contract, is under consideration to be listed on the EPA List of Violating Facilities.

D. Agreement by the Consultant that he will include, or cause to be included, the

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criteria and requirements in paragraph (1) through (4) of this section in every nonexempt subcontract and requiring that the Consultant will take such action as the government may direct as a means of enforcing such provisions.

31. FLOOD DISASTER PROTECTION

This contract is subject to the requirements of the Flood Disaster Protection Act of 1973 (P.L. 93 234). Nothing included as a part of this contract is approved for acquisition or construction purposes as defined under Section 3(a) of said Act, for use in an area identified by the Secretary of HUD as having special flood hazards which is located in a community not then in compliance with the requirements for participation in the National Flood Insurance Program pursuant to Section 201(d) of said Act; and the use of any assistance provided under this contract for such acquisition for construction in such identified areas in communities then participating in the National Flood Insurance Program shall be subject to the mandatory purchase of flood insurance requirements or Section 102(a) of said Act.

Any contract or agreement for the sale, lease, or other transfer of land acquired, cleared or improved with assistance provided under this Contract shall contain, if such land is located in an area identified by the Secretary as having special flood hazards and in which the sale of flood insurance has been made available under the National Flood Insurance Act of 1968, as amended, 42 U.S.C. 4001 et seq., provisions obligating the transferee and its successors or assigns to obtain and maintain, during the ownership of such land, such flood insurance as required with respect to financial assistance for acquisition or construction purposes under Section 102(a) of Flood Disaster Protection Act of 1973.

32. INSPECTION

The authorized representative and agents of the State of Louisiana and/or any Federal agencies shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.

33. REPORTING REQUIREMENTS

The Consultant shall complete and submit all reports, in such form and according to such schedule, as may be required by the Owner.

34. CONFLICT OF INTEREST

A. No officer or employee of the local jurisdiction or its designees or agents, no member of the governing body, and no other public official of the locality who his/her tenure or for one year thereafter, shall have any interest, direct or indirect, in any contract

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or subcontract, or the proceeds thereof, for work to be performed. Further, the Consultant shall cause to be incorporated in all subcontracts the language set forth in this paragraph prohibiting conflict of interest.

B. No member of or delegate to Congress, or Resident Commissioner, shall be admitted to any share or part of this contract or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

35. ACTIVITIES AND CONTRACTS NOT SUBJECT TO EXECUTIVE ORDER 11246, AS AMENDED

(applicable to contracts and subcontracts of \$10,000 and under)

During the performance of this contract, the Consultant agrees as follows:

A. The Consultant shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Consultant shall take affirmative action to ensure that applicants for employment are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

B. The Consultant shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by Contracting Officer setting forth the provisions of this non-discrimination clause. The Consultant shall state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

C. Consultants shall incorporate foregoing requirements in all subcontracts.

36. COPYRIGHT

No materials, to include but not limited to reports, maps, or documents produced as a result of this contract, in whole or in part, shall be available to the Consultant for copyright purposes. Any such materials produced as a result of this contract that might be subject to copyright shall be the property of the Owner and all such rights shall belong to the Owner.

37. ENERGY EFFICIENCY

The Consultant shall comply with mandatory standards and policies relating to energy

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efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy, Conservation Act (Public Law 94-163) **and LRS 40:1730.49.**

38. SUBCONTRACTS

A. The Consultant shall not enter into any subcontract with any sub Consultant who has been debarred, suspended, declared ineligible, or voluntarily excluded from participating in contacting programs by any agency of the United States Government or the State of Louisiana.

B. The Consultant shall be as fully responsible to the Owner for the acts and omissions of the Consultant's sub Consultants, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by the Consultant.

C. The Consultant shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind sub Consultant to the Consultant by the terms of the contract documents insofar as applicable to the work of sub Consultants and to give the Consultant the same power as regards terminating any subcontract that the Owner may exercise over the Consultant under any provision of the contract documents.

D. Nothing contained in this contract shall create any contractual relation between any sub Consultant and the Owner.

39. DEBARMENT, SUSPENSION, AND INELIGIBILITY

The Consultant represents and warrants that it and its sub Consultants are not debarred, suspended, or placed in ineligibility status under the provisions of 24 CFR 24 (government debarment and suspension regulations), **2 CFR 215 and Appendix (A) (8).**

40. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the contract shall forthwith be physically amended to make such insertion or correction.

41. CHANGES

The Owner may, from time to time, request changes in the scope of the services of the Consultant to be performed hereunder. Such changes, including any increase or decrease in the amount of the Consultant's compensation which are mutually agreed upon by and

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between the Owner and the Consultant, shall be incorporated in written and executed amendments to this Contract.

42. PERSONNEL

The Consultant represents that it has, or will secure at its own expense, all personnel required in performing the services under this Contract. Such personnel shall not be employees of or have any contractual relationship with the Owner.

All the services required hereunder will be performed by the Consultant or under its supervision, and all personnel engaged in the work shall be fully qualified and shall be authorized or permitted under State and local law to perform such services.

No person who is serving sentence in a penal or correctional institution shall be employed on work under this Contract.

43. ANTI-KICKBACK RULES

Salaries of personnel performing work under this Contract shall be paid unconditionally and not less often than once a month without payroll deduction or rebate on any account except only such payroll deductions as are mandatory by law or permitted by the applicable regulations issued by the Secretary of Labor pursuant to the "Anti-Kickback Act" of June 13, 1934 (48 Stat. 948; 62 Stat. 740; 63 Stat. 108; Title 18 U.S.C. 874; and Title 40 U.S.C. 276c). and compliance with the Copeland (Anti-kickback) Act. The Consultant shall comply with all applicable "Anti-Kickback" regulations and shall insert appropriate provisions in all subcontracts covering work under this contract to insure compliance by the sub Consultants with such regulations, and shall be responsible for the submission of affidavits required of sub Consultants thereunder except as the Secretary of Labor may specifically provide for variations of or exemptions from the requirements thereof. Consultant shall comply with the Davis-Bacon Act (40 U.S.C. 276a-7) as supplemented by the Department of Labor regulations (29 CFR part 5). (Construction contracts in excess of \$2000 awarded by grantees and sub grantees when required by Federal grant program legislation)

44. INTEREST OF CONSULTANT

The Consultant covenants that he presently has no interest and shall not acquire any interest direct or indirect in the above described project or any parcels therein or any other interest which would conflict in any manner or degree with the performance of his services hereunder. The Consultant further covenants that in the performance of this Contract no person having any such interest shall be employed.

45. POLITICAL ACTIVITY

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The Consultant will comply with the provisions of the Hatch Act (5 U.S.C. 1501 et seq.), which limits the political activity of employees.

46. COMPLIANCE WITH THE OFFICE OF MANAGEMENT AND BUDGET

The parties agree to comply with the regulations, policies, guidelines, and requirements of the Office of Management and Budget, Circulars A-95, A-102, A-133, and A-54, as they relate to the use of Federal funds under this contract.

47. CONFIDENTIAL FINDINGS

All of the reports, information, data, etc., prepared or assembled by the Consultant under this Contract are confidential, and the Consultant agrees that they shall not be made available to any individual or organization without prior written approval of the Owner.

48. LOBBYING

The Consultant certifies, to the best of his or her knowledge and belief that:

1. ~~No federally appropriated funds have been paid or will be paid, by or on behalf of the Consultant, to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.~~

2. ~~If any funds other than federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the Consultant shall complete and submit Standard Form LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.~~

BYRD ANTI-LOBBYING AMENDMENT, 31 U.S.C. 1352 (AS AMENDED)

CONTRACTORS who apply or bid for an award of \$100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any Sub-recipient, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal Contract, grant, or any other award covered by 31

** Draft contract – Final contract subject to final negotiations and special conditions that may arise for this project, until such agreement approved by Parish Legal**

U.S.C. 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the Recipient.

This agreement is executed in three (3) originals. IN TESTIMONY WHEREOF, they have executed this agreement, the day and year first above written.

WITNESSES

Title: Parish President
Ascension Parish Government
Date: _____

WITNESSES

Title: _____
Date: _____



PERFORMANCE BOND



PERFORMANCE BOND

Contractor Name: _____ Address (<i>principal place of business</i>): _____ _____	Surety Name: _____ Address (<i>principal place of business</i>): _____ _____
Owner Name: _____ Mailing address (<i>principal place of business</i>): _____ _____	Contract Description (<i>name and location</i>): _____ _____ Contract Price: _____ Effective Date of Contract: _____
Bond Bond Amount: _____ Date of Bond: _____ (<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	
Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.	
Contractor as Principal _____ (<i>Full formal name of Contractor</i>) By: _____ (<i>Signature</i>) Name: _____ (<i>Printed or typed</i>) Title: _____ Attest: _____ (<i>Signature</i>) Name: _____ (<i>Printed or typed</i>) Title: _____	Surety _____ (<i>Full formal name of Surety</i>) (<i>corporate seal</i>) By: _____ (<i>Signature</i>) (<i>Attach Power of Attorney</i>) Name: _____ (<i>Printed or typed</i>) Title: _____ Attest: _____ (<i>Signature</i>) Name: _____ (<i>Printed or typed</i>) Title: _____
Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.	



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: **[Describe modification or enter "None"]**



PAYMENT BOND



PAYMENT BOND

Contractor Name: _____ Address (<i>principal place of business</i>): _____ _____	Surety Name: _____ Address (<i>principal place of business</i>): _____ _____
Owner Name: _____ Mailing address (<i>principal place of business</i>): _____ _____	Contract Description (<i>name and location</i>): _____ _____ Contract Price: _____ Effective Date of Contract: _____
Bond Bond Amount: _____ Date of Bond: _____ <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	
Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.	
Contractor as Principal _____ <i>(Full formal name of Contractor)</i> By: _____ <i>(Signature)</i> Name: _____ <i>(Printed or typed)</i> Title: _____ Attest: _____ <i>(Signature)</i> Name: _____ <i>(Printed or typed)</i> Title: _____	Surety _____ <i>(Full formal name of Surety) (corporate seal)</i> By: _____ <i>(Signature) (Attach Power of Attorney)</i> Name: _____ <i>(Printed or typed)</i> Title: _____ Attest: _____ <i>(Signature)</i> Name: _____ <i>(Printed or typed)</i> Title: _____
<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>	



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.
18. Modifications to this Bond are as follows: **[Describe modification or enter "None"]**



NOTICE OF AWARD

TO: _____ Date of Award: _____

ADDRESS: _____

PROJECT: _____

Parish's Contract No.: _____

You are notified that your Quote/Proposal/Bid dated _____ for the above Contract has been considered and have been awarded a Contract for: _____

The Contract Price of your Contract is: _____

3 Copies of each of the proposed Contracts accompany this Notice of Award.

1 Set of the complete Contract Documents will be returned to you.

You must comply with the following conditions precedent within fifteen (15) days of the date of this Notice of Award, this is by: _____

You must deliver to the Owner three (3) fully executed counterparts of the proposed Contract, including the Agreement. Each copy of the Contract must bear your signature on all signatory lines within the Agreement, Contract Security (Bonds), and Certificate of Insurance including certificates verifying additional insurers as required.

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

Within ten (10) days after you comply with the above conditions, the Owner will return to you one (1) fully signed counterpart of the Agreement with the Contract Documents attached.

ASCENSION PARISH GOVERNMENT
(Owner)

ACCEPTANCE OF AWARD

By: _____

(Contractor)

Clint Cointment, Parish President

By: _____

DATE: _____

(Authorized Signature)

(Title)

DATE: _____



NOTICE TO PROCEED

Owner: _____ Parish Project No.: _____

Engineer: _____

Contractor: _____ Contract Number: _____

Project: _____

Date of Contract: _____

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on _____ pursuant to Paragraph 4.01 of the General Conditions.

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work will be done at the Site prior to such date.

The date by which Substantial Completion must be achieved is _____, and the date by which readiness for final payment must be achieved is _____.

Project Manager: _____

By (*signature*): _____

Contractor: _____

By (*signature*): _____

Title: _____

APPLICATION AND CERTIFICATION FOR PAYMENT

AIA DOCUMENT G702

PAGE 1 OF 2 PAGES

TO OWNER:

APPLICATION NO:

Distribution to:

☐ OWNER

☐ ARCHITECT

☐ CONTRACTOR

PROJECT:

APPLICATION DATE:

PERIOD TO:

PROJECT NOS:

CONTRACT DATE:

FROM CONTRACTOR:

VIA ARC./PROJECT MGR./ENG.

CONTRACT FOR:

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract.

Continuation Sheet, AIA Document G703, is attached.

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

By:

Date:

State of:

County of:

Subscribed and sworn to before me this day of:

Notary Public:

My Commission expires:

1. ORIGINAL CONTRACT SUM:	\$0.00
2. Net change by Change Orders:	\$0.00
3. CONTRACT SUM TO DATE: (Line 1 + 2)	\$0.00
4. TOTAL COMPLETED & STORED TO DATE: (Column G on G703)	\$0.00

5. RETAINAGE:

a. 5% % of Completed Work: (Column D + E on G703) \$0.00

b. 5% % of Stored Material: (Column F on G703) \$0.00

Total Retainage: (Lines 5a + 5b or Total in Column I of G703)	\$0.00
6. TOTAL EARNED LESS RETAINAGE: (Line 4 Less Line 5 Total)	\$0.00

7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate)

8. CURRENT PAYMENT DUE	\$0.00
------------------------	--------

9. BALANCE TO FINISH, INCLUDING RETAINAGE: (Line 3 less Line 6)	\$0.00
---	--------

AMOUNT CERTIFIED \$

ENG./ARC./PROJECT MGR. CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising the application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:

By:

Date:

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

CHANGE ORDER SUMMARY		ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner			
Total approved this Month			
TOTALS	\$0.00	\$0.00	
NET CHANGES by Change Order	\$0.00		

Users may obtain validation of this document by requesting a completed AIA Document D401 - Certification of Document's Authenticity from the Licensee.

CONTINUATION SHEET

AIA DOCUMENT G703

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing

Contractor's signed certification is attached.

In tabulations below, amounts are stated to the nearest dollar.

Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO:0

APPLICATION DATE:01/00/00

PERIOD TO:01/00/00

APG PROJECT NO:0

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED (NOT IN D OR E)	G TOTAL COMPLETED AND STORED TO DATE (D+E+F)	H % (G ÷ C)	I BALANCE TO FINISH (C - G)	J RETAINAGE (IF VARIABLE RATE) 5%
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD					
1		\$0.00	\$0.00	\$0.00	\$0.00				
2		\$0.00	\$0.00	\$0.00	\$0.00				
3		\$0.00	\$0.00	\$0.00	\$0.00				
4		\$0.00	\$0.00	\$0.00	\$0.00				
5		\$0.00	\$0.00	\$0.00	\$0.00				
6		\$0.00	\$0.00	\$0.00	\$0.00				
7		\$0.00	\$0.00	\$0.00	\$0.00				
8		\$0.00	\$0.00	\$0.00	\$0.00				
9		\$0.00	\$0.00	\$0.00	\$0.00				
10		\$0.00	\$0.00	\$0.00	\$0.00				
11		\$0.00	\$0.00	\$0.00	\$0.00				
12		\$0.00	\$0.00	\$0.00	\$0.00				
13		\$0.00	\$0.00	\$0.00	\$0.00				
14		\$0.00	\$0.00	\$0.00	\$0.00				
15		\$0.00	\$0.00	\$0.00	\$0.00				
16		\$0.00	\$0.00	\$0.00	\$0.00				
17		\$0.00	\$0.00	\$0.00	\$0.00				
18		\$0.00	\$0.00	\$0.00	\$0.00				
19		\$0.00	\$0.00	\$0.00	\$0.00				
20		\$0.00	\$0.00	\$0.00	\$0.00				
21		\$0.00	\$0.00	\$0.00	\$0.00				
GRAND TOTALS		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	\$0.00	\$0.00

Users may obtain validation of this document by requesting of the license a completed AIA Document D401 - Certification of Document's Authenticity

Guidelines for Completing the G702 and G703

1	Start on the G702 by filling out the basic project information section located in the first box at the top of the page.
2	Switch to the G703 sheet by clicking clicking on the tab in the bottom left corner. The cells in the top right corner should already be filled in from the information on the G702.
3	In Column B add a brief description of the work provided.
4	Column C is for the cost to complete each item. These values don't change unless a change order is made to adjust them.
5	If it is the first application all of Column D will be left blank. If it is any application after the first all work finished prior to the newest application goes here. This will be everything from Column E of your previous application moved over into Column D.
6	Column E is the value of the work completed during the current pay period.
7	Column F is the value of all materials purchased and stored that have NOT been used yet.
8	Once all of those cells are filled in the rest of the cells should automatically calculate and autofill the end of the chart.
9	Column G will autofill by adding (D + E + F).
10	Column H will autofill by dividing (G ÷ C) and making it a percentage.
11	Column I will autofill by subtracting (C-G).
12	Column J autofill's the retainage amount by using the retainage percentage entered at the top of Column J (cell J11).
13	Check on the bottom of the document that all grand totals have been calculated for you and autofilled.
14	Once you've checked over the G703 document and all amounts are entered, switch back to the G702 tab.
15	If the G703 was completed correctly, you should notice most of the cells are now completed for you from information that you put in on the G703.
16	Line 2 should be the first blank cell you see. This line is set to autofill once the Change Order Summary chart (at the bottom of this document) is complete.
17	Line 7 will be left blank if this is the first application. After the first application, you can complete line 7 by looking at line 6 of the previous application.
18	The Change Order Summary chart has two parts. On the first line, insert the value of all approved change orders prior to the current billing period. The left side is Additions and the right side is for Deductions.
19	On the second line, insert the value of any approved change orders that occurred during the current billing period. The left side is Additions and the right side is for Deductions.
20	Once everything is completely filled, the Total Net Changed by Order total should automatically appear in the empty value on line 2.
21	After the G702 and G703 have been properly filled out, it's time to sign and notarize. Don't sign the application until you're in front of a notary public.
22	The Architect/Project Mgr. Certificate for Payment section should be filled out by the Architect or Project Manager after reviewing all documents to certify the amount of payment.

Payment Application Definition Sheet for Guidance

APPLICATION AND CERTIFICATION OF PAYMENT

TO OWNER:	This will be either Ascension Parish Government or East Ascension Consolidated Gravity.
FROM CONTRACTOR:	This is to be the name of Contractor written exactly as it is shown on the contract.
VIA ARCHITECT/PROJECT MGR:	Type name of Architect or Engineering firm if they are involved in the project.
CONTRACT FOR:	This is to be the name of the project. It is to be written exactly as it is shown on the contract.
PROJECT:	This is the number that has been assigned to the project by the Finance Department.
APPLICATION No:	This is whatever number of payment application for this project. NOTE: If a payment application has been submitted and found in error by Finance Manager, it will be returned for corrections. The corrected application must state "REVISED" after the number. (Example - APPLICATION NO: 1-REVISED)
APPLICATION DATE:	Date that the payment application is submitted
PERIOD TO:	This is the date that indicates the time period of the application. It should show a date when work is completed for that month.
PROJECT NO	
CONTRACT DATE:	This is the date that the contract was fully executed. It can be found on the front page of the contract document.

CONTRACTOR'S APPLICATION FOR PAYMENT

1	ORIGINAL CONTRACT SUM	This amount is automatically populated. Do not fill in an amount into space. The scheduled value of the work from the G703 will show here.
2	Net change by Change Order	This amount is automatically populated. Do not fill in an amount into space. The total amount of change orders will fill in automatically here.
3	CONTRACT SUM TO DATE (line 1+2)	Automatically populated. Total of above two lines
4	TOTAL COMPLETED AND STORED TO DATE (column G on G703)	This amount is automatically populated. Do not fill in an amount into space.
5	RETAINAGE	These lines will fill in automatically from the G703. Percentage retained on project is determined from the contract documents.
6	TOTAL EARNED LESS RETAINAGE: (line 4 less line 5 total)	This amount is automatically populated. Do not fill in an amount into space.
7	LESS PREVIOUS CERTIFICATES FOR PAYMENT (line 6 from prior certificates)	This amount is found in the last pay application. It is the amount received for payment the prior month.
8	CURRENT PAYMENT DUE	This amount is automatically populated. It is the amount to be paid this month.
9	BALANCE TO FINISH, INCLUDING RETAINAGE: (line 3 less line 6)	This amount is automatically populated. Do not fill in an amount into space. This is the amount that is remaining on the contract.

CHANGE ORDER SUMMARY

Total changes approved in previous months by Owner	Total amount of approved change orders to be filled in by person preparing the certificate for payment.
Total approved this Month	Total amount of approved change orders to be filled in by person preparing the certificate for payment.
TOTALS	This amount is automatically populated. Do not fill in an amount into space.
NET CHANGES BY CHANGE ORDER	This amount is automatically populated. Do not fill in an amount into space.

CONTRACTOR

This area is to be signed and filled in by the Contractor. Notary information is to be filled out by the Notary. The first pay application does not require a notarized signature.

ARCHITECT/PROJECT MGR CERTIFICATE OF PAYMENT

AMOUNT CERTIFIED	Approved amount to be filled in by PM or Architect/Engineer
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WORK CHANGE DIRECTIVE



WORK CHANGE DIRECTIVE NO.: _____

Owner: Ascension Parish Government _____ Parish Project No.: _____

Engineer: _____

Contractor: _____ Parish Contract No.: _____

Project: _____

Date Issued: _____

Effective Date of Work Change Directive: _____

Contractor is directed to proceed promptly with the following change(s):

Description:

Attachments:

Directive to proceed promptly with the Work described herein, prior to agreeing to change in Contract Price and Contract Time, is issued due to:

Check one or both of the following:

- ☐ Non-agreement on pricing of proposed change.
- ☐ Necessity to proceed for schedule or other reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price: \$ _____ ☐ Increase ☐ Decrease ☐ Not Yet Estimated

Contract Time: _____ days ☐ Increase ☐ Decrease ☐ Not Yet Estimated

Basis of estimated change in Contract Price:

- ☐ Lump Sum ☐ Unit Price ☐ Cost of the Work ☐ Other

Authorized by Architect/Engineer/Project Manager

By (*signature*): _____

Title/Date: _____

Accepted by Contractor

By (*signature*): _____

Title/Date: _____

Owner's Representative

By (*signature*): _____

Title/Date: _____



CHANGE ORDER NO.: _____

Owner: _____ Parish Project No.: _____

Architect/Engineer: _____ Parish Contract No.: _____

Contractor: _____

Project: _____

Date Issued: _____ Effective Date: _____

The Contract is modified as follows upon execution of this Change Order:

Description:

Change in Contract Price

Change in Contract Times

Original Contract Price: \$ _____	Original Contract Times: _____ days Substantial Completion: _____ Ready for final payment: _____
[Increase] [Decrease] from previous Change Orders No. 1 to No.: _____ \$ _____	[Increase] [Decrease] from previous Change Orders No. 1 to No.: _____ Substantial Completion: _____ Ready for final payment: _____
Contract Price prior to this Change Order: \$ _____	Contract Times prior to this Change Order: Substantial Completion: _____ Ready for final payment: _____
[Increase] [Decrease] this Change Order: \$ _____	[Increase] [Decrease] this Change Order: _____ days Substantial Completion: _____ Ready for final payment: _____
Contract Price incorporating this Change Order: \$ _____	Contract Times with all Change Orders: _____ days Substantial Completion: _____ Ready for final payment: _____

Recommended by Architect/Engineer

By: _____

Title: _____

Date: _____

Authorized by Project Manager

By: _____

Title: _____

Date: _____

Accepted by Contractor

Approved by Owner



CERTIFICATE OF SUBSTANTIAL COMPLETION



CERTIFICATE OF SUBSTANTIAL COMPLETION

Project Name: _____ Parish Project No.: _____

Owner: _____ Parish Contract No.: _____

Architect/Engineer/Project Mgr.: _____

Contractor: _____

This Certificate of Substantial Completion applies to all work in accordance with this contract.

Date of Substantial Completion: _____

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected may be attached to this Certificate. This list may not be all- inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

☐ Punch list attached.

☐ All work completed/No punch list attached.

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

Architect/Engineer/Project Manager

By (*signature*): _____

Name/Title (printed): _____

Contractor

By (*signature*): _____

Name/Title (printed): _____

Owner's Representative

By (*signature*): _____

Name/Title (printed): _____

Owner

By (*signature*): _____

Name/Title (printed): _____

SECTION 010000 - GENERAL REQUIREMENTS

A. GENERAL

1. **CONTRACTOR SUBMITTALS:** At the Pre-Construction Meeting, the following shall be submitted for approval by the A/E and review by the Owner:
 - a. Progress Schedule.
 - b. Schedule of Values.
 - c. List of ALL Subcontractors, Principal Suppliers & Fabricators.
 - d. List of Contractor's staff assignments and principal consultants.
 - e. Schedule of Submittals.
2. **PROGRESS SCHEDULE:** Contractor shall submit his/her proposed Construction Progress Schedule to the Owner and the A/E at the Pre-Construction Meeting. The Schedule shall clearly identify the following:
 - a. The Substantial Completion of the project within the Contract Time; include consideration for Weather Days.
 - b. Milestone Date to complete synthetic turf playing field.
 - c. Shall be UPDATED concurrent with each Progress Payment Application.
3. **SCHEDULE OF VALUES:** Contractor shall prepare his/her Schedule of Values for each Work Line Item in accordance with the General Conditions.
4. **CONTRACTOR'S INITIAL PAYMENT APPLICATION:**
 - a. Cover data submitted on AIA Document G702 (no substitutions) with all required information, signatures, and notarization.
 - b. Allowed to use legible computer printouts outlining Work Line Items and Schedule of Values and Stored Materials in format similar to AIA Document G702 Continuation Sheets.
 - c. Must bear A/E approval signature prior to review/approval action by the Owner.
 - d. Owner will not approve for payment until all data listed in item #2 above has been submitted and approved.
 - e. Payment will be made in accordance with Owner's published schedule pending timely receipt & approval action.
5. **CONTRACTOR'S PROGRESS PAYMENT APPLICATIONS:**
 - a. Shall comply with items #4a, 4b, 4c, and 4e above.
 - b. Contractor shall concurrently submit UPDATED Progress Schedules and Submittal Schedules.
 - c. Shall include payment adjustments for FULLY EXECUTED Change Orders.
 - d. Affidavits of major subcontractors for no claims.

6. CONTRACTOR'S FINAL PAYMENT APPLICATION:
 - a. Shall comply with items #4a, 4b, 4c, and 4e above.
 - b. Shall be clearly marked "FINAL".
 - c. Payment will be made ONLY after satisfactory completion of all Contract Close-Out items.
 - d. Payment after submission of clear lien and privilege certificate.
 - e. Shall be submitted at closeout meeting with all closeout documents.
7. SHOP DRAWINGS & SUBMITTAL DATA:
 - a. During the progress of the Work, the A/E shall promptly act upon submittal data & provide the Program Manager ONE copy of each "APPROVED" or "APPROVED AS NOTED" shop drawing, catalog data sheet, brochure, etc. as action is taken & returned to the Contractor for the Owner's information and file.
 - b. The A/E shall promptly advise the Program Manager of:
 1. Any submittal data which is delinquent to the Contractor's published Submittal Schedule, OR,
 2. Has been returned for RESUBMITTAL which could delay progress of construction.
8. RECORD DOCUMENTS:
 - a. Contractor shall maintain one clean set of Contract Documents at the project site for the sole purpose of identifying by date and/or authority all As-Built conditions and authorized modifications as they occur during the progress of the Work. Particularly important is the documentation of locations for underground items.
 - b. Contractor shall maintain an orderly file at the project site of all "APPROVED" and "APPROVED AS NOTED" submittals, shop drawings, etc.
 - c. At each site visit, the A/E shall review the Contractor's As-Built Documents to see that they are correct and current; A/E shall advise the Owner accordingly.
 - d. At completion of the project, the Contractor shall transmit the on-site As-Built Documents to the A/E; the A/E shall transcribe all information to create one set of RECORD DOCUMENTS to be sent to the Owner for file.
9. OPERATION & MAINTENANCE ("O&M") MANUALS:
 - a. Owner requires one hard copy set and one electronic set.
 - b. Contractor shall logically organize (using index tabs) into sets of manageable size, heavy-duty, transparent spine label, three-ring binders clearly identifying the Project Name, EBRPSS Project Number, and general content of each binder.
 - c. The A/E shall review the O&M manuals for completeness & correctness prior to transmitting to the Owner for file.

10. CONTRACTOR CLOSE-OUT DOCUMENTS:
- a. Owner requires one hard copy set and one electronic set.
 - b. Contractor shall logically organize similar to O&M manual criteria.
 - c. A/E shall review (and sign where required) prior to transmitting to the Owner at the closeout meeting for further action & file.
 - d. Required documents include, but may not be limited to, originals and copies (put all originals in one notebook; put copies in the other two notebooks) of the following:
 1. General Contractor's Warranty.
 2. All Subcontractor & Specialty Contractor Warranties.
 3. All Manufacturer Warranties.
 4. All Extended (longer than 1 year) Warranties.
 5. Executed Consent of Surety.
 6. Executed Waivers of Liens.
 7. Acknowledgement of satisfactory completion of Punch List Items.
11. HAZARDOUS MATERIALS:
- a. Contractor shall include in the Close-Out Documents a Certification Warranty Statement that no hazardous materials (containing asbestos, PCB, etc.) were incorporated into the Work.
 - b. Contractor is advised that the Owner will perform post-construction verification analyses of the project to confirm the Contractor-certified absence of hazardous materials. If hazardous materials are found to exist, the Contractor shall pay ALL costs for the testing, abatement, and replacement with non-hazardous materials.

END OF SECTION

SECTION 013000 - SUBMITTALS

PART ONE - GENERAL

1.01 DESCRIPTION:

- A. Submittals: General term including samples, shop drawings and product data, as applicable and as defined by the General Conditions.
- B. General Provisions:
 - 1. Provisions in this section are mandatory procedures for review, approval and submitting samples, shop drawings and product data in accordance with the General Conditions.
 - 2. Submittals which are received directly from sources other than through the General Contractor's office will be returned to the General Contractor "without action".
 - 3. Job delays occasioned by requirement of re-submission of samples, shop drawings and product data not in accord with Contract Documents and/or submittals sequenced contrary to the agreed schedule are Contractor's responsibility and will not be considered valid justification for extension of contract time or increase in the contract sum.

1.02 SAMPLE PREPARATION:

- A. Prepare samples in sizes, shape, and finish in accord with provisions of individual specification sections.
- B. Samples shall be submitted for the Architect's selection and approval in accordance with the Contractor's submittal schedule or sooner as needed to maintain construction progress. Approvals and color selections will not be made unilaterally where samples or selections of adjacent materials must be made for the purpose of aesthetics. Submit samples for adjacent and interrelated materials concurrently. The Owner will approve all colors before the Architect can take action.

1.03 SHOP DRAWING PREPARATION:

- A. Drawing shall conform to the following requirements:
 - 1. Number sheets consecutively.
 - 2. Indicate working and erection dimensions and relationships to adjacent work.
 - 3. Show arrangements and sectional views, where applicable.
 - 4. Indicate material, gauges, thicknesses, finishes and characteristics.
 - 5. Indicate anchoring and fastening details, including information for making connections to adjacent work.

6. Indicate working and erection dimensions and relationships to adjacent work. Concurrent submittals of different aspects of work may be required by the Architect as deemed necessary to demonstrate Contractor's ability to understand these relationships and coordinate the Work.
7. Provide 6" x 6" clean space in the lower right-hand area for entry of approval stamps.
8. Cross-reference drawing details and specification paragraphs applicable to the submittal data.

B. Form: Submit information electronically in PDF format.

1.04 PRODUCT DATA PREPARATION:

- A. Include product manufacturer's standard printed material, dated, with product description and installation instructions indicated. Data not related to this project shall be deleted or marked "VOID" as applicable.
- B. Form: Submit information electronically in PDF format.
- C. Printed material shall be:
 1. Legible.
 2. Sized no larger than 8-1/2" x 11", suitable for opaque reproduction.
 3. Stamped (either on a clean-area space or the reverse side) with the Contractor's approval action.
- D. All submitted data shall bear the Contractor's approval action stamp plus his review notes, comments, and corrections as required.

1.05 CONTRACTOR'S REVIEW:

- A. Review submittals and stamp with approval prior to submission to the Architect; Contractor's stamp shall bear the Contractor's name, the word "Approved", the signed initials of the approving agent, and the date of his approval action. By so noting, the Contractor indicates that he has reviewed and approves the materials, equipment, quantities, and dimensions represented by the particular submittal.
- B. Where work is indicated "By others", Contractor shall indicate responsibility for providing and coordinating such work.
- C. Submissions made without Contractor's approval indicated thereon will be returned without being reviewed for compliance with this requirement.
- D. Date each submittal and indicate name of Project, Architect, Contractor, Sub-Contractor, as applicable, description or name of equipment, material or product and identify location at which it is to be used in the Work. Cross-reference to specific drawing and specification references.
- E. Accompany submittal with transmittal letter containing project name, Contractor's name, number of samples or drawings, titles, and other pertinent data. Transmittal shall outline deviations, if any, in submittals from requirements of Contract Documents.

1.06 ARCHITECT'S REVIEW AND APPROVAL:

- A. Architect's Review will be in accordance with the General Conditions.
- B. Architect will return only the following submittal data to the Contractor for his further reproduction and distribution.
 - 1. Reviewed information will be transmitted electronically in PDF format.

1.07 RESUBMISSION:

- A. Make corrections and changes indicated for unapproved submissions and resubmit in same manner as specified above, until Architect's approval is obtained.
- B. In resubmission transmittal direct specific attention to revisions other than corrections requested by Architect on previous submissions, if any.
- C. Contractor shall be responsible for bearing all costs associated with the review and approval process of resubmitted (and/or substituted) submittal data.

1.08 DISTRIBUTION:

- A. Contractor is responsible for obtaining and distributing copies of submittals to his subcontractors and material suppliers after, as well as before, final approval.
- B. Contractor shall maintain a file of approved submittals for duration of project, which shall be delivered to Owner as a part of project close-out documents.
- C. The Contractor shall maintain a file of all approved submittals, bearing the Stamp of the Architect, at the project site. In the event the Architect or Owner should question the installation of any aspect of the work requiring approved submittal data, the inability of the Superintendent to produce the required approved submittal data upon demand shall constitute cause for a "stop work" order to be issued on that questioned aspect of the work and all relevant appurtenant work. The cause shall be equal to the Contractor's not having received required approval of the submittal data. If so issued, such "stop orders" shall not be considered valid justification for extensions of contract time and/or claims for additional monetary compensation.

1.09 SCHEDULE OF SUBMITTALS:

- A. The Contractor shall, within ten (10) calendar days following award of the Contract, submit his proposed schedule of submittals to the Architect for review.

- B. The purpose of the schedule is to:
 - 1. Demonstrate that all submittals, shop drawings, data, and samples required for the Work are addressed by the Contractor.
 - 2. Demonstrate consistency with the Contractor's proposed Construction Schedule.
 - 3. Assist the Architect in scheduling timely review/approval action of submittals.
- C. The schedule shall contain the description of the submitted item, the proposed date of submittal and the proposed date of requested return by the Architect.
- D. After the Architect's receipt of the Contractor's submittal schedule, the Architect and the Contractor shall jointly review the schedule and mutually agree to acceptability or necessary modifications.
- E. Contractor shall submit his final accepted schedule within five (5) calendar days after the date of the joint review.

END OF SECTION

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General project coordination procedures.
 - 2. Administrative and supervisory personnel.
 - 3. Project meetings.
 - 4. Coordination drawings.

1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different sections, that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's Construction Schedule.
2. Preparation of the Schedule of Values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.

1.4 SUBMITTALS

- A. Staff Names: Within 15 days of Notice to Proceed, submit a list of principal staff assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities, list address and telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1.5 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within **3** days of the meeting.
- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than **15** days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments. Contractor shall provide Schedule of Values, list of Subcontractors and Material Suppliers, and Construction Schedule at this time.
 1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
- D. Progress Meetings: Conduct progress meetings at intervals determined at preconstruction conference. Coordinate dates of meetings with preparation of payment requests.
1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Review items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 3. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present. Include a summary, in narrative form, of progress since the previous meeting and report.
 - a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 014000 - TESTING LABORATORY SERVICES

PART ONE - GENERAL

1.01 DESCRIPTION:

- A. An independent Testing Laboratory will be provided by the Owner or his representative to inspect and test the materials and methods of construction as hereinafter specified for compliance with the specification requirements of the Contract Documents and to perform such other specialized technical services as may be required by the Owner or his representative.
- B. The Owner will pay for the initial laboratory services for testing of materials for compliance with the requirements of the Contract Documents. The Contractor will pay for testing and re-testing of materials that do not comply with the requirements of the Contract Documents.
- C. Tests and Inspections shall be conducted in accordance with specified requirements, and if not specified, in accordance with the applicable standards of the American Society for Testing and Materials (ASTM) or other recognized and accepted authorities in the field.

1.02 QUALIFICATION OF LABORATORY:

- A. The Testing Laboratory selected should meet the basic requirements of ASTM E329 "Standard of Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction", shall be inspected and approved by the ELF, FC & PA Joint Technical Committee, Inc. or by an equivalent recognized national authority and shall submit to the Owner, Architect, and the Engineer, a copy of the report of inspection of their facilities.
- B. The Testing Laboratory selected shall meet "Recommended Requirements for Independent Laboratory Qualification", latest edition, as published by the "American Council of Independent Laboratory Qualification".
- C. Testing machines shall be calibrated at intervals not exceeding 12 months by devices of accuracy traceable to the National Bureau of Standards or accepted values of natural physical constants. The testing laboratory shall submit a copy of certificate of calibration made by an accredited calibration agency.
- D. The Testing Laboratory is only required to have testing facilities for work included in this project.
- E. The agent of the Testing Laboratory performing field sampling and field testing of concrete shall be certified by the American Concrete Institute as a Concrete Field-Testing Technician – Grade 1, or by an equivalent recognized national authority for an equivalent level of competence or shall be a Licensed Professional Engineer.

1.03 AUTHORITIES AND DUTIES OF THE LABORATORY:

- A. The Testing Laboratory shall obtain and review the project plans and specifications with the Architect and Engineer six (6) weeks prior to the start of construction. The Laboratory shall attend pre-construction conferences with the Architect, Engineer, Project Manager, General Contractor, and Material Suppliers, to coordinate materials inspection and testing requirements with the planned construction schedule. The Laboratory will participate in such conferences throughout the course of the project.
- B. The Testing Laboratory shall be responsible for outlining a written detailed testing program conforming to the requirements as specified in the Contract Documents and in consultation with the Owner, Architect, and Engineer. The testing program shall contain an outline of inspections and tests to be performed with reference to applicable sections of the specifications or drawings and a list of personnel assigned to each portion of the work. Such testing program shall be submitted to the Owner, Architect, and Engineer five (5) weeks in advance of the start of construction so as not to delay the start of construction. It shall be the Testing Laboratory's responsibility that such program conforms to the requirements of the Specifications and falls within the Owner's budget for testing laboratory services. If the allocated budget is not sufficient to cover the services as outlined in the Specifications, it shall be the responsibility of the Laboratory to notify the Architect, Engineer, and Owner, so the start of Laboratory services can be modified accordingly prior to the start of construction. Furthermore, the Testing Laboratory shall monitor its expenditures throughout the course of the job and notify immediately the Owner, Architect and Engineer, of any significant deviation from the planned testing program and budget.
- C. The Laboratory shall cooperate with the Architect, Engineer, and Contractor, and provide qualified personnel promptly on notice.
- D. The Laboratory shall perform the required inspections, sampling, and testing of materials as specified under each section and observe methods of construction for compliance with the requirements of the Contract Documents.
- E. The Laboratory shall notify the Architect and contractor first by telephone, and then in writing, of observed irregularities and deficiencies of the work and other conditions not in compliance with the requirements of the Contract Documents.
- F. The Laboratory shall submit copies of all reports of inspections and test promptly and directly to the parties named below. All reports shall contain at least the following information:
 - 1. Project Name
 - 2. Date report issued.
 - 3. Testing Laboratory name and address.
 - 4. Name and signature of inspector.
 - 5. Date of inspection and sampling.
 - 6. Date of Test.
 - 7. Identification of product and Specification section.
 - 8. Location in the project.
 - 9. Identification of inspection or test.
 - 10. Record of weather conditions and temperature (if applicable).
 - 11. Results of test regarding compliance with Contract Documents.

- G. The Laboratory shall send certified copies of test and inspection reports to the following parties:
 - 1. Two (2) copies to the Owner or his representative.
 - 2. Two (2) copies to the General Contractor.
 - 3. One (1) copy to the Architect.
 - 4. One (1) copy to the Engineer of responsibility
 - 5. One copy to the Supplier of the material tested.
- H. Upon completion of the job, the Testing Laboratory shall furnish to the Owner, Architect, and Engineer of responsibility, a statement certified by a Notary Public that all required tests and inspections were made in accordance with the requirements of the Contract Documents.
- I. The Testing Laboratory is not authorized to revoke, alter, relax, enlarge upon, or release any requirements of the Specifications or to approve or accept any portion of the work or to perform any duties of the General Contractor and his Subcontractors.

1.04 CONTRACTOR'S RESPONSIBILITY:

- A. The Contractor shall cooperate with Laboratory personnel, provide access to the work, and to manufacturer's operations.
- B. The Contractor shall provide to the Laboratory representative, samples of materials proposed for use in the work in quantities sufficient for accurate testing as specified.
- C. The Contractor shall furnish casual labor, equipment, and facilities as required for sampling and testing by the Laboratory and otherwise facilitate all required inspections and tests.
- D. The Contractor shall be responsible for notifying Owner's representative who will then contact the Testing Laboratory sufficiently in advance of operations to allow for assignment of personnel and scheduling of tests.
- E. The Contractor shall arrange with the Testing Laboratory and pay for any additional samples and tests above those required by the Contract Documents as requested by the Contractor for his convenience in performing the work.
- F. The Contractor shall pay for any additional inspections, sampling, testing, and re-testing as required when initial tests indicate work does not comply with the requirements of the Contract Documents.
- G. The Contractor shall furnish and pay for the following items:
 - 1. Soil survey of the location of borrow soil materials, samples of existing soil materials, and delivery to the Testing Laboratory.
 - 2. Samples of concrete aggregates and delivery to the Testing Laboratory.
 - 3. Concrete Coring, tests of below-strength concrete, and load tests, if ordered by the Owner, Architect, and/or Engineer.
 - 4. Certification of Portland cement.

5. Tests, samples, and mock-ups of substitute material where the substitution is requested by the Contractor, and the tests are necessary in the opinion of the Owner, Architect, or Engineer to establish equality with specified items.
 6. Any other tests when such costs are required by the Contract Documents to be paid by the Contractor.
- H. The Contractor shall be responsible for notifying the Owner, the Architect, the Engineer, and the Testing Laboratory when the source of any material is changed after the original tests or inspections have been made.
- I. If in the opinion of the Owner, Architect or Engineer, any of the work of the contractor is not satisfactory, the Contractor shall make all tests that the Owner, Architect, or Engineer deem advisable to determine its proper construction. The Owner shall pay all costs if the tests prove the questioned work to be satisfactory.

1.05 EXTENT OF SERVICES FOR EARTHWORK:

- A. Moisture Density Relationship for Natural and Fill Materials:
1. The Testing Laboratory will provide one (1) optimum moisture density curve for each type of soil, natural, imported fill, or on-site fill, encountered in subgrade and fills under building slabs and paved areas. Curves shall be generated in accordance with ASTM D698.
- B. Quality Control Testing Required During Construction:
1. The Testing Laboratory shall inspect and approve the following subgrades and fill layers before further construction work is performed there on:
 - a. Paved Area Subgrade: Make at least one (1) field density test of the natural density test of the natural subgrade for every 2,500 square feet of paved area or building slab, but in no case less than three (3) tests. In each compacted fill layer, make one (1) field density test for every 2,500 square of building slab on paved area, but in no case less than three (3) tests.
 2. Field Density Test shall be run according to ASTM D1556 (Density of Soil in Place by the Sand Cone Method), ASTM D2167 (Density of Soil in Place by the Rubber Balloon Method) or ASTM D2922 (Density of Soil and Soil Aggregate in Place by Nuclear Methods) as applicable.
 3. The results of field density tests by the Testing Laboratory will not be considered satisfactory unless their value meet the required density.
 4. The Testing Laboratory shall submit all moisture density curves and results of field density tests to the parties listed under Section 1.03G.
 5. If reports by the Testing Laboratory indicate field densities lower than specified above, additional tests will be run by the Testing Laboratory with at least the frequencies scheduled above on re-compacted fill and/or natural subgrade. The Testing Laboratory shall notify the Contractor on a timely basis for any required re-testing so as not to delay the work. The costs of such tests shall be borne by the Contractor.
 6. The Geotechnical Engineer shall provide inspection service of each dug footing subgrade prior to pouring foundation concrete. Such inspection shall verify that field conditions are consistent with soil report test results and that the foundation is being installed in the proper soil strata at the proper elevation.

The Geotechnical Engineer shall submit written field inspection reports promptly after inspection to all parties listed in 1.3 G and report his findings after each inspection by telephone to the Structural Engineer.

1.06 EXTENT OF SERVICE FOR CONCRETE MATERIALS AND POURED IN-PLACE CONCRETE;

A. Concrete Test Cylinders:

1. Cylinders for strength tests shall be molded and laboratory cured in accordance with ASTM C31 "Method of Making and Curing Concrete Test Cylinders in the Field" and tested in accordance with ASTM C39 "Method of Testing for Compressive Strength of Cylindrical Concrete Specimens".
2. Field samples for strength tests shall be taken in accordance with ASTM C172 "Method of Sampling Fresh Concrete".
3. Frequency of Testing: Each set of test cylinders shall consist of a minimum of four (4) standard test cylinders. A set of test cylinders shall be made according to the following frequency:
 - a. One (1) set for each class of concrete taken not less than once a day.
 - b. For all other concrete, a minimum of one (1) set for each 100 cubic yards or fraction thereof.
 - c. No more than one (1) set of cylinders at a time shall be made from any single truck.
 - d. If the total volume of concrete is such that the frequency of testing as specified above would provide less than five (5) strength tests for a given class of concrete, tests shall be made from at least five (5) randomly selected batches or from each batch if fewer than five batches are used.
 - e. The above frequencies assume that one (1) batch plant will be used for each pour. If more than one (1) batch plant is used, the frequencies cited above shall apply for each plant used.

The cylinders shall be numbered, dated, and the point of concrete placement in the building recorded. Of the four (4) cylinders per set, break one at seven days, two at 28 days, and one automatically at 56 days if either 28-day cylinder break is below required strength. One (1) additional cylinder per set will be required for formed slab and pan joist floors for the purpose of evaluating the concrete strength at the time of form stripping.

The cylinder shall be stored on the floor where form removal is to occur under the same exposure conditions as the floor concrete.

This cylinder shall be cured under field conditions in accordance with ASTM C31 "Method of Making and Curing Concrete Test Specimen in the Field". Field cured test cylinders shall be molded at the same time and from the same samples as laboratory cured test specimens. This cylinder shall be broken at the time of form removal as directed by the Contractor.

4. For concrete with design strength in excess of 5,000 PSI, the Contractor shall be responsible for providing a temperature controlled and protected concrete cylinder storage box at a point on the job site mutually agreeable with the Testing Laboratory for the purpose of storing concrete cylinders until they are transported to the Laboratory.
 5. The Testing Laboratory shall be responsible for transporting the cylinders to the Laboratory in a protected environment such that no damage or ill effect will occur to the concrete cylinders.
 6. The Testing Laboratory shall make and distribute concrete test reports after each job cylinder is broken. Such reports shall contain the following information:
 - a. Truck number and ticket number.
 - b. Concrete Batch Plant
 - c. Mix design number.
 - d. Accurate location of pour in the structure.
 - e. Strength requirement.
 - f. Date cylinders made and broken.
 - g. Technician making cylinders.
 - h. Concrete temperature at placing.
 - i. Air temperature at point of placement in the structure.
 - j. Amount of water added to the truck at the batch plant and at the site.
 - k. Slump
 - l. Unit weight.
 - m. Air Content
 - n. Cylinder compressive strengths with type of failure if concrete does not meet Specification requirements. Seven (7) day breaks are not to be flagged if they are less than 70% of the required 28-day strength. 28-day breaks are to be flagged if either cylinder fails to meet Specification requirements.
- B. Other Tests of Concrete Required by the Testing Laboratory:
1. Slump tests (ASTM C143) shall be made at the beginning of concrete placement for each batch plant and for each set of test cylinders made.
 2. Air entrainment (ASTM C233) tests shall be made at the same time slump tests are made as cited above.
 3. Concrete Temperature at placement at the same time slump tests are made as cited above.
- B. Evaluation and Acceptance of Concrete:
1. A strength test shall be defined as the average strength of two (2) 28-day cylinder breaks from each set of cylinders.
 2. The strength level of an individual class of concrete shall be considered satisfactory if both of the following requirements are met:
 - a. The average of all sets of three (3) consecutive strength tests equal or exceed the required concrete strength.
 - b. No individual strength tests (average of two (2) 28-day cylinder breaks) fall below the required strength by more than 500 PSI.
 - c. If either of the above requirements is not met, the Testing Laboratory shall immediately notify the Engineer by telephone. Steps shall immediately be taken to increase the average of subsequent strength tests.

D. Investigation of Low Strength Concrete Test Results:

1. If any strength test of laboratory cured cylinders fall below the required strength by more than 500 PSI, the Contractor shall take steps immediately to assure that the load carrying capacity of the structure is not jeopardized.
2. The Testing Laboratory shall, under the direction of the Engineer, perform non-destructive field test of the concrete in question using Swiss Hammer, Windsor Probe, or other appropriate methods and report the results the same as for cylinder test reports.
3. If the likelihood of low strength concrete is confirmed and computations indicate that the load carrying capacity of the structure has been significantly reduced, tests of cores drilled from the area in question under the direction of the Engineer will be required in accordance with ASTM C42 (Method of Obtaining and Testing Drilled Cores and Saws Beams of Concrete). In such case, three (3) cores shall be taken for each strength test more than 500 PSI below required PSI. If concrete in the structure will be dry under service conditions, cores shall be air dried (temperature 60 degrees to 80 degrees, relatively humidity less than 60 percent) for seven (7) days before test and shall be tested dry. If concrete in the structure will be more than superficially wet under service conditions, cores shall be immersed in water for at least 48 hours and tested wet. The Contractor shall fill all holes made by drilling cores with an approved dry-pack concrete.
4. Concrete in an area represented by core test shall be considered structurally adequate if the average of three (3) cores is equal to at least 85% of PSI and if no single core is less than 75% of PSI. To check testing accuracy, locations of erratic core strengths may be re-tested.
5. If the above criteria are not met, and the structure adequacy remains in doubt, the Engineer may order a load test, as specified in ACI 318 for the questionable portion of the structure.
6. If the structural adequacy of the affected portion of the structure remains in doubt, the Engineer may order the structure to be strengthened by an appropriate means or torn down and re-built.
7. The costs of all investigations of low strength concrete shall be borne by the Contractor.

E. Job Site Inspection by the Testing Laboratory: The scope of the work to be performed by the inspector on the job site shall be as follows:

1. Verify that air temperatures at the point of placement in the structure are within acceptable limits defined in Section J prior to ordering of concrete by the Contractor.
2. Inspect concrete upon arrival to verify that the proper concrete mix number, type of concrete, and concrete strength is being placed at the proper location.
3. Inspect plastic concrete upon arrival at the job site to verify proper batching. The responsibility for adding water to trucks at the job site shall rest only with a duly appointed representative mutually agreeable to the Contractor, Owner, and Engineer, prior to the start of any concrete operations.
4. Obtain concrete test cylinders as specified in Sections D.1 and D.2.
5. Perform slump tests and air entrainment tests as specified in Section D.6.
6. Record information for concrete test reports as specified in Section D.6

7. Verify that all concrete being placed meets job Specifications. Reject concrete not meeting the requirements of Section K and immediately notify the Contractor, Batch Plant Inspector, Architect, Engineer, and Owner.
8. Pick up and transport to Laboratory, cylinders cast the previous day.
9. Check concrete placing techniques to determine that concrete deposited is uniform and that vertical drop does not exceed six feet.
10. The job site inspector shall report any irregularities that occur in the concrete at the job site or test results to the Contractor, Architect, Owner, and Engineer.

F. Causes for Rejection of Concrete Delivered to the Site:

A duly appointed representative agreeable to the Architect, Owner, and Engineer, shall reject all concrete delivered to the site for any of the following reasons:

1. Wrong class of concrete (incorrect mix design number).
2. Air Temperature: Air temperature limits shall be as follows:
 - a. Cold Weather: Air temperature must be 40°F. and rising.
 - b. Hot Weather: Air temperature must be cooler than 100°F.
Concrete may be placed at other air temperature ranges only with approval to the duly appointed representative.
3. Concrete with temperatures exceeding 95° F. may not be placed in the structure without approval of the job inspector for the Testing Laboratory or other duly appointed representative.
4. Air contents outside the limits specified in the mix designs.
5. Slumps outside the limits specified in Section C.6 or the mix designs.
6. Excessive Age: Concrete shall be discharged within 90 minutes of plant departure or before it begins to set if sooner than 90 minutes unless approved by the Laboratory job inspector or other duly appointed representative.

END OF SECTION

SECTION 016300 - SUBSTITUTIONS

PART ONE - GENERAL

1.01 REQUIREMENTS INCLUDED: Substitutions for products specified shall be allowed only under the conditions stated in this section.

1.02 SUBSTITUTIONS/PRIOR APPROVALS:

- A. If it is desired to use products different from those indicated in the Contract Documents, the party requesting the substitution shall make written application as described herein. The burden of proving equality of proposed substitutions rests on the party making the request for substitution.

Requests for substitution shall reach the Architect not less than seven (7) working days prior to the date for opening of bids. Requests received by the Architect after this date will not be considered.

1.03 SUBMITTALS:

- A. Submit a separate request for each substitution. Support each request with:
1. Date of request.
 2. Name of party proposing substitution.
 3. Project name.
 4. Specification reference.
 5. Complete data substantiating compliance of proposed substitution with requirements stated in Contract Documents:
 - a. Product identification, including manufacturer's name and address.
 - b. Manufacturer's literature, identify:
 - (1) Product description.
 - (2) Reference standards.
 - (3) Performance and test data.
 - (4) Manufacturer's recommendations for use and installation.
 - c. Samples, as applicable.
 - d. Name and address of similar projects on which product has been used, and date of each installation.
 6. Itemized comparison of the proposed substitution with product specified, list all variations.
 7. Data relating to changes in construction schedule.
 8. Any effect of substitution on separate contracts.
 9. List of changes required in other work or products.
 10. Designation of required license fees or royalties.
 11. Designation of availability of maintenance services, sources of replacement materials.
- B. If a proposed substitution is approved by the Architect, an addendum will be issued to prospective bidders not less than three (3) days prior to the date set for opening bids. If a substitution does not appear in an addendum it shall mean that the Architect has not approved the product and the successful bidder shall be responsible for furnishing materials and products in accordance with the Contract Documents. Following the receipt of bids, no further requests for substitution of products or materials will be considered.

1.04 CONTRACTOR'S REPRESENTATION: In connection with the use of any substitute item approved by the Architect it shall be the General Contractor's responsibility to see that such items meet all space requirements, and that any alterations to connecting items necessitated by use of the alternate items are properly made at no increase in cost to the Owner, and that all items are following the specification requirements. Contractor shall waive all claims for additional costs caused by substitutions which may subsequently become apparent.

END OF SECTION

SECTION 016500 - PROJECT RECORD DOCUMENTS

PART ONE - GENERAL

1.01 REQUIREMENTS INCLUDED:

- A. Maintain at Project Site for Owner, one (1) record copy of:
 - 1. Drawings.
 - 2. Project Manual/Specifications.
 - 3. Addenda.
 - 4. Change Orders and other Modifications to Contract.
 - 5. Field Orders or written instructions.
 - 6. Approved and Approved as Noted Shop Drawings, Product Data and Samples.
 - 7. Field Test Records.
- B. Make Record Documents available to Architect.
- C. Submit final Record Documents with Closeout Documents.

1.02 QUALITY ASSURANCE:

- A. Make entries within twenty-four (24) hours after receipt of information except note dimensional corrections and new dimensional data immediately upon determination.
- B. Do not permit record sets to be used for any other purpose.

1.03 RECORD DOCUMENTS:

- A. Field Record Drawings: One complete set of Drawings upon which all changes to Work are recorded daily with colored pencil to provide accurate, information relative to Work as constructed, both visible and concealed. Entries shall be made online prints provided by Architect with each sheet bearing rubber stamp impression reading "Record Drawings".
 - 1. Identify entry by "cloud" type circle around affected Work. Initial and date each entry.
 - 2. Record the following:
 - a. Horizontal location and elevation of underground portions of Work.
 - b. Changes and corrections to dimensions.
 - c. Changes to materials, products, equipment and finishes.
 - d. Changes and deviations in Work from that indicated in Contract Documents.

- B. Field Record Specifications: One complete set of Project Manual/Specifications within which changes to materials, products, equipment, and systems are recorded; also, note which specified manufacturer was used. Make corrections with colored pencil and mark the Manual "Record Specifications" on outside back binding.

END OF SECTION

SECTION 015639 - TEMPORARY TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

1.2 DEFINITIONS

- A. Protection Zone: Area surrounding individual trees, groups of trees to be protected during construction as indicated on Drawings.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: protection-zone fencing
- C. Tree Pruning Schedule: Written schedule detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.
- D. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
- E. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.
- F. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.

1.4 QUALITY ASSURANCE

- A. Arborist Qualifications: Certified Arborist as certified by ISA, licensed arborist in jurisdiction where Project is located, current member of ASCA, or registered Consulting Arborist as designated by ASCA.
- B. Pre-installation Conference: Conduct conference at Project site. Coordinate with all appropriate parties.

1.5 PROJECT CONDITIONS

A. The following practices are prohibited within protection zones:

Storage of construction materials, debris, or excavated material.

Parking vehicles or equipment.

Foot traffic.

Erection of sheds or structures.

Impoundment of water.

Excavation or other digging unless otherwise indicated.

7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

B. Do not direct vehicle or equipment exhaust toward protection zones.

C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Topsoil: Natural or cultivated top layer of the soil profile or manufactured topsoil; containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 1 inch (25 mm) in diameter; and free of weeds, roots, and toxic and other non-soil materials.

B. Organic Mulch: Shredded hardwood free from deleterious materials.

C. Chain-Link Fencing:

1. Chain-Link Protection-Zone Fencing: Galvanized-steel fencing fabricated from minimum 2-inch (50-mm) opening, 0.148-inch- (3.76-mm-) diameter wire chain-link fabric; with pipe posts, minimum 2-3/8-inch- (60-mm-) OD line posts, and 2-7/8-inch- (73-mm-) OD corner and pull posts; with 1-5/8-inch- (42-mm-) OD top rails and 0.177-inch- (4.5-mm-) diameter bottom tension wire; with tie wires, hog ring ties, and other accessories for a complete fence system.
2. Height of Fencing: 6 feet (1.8 m)
3. Gates: Swing access gates matching material and appearance of fencing, to allow for maintenance activities within protection zones.

D. Protection-Zone Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes pre-punched and reinforced; legibly printed with non-fading lettering.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.
- C. Protection Zones: Mulch areas inside protection zones and other areas indicated with 4-inch (100-mm) average thickness of organic mulch. Do not place mulch within 1' of tree trunks.

3.2 PROTECTION ZONES

- A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones in a manner that will prevent people from easily entering protected area except by entrance gates.
 - 1. Chain-Link Fencing: Install to comply with ASTM F 567 and with manufacturer's written instructions.
 - 2. Posts: Set without concrete footings per plan details.
- B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by Architect.
- C. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Landscape Architect.
- D. Maintain protection-zone fencing and signage in good condition as acceptable to Landscape Architect and remove when construction operations are completed, and equipment has been removed from the site.

3.3 EXCAVATION

- A. Trenching near Trees: Where utility trenches are required within protection zones, hand excavate under or around tree roots or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning.
- B. Do not allow exposed roots to dry out before placing permanent backfill.

3.4 ROOT PRUNING

- A. Prune roots that are affected by temporary and permanent construction. Prune roots as follows:
 - 1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
 - 2. Temporarily support and protect roots from damage until they are permanently covered with soil.
 - 3. Cover exposed roots with burlap and water regularly.
 - 4. Backfill as soon as possible according to requirements in Division 31 Section "Earth Moving."
- B. Root Pruning at Edge of Protection Zone: Prune roots by cleanly cutting all roots to the depth of the required excavation.
- C. Root Pruning within Protection Zone: Clear and excavate by hand to the depth of the required excavation to minimize damage to root systems. Use narrow-fine spading forks, comb soil to expose roots, and cleanly cut roots as close to excavation as possible.

3.5 CROWN PRUNING

- A. Prune branches that are affected by temporary and permanent construction. Prune branches as follows:
 - 1. Prune trees to remain to compensate for root loss caused by damaging or cutting root system. Provide subsequent maintenance during Contract period as recommended by arborist.
 - 2. Pruning Standards: Prune trees according to ANSI A300 (Part 1)
 - 3. Cut branches with sharp pruning instruments; do not break or chop.
 - 4. Do not apply pruning paint to wounds.
- B. Chip removed branches and spread over areas identified by campus arborist and owner's agent.

3.6 REGRADING

- A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- B. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- C. Minor Fill within Protection Zone: Where existing grade is 2 inches (50 mm) or less below elevation of finish grade, fill with topsoil. Place topsoil in a single un-compacted layer and hand grade to required finish elevations.

3.7 FIELD QUALITY CONTROL

- A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

3.8 REPAIR AND REPLACEMENT

- A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Landscape Architect.
 - 1. Have arborist perform the root cutting, branch pruning, and damage repair of trees and shrubs.
 - 2. Treat damaged trunks, limbs, and roots according to arborist's written instructions.
 - 3. Perform repairs within 24 hours.
 - 4. Replace vegetation that cannot be repaired and restored to full-growth status, as determined by Landscape Architect.

3.9 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove excess excavated material, displaced trees, trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 015639

SECTION 022000 - SITE PREPARATION AND RESTORATION

PART ONE - GENERAL

1.1 DESCRIPTION

- A. This section includes all materials, labor, tools, etc., necessary for the removal and relocation or disposal of site improvements as required for the new work and as indicated on the drawings. At completion of the project, restoration of remaining site items damaged by the work to original conditions.
- B. The CONTRACTOR'S attention is directed to any Soil Erosion and Sediment Control Ordinances in force in the Parish. The CONTRACTOR shall comply with all applicable sections of these ordinances.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General, Supplementary and Special Conditions of the Contract and Division 1 Specification Sections, apply to this Section.

1.3 SECTION REQUIREMENTS

- A. Inspection of site: Carefully examine the premises to determine the extent of work and the conditions under which it must be done. No extra payments will be allowed for claims for additional work that could have been determined or anticipated by such inspection.
- B. Protections:
 - Existing work – Take necessary precautions to protect existing areas of compacted fill, etc., that are to remain on this or adjacent sites from any sort of damage due to these operations.
 - Utilities – Support and protect any existing active sewers, water, gas, electric, telephone and similar utilities from damage due to these operations.
 - Removal of protections – Temporary protections shall be removed at completion of the project.
 - Responsibility for repair of damage – If, for any reason, damage to existing work or utilities is unavoidable, submit written notification of this before signing the Contract. In the absence of such notification, the Contractor assumes full responsibility for damage and the cost of satisfactorily repairing or replacing the damaged work.

1.4 REMOVALS

- A. Paving, walks, curbs, site improvements: Where shown to be removed or required to be removed by new construction, removal shall be to earth.

1.5 CLEARING AND STRIPPING

- A. Obstructions: Submit prompt notification of any existing obstruction, not specifically shown or specified to be removed, that will interfere with construction operations.

1.6 SITE AND WORK DESCRIPTION

- A. Any trees removed shall be properly disposed of by the CONTRACTOR. Burning of trees will not be permitted. CONTRACTOR is to clear and grub only minimum areas, removing and disposing of trees and stumps.
- B. CONTRACTOR shall not impede natural drainage patterns. Any areas overfilled by the CONTRACTOR or with drainage patterns impeded by the CONTRACTOR'S work shall be graded and repaired by the CONTRACTOR. CONTRACTOR shall perform this repair work immediately after being instructed by the ENGINEER.
- C. CONTRACTOR shall not remove or damage any trees on private properties adjacent to the work site. CONTRACTOR is to backfill all holes and to fill, compact and grade the work area.

1.7 RESTORATION

- A. Original Condition Record: At start of work contractor shall submit photographs and a narrative of all found defects in site improvements shown to remain, to record damage and/or defects not attributable to the work. All unrecorded damage and/or defects found in such work at completion shall be restored as specified following, with matching work of like kind to conditions originally found, and as otherwise additionally shown.
- B. Earth Work: Rough grade all areas disturbed by the work beyond the boundaries of contract improvements to their original contours in accordance with Spec. Earthwork. Restore topsoil, fine grade and sprig and strip sod with matching grass and fertilize and maintain to final completion all such lawn areas in accordance with Spec. Landscape or acceptable practice. Leave all new lawns and existing lawns within the construction site and along its boundaries mowed to match owners' practice at Substantial Completion.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 CLEARING

- A. The surface of the ground, for the area to be cleared and grubbed, (if applicable) shall be completely cleared of all trees, timber, brush, stumps, roots, grass, weeds, rubbish, and all other objectionable obstructions resting on or protruding through the surface of the ground. However, those trees which are designated by the ENGINEER shall be preserved as hereinafter specified. Clearing operations shall be conducted to prevent damage to existing structures and installations, and to those under construction, so as to provide for the safety of employees and others.

3.2 GRUBBING

- A. Grubbing shall consist of the complete removal of all stumps, roots larger than 1-1/2 inches in diameter, matted roots, brush, timber, logs, and any other organic or metallic debris not suitable for foundation purposes, resting on, under, or protruding through the surface of the ground to a depth of eighteen (18) inches below the subgrade. All depressions excavated below the original ground surface for or by the removal of such objects, shall be refilled with suitable materials and compacted to a density conforming to the surrounding ground surface.

3.3 STRIPPING

- A. In areas so designated, topsoil shall be stockpiled. Topsoil so stockpiled shall be protected until it is placed as specified. Any topsoil remaining after all work is in place shall be stockpiled and/or spread on-site at a location designated by the Owner.

3.4 DISPOSAL OF CLEARED AND GRUBBED MATERIAL

- A. The CONTRACTOR shall dispose of all material and debris from the clearing and grubbing operation by hauling such material and debris off site. The cost of disposal (including hauling) of cleared and grubbed material and debris shall be considered a subsidiary obligation of the CONTRACTOR; the cost of which shall be included in the contract prices for the various classes of work.

3.5 PRESERVATION OF DEVELOPED PRIVATE PROPERTY

- A. Trees, shrubbery, gardens, lawns, and other landscaping, which in the opinion of the ENGINEER must be removed, shall be replaced, and replanted to restore the construction site to the condition existing prior to construction.
- B. Improvements to the land, such as fences, walls, outbuildings, and other structures which of necessity must be removed, shall be replaced with equal quality materials and workmanship.
- C. The CONTRACTOR shall clean up the construction site directly after construction is completed, upon approval of the ENGINEER.

END OF SECTION 022000

SECTION 022100 - GRADING

PART ONE - GENERAL

1.1 DESCRIPTION

- A. This section includes all grading work required for the construction of the facilities shown on the Drawings within the project area. Grading operations shall include rough and finish grading as indicated on the Drawings to provide adequate drainage for the project area.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 GRADING

- A. Site shall be graded to meet existing contours of the construction site so as to provide positive drainage into existing catch basins or other drainage structures.

END OF SECTION 022100

SECTION 024100 – SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. Selective demolition of building elements for alteration purposes.

1.2 RELATED REQUIREMENTS

- A. Section 01 10 00 – Summary: Limitations on Contractor's use of site and premises.
- B. Section 01 10 00 – Summary: Description of items to be salvaged or removed for re-use by Contractor.
- C. Section 01 50 00 – Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- D. Section 01 60 00 – Product Requirements: Handling and storage of items removed for salvage and relocation.
- E. Section 01 73 00 – Execution and Closeout Requirements: Project conditions; protection of benchmarks; survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

1.3 REFERENCES STANDARDS

- A. 29 CFR 1926 – U.S. Occupational Safety and Health Standards; current edition.
- B. NFPA 241 – Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 SCOPE

- A. Remove other items indicated, for salvage, relocation, and recycling.
- B. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as required so that required rough grade elevations do not subside within one year after completion.

3.2 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 - 3. Provide, erect, and maintain temporary barriers and security devices.
 - 4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 - 5. Do not close or obstruct roadways or sidewalks without permit.
 - 6. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
 - 7. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- B. Do not begin removal until receipt of notification to proceed from Owner.
- C. Protect existing structures and other elements that are not to be removed.
 - 1. Provide bracing and shoring.
 - 2. Prevent movement or settlement of adjacent structures.
 - 3. Stop work immediately if adjacent structures appear to be in danger.

3.3 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record document only.
 - 1. Verify that construction and utility arrangements are as shown.
 - 2. Report discrepancies to Engineer before disturbing existing installation.
 - 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove items indicated on drawings.
- C. Services (including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
 - 2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in services until new systems are complete and ready for service.
 - 3. Verify that abandoned services serve only abandoned facilities before removal.
 - 4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.

- D. Protect existing work to remain.
 - 1. Prevent movement of structure; provide shoring and bracing if necessary.
 - 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
 - 4. Patch as specified for patching new work.

3.4 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION 024100

SECTION 029990 – MISCELLANEOUS WORK AND CLEANUP

PART ONE - GENERAL

1.1 SCOPE OF WORK

- A. This section includes operations which cannot be specified in detail as separate items but can be sufficiently described as to the kind and extent of work involved. The CONTRACTOR shall furnish all labor, materials, equipment, and incidentals to complete the work under this section.
- B. The work of the section includes, but is not limited to, the following:
 - 1. Restoring of fences
 - 2. Crossing utilities
 - 3. Restoring easements (servitudes) and rights-of-way
 - 4. Cleaning up
 - 5. Incidental

1.2 WORK SPECIFIED UNDER OTHER SECTIONS

- A. All work shall be completed in a workmanlike manner by competent workmen in full compliance with all applicable sections of these specifications.

PART TWO - PRODUCTS

2.1 MATERIALS

- A. Materials required for this section shall be of at least the same type and quality as materials which are to be restored. Where possible, the CONTRACTOR shall reuse existing materials which are removed and then replaced, except for paving.

PART THREE - EXECUTION

3.1 RESTORING OF FENCES AND GUARDRAILS

- A. At several locations it may be necessary for the CONTRACTOR to remove, store, and replace existing fences during construction. Only the section directed by the ENGINEER shall be removed. If any section of fence is damaged due to the CONTRACTOR'S negligence, it shall be replaced with fencing equal to or better than that damage at no cost to the OWNER, and the work shall be satisfactory to the ENGINEER.

3.2 CROSSING UTILITIES

- A. This item shall include any extra work required in crossing culverts, water courses, drains, water mains, and other utilities, including all sheeting and bracing, extra excavation and backfill, or any other work required for the crossing, whether shown on the drawings.

3.3 CROSSING OR WORKING AJACENT TO EXISTING GAS LINES, TELEPHONE LINES, ELECTRIC LINES, AND CABLE TV LINES

- A. The CONTRACTOR shall notify the proper authority of the utility involved when work adjacent to these lines is required. The CONTRACTOR shall coordinate all work by the utility so that the progress of construction will not be hampered. CONTRACTOR is to notify the utility company at least forty-eight (48) hours in advance.

3.4 RESTORING THE EASEMENTS (SERVITUDE) AND RIGHTS-OF-WAY

- A. Existing lawn surfaces damaged by construction shall be regraded and resodded. These areas shall be maintained until all work under this contract has been completed and accepted.

3.5 CLEANING UP

- A. The CONTRACTOR shall remove all construction material, excess excavation, buildings, equipment, and other debris remaining on the job as a result of construction operations and shall render the site of the work in a neat and orderly condition.

3.6 INCIDENTAL WORK

- A. Do all incidental work not otherwise specified, but obviously necessary, for the proper completion of the contract as specified and as shown on the drawings.

END OF SECTION 029990

SECTION 033053 - MISCELLANEOUS CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes cast-in-place concrete, including reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Design Mixtures: For each concrete mixture.

1.3 QUALITY ASSURANCE

- A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

- A. Comply with ACI 301 (ACI 301M).

2.2 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
- B. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, plain, fabricated from as-drawn steel wire into flat sheets.

2.3 CONCRETE MATERIALS

- A. Cementitious Materials:
 - 1. Portland Cement: ASTM C 150/C 150M.
 - 2. Fly Ash: ASTM C 618, Class C or F.
- B. Normal-Weight Aggregate: ASTM C 33/C 33M, 1-1/2-inch (38-mm) nominal maximum aggregate size.

- C. Air-Entraining Admixture: ASTM C 260/C 260M.
- D. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 1. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
- E. Water: ASTM C 94/C 94M.

2.4 RELATED MATERIALS

- A. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.

2.5 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.
- B. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth or cotton mats.
- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.

2.6 CONCRETE MIXTURES

- A. Normal-Weight Concrete:
 - 1. Minimum Compressive Strength: 3500 psi at 28 days.
 - 2. Cementitious Materials: Use fly ash, pozzolan, slag cement, and silica fume as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than 40 percent.
 - 3. Slump Limit: 4 inches, plus or minus 1 inch.
 - 4. Air Content: Maintain within range permitted by ACI 301. Do not allow air content of trowel-finished floor slabs to exceed 3 percent.

2.7 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and ASTM C 1116/C 1116 and furnish batch ticket information.
 - 1. When air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK INSTALLATION

- A. Design, construct, erect, brace, and maintain formwork according to ACI 301.

3.2 EMBEDDED ITEM INSTALLATION

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 STEEL REINFORCEMENT INSTALLATION

- A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

3.4 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness, as follows:
- C. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
 - 1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.

3.5 CONCRETE PLACEMENT

- A. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
- B. Consolidate concrete with mechanical vibrating equipment according to ACI 301.

3.6 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections exceeding 1/2 inch.
 - 1. Apply to concrete surfaces not exposed to public view.

- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Remove fins and other projections exceeding 1/8 inch.
 - 1. Apply to concrete surfaces exposed to public view and to receive a rubbed finish.
- C. Rubbed Finish: Apply the following rubbed finish, defined in ACI 301, to smooth-formed-finished as-cast concrete where indicated:
 - 1. Smooth-rubbed finish.
- D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.7 FINISHING UNFORMED SURFACES

- A. General: Comply with ACI 302.1R for screeding, re-straightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Screed surfaces with a straightedge and strike off. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane before excess moisture or bleedwater appears on surface.
 - 1. Do not further disturb surfaces before starting finishing operations.
- C. Slip-Resistive Broom Finish: Apply a slip-resistive finish to surfaces indicated and to exterior concrete platforms, steps, and ramps. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.

3.8 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with ACI 301 for hot-weather protection during curing.
- B. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

- C. Curing Methods: Cure formed and unformed concrete for at least seven days by one or a combination of the following methods:
 - 1. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.

3.9 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Tests: Perform according to ACI 301.
 - 1. Testing Frequency: Obtain at least one composite sample for each 100-cu. yd. or fraction thereof of each concrete mixture placed each day.

END OF SECTION 033053

SECTION 129300 - SITE FURNISHINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - Picnic Table.
 - Internal Halyard Flagpole.
 - Decorative Bollard.
 - Post-Mounted RV Pedestal.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For each exposed finish.
- C. Material Certificates: For site furnishings, signed by manufacturers.
- D. Maintenance Data.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated; free of surface blemishes.
- B. Steel and Iron: Free of surface blemishes.
- C. Anchors, Fasteners, Fittings, and Hardware: Manufacturer's standard, corrosion-resistant-coated or non-corrodible materials; commercial quality, tamperproof, vandal and theft resistant

2.2 PICNIC TABLE

- A. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - 1. LANDSCAPE FORMS 1.800.430.6206 ex 1316
 - 2. alternate manufacturers: MAGLIN FURNITURE 1.800.716.5506
VICTOR STANLEY 1.800.368.2573
- B. Style, Finish, color, and size: as shown on plans or equivalent to that manufacturers specifications.

2.3 INTERNAL HALYARD FLAGPOLE

- A. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - 1. CONCORD AMERICAN FLAGPOLE 1.972.380.8186 ex 3114
 - 2. alternate manufacturers: ACCEPTABLE SUBSTITUTIONS
- B. Style, Finish, color, and size: as shown on plans or equivalent to that manufacturers specifications.

2.4 DECORATIVE BOLLARD

- A. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - 1. RELIANCE FOUNDARY 1.877.789.3245
 - 2. alternate manufacturers: LANDSCAPE FORMS 1.800.430.6206 ex 1316
VICTOR STANLEY 1.800.368.2573

2.5 POST-MOUNTED RV PEDESTAL

- A. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - 1. EATON 1.800.749.7340
 - 2. alternate manufacturers: ACCEPTABLE SUBSTITUTIONS
- B. Style, Finish, color, and size: as shown on plans or equivalent to that manufacturers specifications.

2.6 FABRICATION

- A. Metal Components: Form to required shapes and sizes with true, consistent curves, lines, and angles. Separate metals from dissimilar materials to prevent electrolytic action.
- B. Welded Connections: At exposed connections, finish surfaces smooth and blended so no roughness or unevenness shows after finishing and welded surface matches contours of adjoining surfaces.
- C. Pipes and Tubes: Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of handrail and railing components.
- D. Exposed Surfaces: Polished, sanded, or otherwise finished; all surfaces smooth, free of burrs, barbs, splinters, and sharpness; all edges and ends rolled, rounded, or capped.

- E. Factory Assembly: Assemble components in the factory to greatest extent possible to minimize field assembly. Clearly mark units for assembly in the field.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated.

END OF SECTION 129300

SECTION 260000 – ELECTRICAL SYSTEMS

PART ONE - GENERAL

1.1 DESCRIPTION

- A. These Specifications are intended to provide for labor, materials, equipment, and services and performing all operations required for the complete electrical system as specified herein or shown on the accompanying drawings. Obtain all necessary permits and work orders required and pay for all fees for such permits. Include all such fees in bid.

1.2 GENERAL CONDITIONS

- A. The Instructions to Bidders, General Conditions and Special Supplementary Conditions all contained in the General Specifications, shall be part of this section of the Specifications the same as if attached hereto. The Electrical Contractor is instructed to read and be thoroughly familiar with all provisions of the General Specifications.

1.3 MANUFACTURERS OR TRADE NAMES

- A. The Electrical Contractor shall furnish the items as specified or an equal as listed by addendum. Review of substitutions shall be requested in writing with hard copies sent to electrical consultant and architect. The substitution submittal shall contain specification sheets for all equipment being substituted to indicate equality to product that was specified. No electronic or faxed substitution request will be reviewed. All items shall be new unless specifically noted otherwise.

1.4 PRIOR REVIEW

- A. The Electrical Contractor shall submit six copies of manufacturer's data and descriptive literature and drawings, including complete model numbers, for all equipment and material. This literature shall contain all pertinent information necessary for the Architect to properly evaluate the item. No item of equipment or material shall be placed on order until Final Review is received from the Architect. Unless noted otherwise, all distribution equipment, transformers, fire alarm equipment, wiring devices and lighting fixtures, all as applicable, shall be submitted for review. Requests for review shall comply with the above or will not be considered for review.

1.5 ORDINANCES, RULES AND REGULATIONS

- A. All work shall conform to the requirements of all building codes, the latest edition of the National Electrical Code and laws and ordinances in force in the locality in which the work is to be done. All work and all equipment used shall conform to the requirements of the National Fire Protection Association and Underwriter's Laboratories.
- B. Work called for in these Plans and Specifications shall be executed by competent workmen.
- C. The drawings show approximate locations only of feeders, branch circuits, outlets, etc., except where specific routing or dimensions are indicated. The Architect reserves the right to make reasonable changes in locations

indicated, before roughing-in, without additional cost to the Owner.

1.6 EXISTING CONDITIONS

- A. The Electrical Contractor shall visit the building site to determine existing conditions and will be held responsible for allowing for these conditions in his bid.
- B. Note that this area of work will have storm drainage, mechanical and electrical utilities located underground and within and under the buildings. It is part of this work for the Electrical Contractor to determine the scope and location of all utilities to be installed with this project and arrange his work around others. There will be no extra consideration for work discovered as being hidden after the bid, and no change orders for extra cost that may be caused by unknown after bid conditions.

1.7 GUARANTEE

- A. The Electrical Contractor shall guarantee the work installed by him for one year from the date of final acceptance of the project and shall furnish free of cost to the Owner materials and labor necessary to repair or replace defective items or workmanship. The Electrical Contractor shall guarantee all equipment to be of the quality and capacity specified.

1.8 PROTECTION OF APPARATUS

- A. The Electrical Contractor shall always take precautions necessary to properly protect his apparatus from damage. Failure on the part of the Contractor to comply with the above to the Architect's satisfaction shall be sufficient cause for the rejection of the piece of apparatus in question.

1.9 OPERATING AND MAINTENANCE INSTRUCTIONS

- A. Provide three copies of typewritten systems operating instructions and three copies of operating and maintenance brochures for each piece of equipment including manufacturer's descriptive bulletins with wiring diagrams, parts lists and specific maintenance instructions, warranties and guarantees. Brochures shall be bound in permanent type binders and suitably indexed.
- B. At project completion and before the final observation of the work, provide to the Owner written, oral and hands-on demonstrations of the operation, function, and maintenance of each piece of equipment provided under this contract. Instruction to the Owner should be sufficient for the Owner to completely understand the operation and maintenance for each piece of equipment.

PART TWO – PRODUCTS

2.1 EQUIPMENT LABELS

- A. Panelboards, safety switches, equipment cabinets, motor starters and other equipment shown on the drawings and furnished and/or installed under this section of the Specifications shall be labeled with laminated plastic nameplates inscribed to identify equipment with description shown on the drawings for panels, the name of the equipment controlled for motor starters or the system or function involved for other equipment. Nameplates shall be white with black etched letters. Provide typewritten panelboard directories indicating the equipment served, final approved room numbers, etc., as shown on the Plans or as directed by the Architect.

PART THREE – EXECUTION

3.1 COORDINATION OF TRADES

- A. Where work is near the work of other contractors, the Electrical Contractor shall review plans of other contractors and coordinate his work with theirs. The Electrical Contractor shall verify the location of lighting fixtures, light switches, beams, structural members, conduit, ductwork, pipes or other obstructions before beginning his work in the area. The Electrical Contractor to coordinate all light switch locations with Architectural room layouts to provide light switch installation on strike side of door. Notify the Architect where proper clearances do not occur or where the work of others would interfere with the safe and/or proper operation of this work.

3.2 SUPPORTS AND FOUNDATIONS

- A. Support all items covered by this Specification directly from building structural members independent of any ceilings or any other installed item. Panelboards and switches may be attached to suitably reinforced walls. Ground or slab mounted equipment to be mounted on a separate four-inch-high concrete slab.
- B. Do not attach items of this Specification to HVAC ductwork, ceiling grids and ceiling support members, piping or other equipment unless specifically shown otherwise. Where applicable, all equipment including conduit is to be supported from overhead wall, floor or roof structures using galvanized channel or angle members for a rigid support. Position supports and equipment such that access through lay-in ceilings or panels is not impaired and all Code required clearances are maintained.
- C. Where applicable, under no circumstances is the Electrical Contractor to attach to or support from any bar joist bridging. Any supports to the bar joists or any structural systems are to be approved by the Architect.
- D. All supplemental angle or channel iron required to support equipment of this Specification is to be furnished by the Electrical Contractor.

3.3 EQUIPMENT LAYOUT

- A. The physical location and arrangements of electrical equipment is shown on the Plans and is to be used by the Electrical Contractor as a guideline in construction. It is the responsibility of the Electrical Contractor to review the Plans with the proposed equipment and equipment of other contractors that are affected, and to ensure that all Code required clearances, wiring distances and maintenance accesses, including equipment heights, of all items are maintained. Alternate arrangements to accomplish the above due to field conditions or changes in physical size of the equipment proposed for the project are to be submitted to the Architect for review before any work is begun or equipment ordered. The alternate arrangement is to be presented in a 1/4-inch scaled drawing showing all equipment, including those of other contractors. Include shop drawing cut sheets and applicable information. Indicate on the drawing by dimension all required Code clearances, wiring distances and maintenance access requirements. Where equipment heights are required to be coordinated with architectural or other items, indicate revised heights. Refer to "MOUNTING HEIGHTS."

END OF SECTION 260000

SECTION 260050 – MINOR ELECTRICAL DEMOLITION FOR REMODELING

PART ONE - GENERAL SCOPE

1.1 DESCRIPTION

- A. Provide demolition of existing electrical installation as required to suit project intent. Extend existing installation and repair/replace existing equipment as specified herein.

PART TWO - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. Materials and equipment for patching and extending work shall be as specified in individual Sections.

PART THREE - EXECUTION

3.1 EXAMINATION

- A. Verify field measurements and existing circuiting arrangements. Verify that abandoned wiring and equipment serve only abandoned facilities. Demolition Drawings are based on casual field observation. Report discrepancies to Architect/Engineer before disturbing existing installation. Beginning of demolition means installer accepts existing conditions.

3.2 PREPARATION

- A. Disconnect electrical systems scheduled for removal.
- B. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.
 - 1. Existing Electrical Service: Maintain existing system in service until new system is complete and ready for service. Disable system only to make switchovers and connections. Obtain permission from Owner and Architect/Engineer at least 7 days before partially or completely disabling system. Minimize outage duration.

3.3 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

- A. Remove, relocate, and extend existing installations to accommodate new construction. Remove abandoned wiring to source of supply.
- B. Remove exposed abandoned conduit, including abandoned conduit. Cut conduit flush.
- C. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit servicing them is abandoned and removed.
- D. Disconnect and remove electrical devices and equipment serving equipment that has been removed.
- E. Maintain access to existing electrical installations which remain active. Modify installation or provide access panel as appropriate.
- F. Extend existing installations using materials and methods compatible with existing electrical installations, or as specified.

3.4 CLEANING AND REPAIR

- A. Clean and repair existing materials and equipment which remain or are to be reused. Expose and inspect existing branch circuit wiring terminations. Correct any deficient methods or materials to bring the installation into first class working condition.
- B. Panelboards: Clean exposed surfaces and check tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions. Provide typed circuit directory showing revised circuiting arrangement.

END OF SECTION 260050

SECTION 310000 - EARTHWORK

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Staking and grades
- B. Existing utilities
- C. Earthwork general requirements
- D. Subsurface extraction
- E. Excavation
- F. Subgrade preparation
- G. Foundation preparation
- H. Compaction
- I. Backfilling
- J. Finish grading
- K. Field quality control

1.2 RELATED SECTIONS

- A. Trenching and Backfilling for Utilities is specified in Section 31 23 33 – Excavation, Trenching and Backfilling.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM C 131 Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
 - 2. ASTM C 136 Test Method for Sieve Analysis of Fine and Coarse Aggregates
 - 3. ASTM C 535 Test Method for Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
 - 4. ASTM D422 Method for Particle-Size Analysis of Soils
 - 5. ASTM D653 Terminology Related to Soil, Rocks, and Contained Fluids
 - 6. ASTM D1140 Test Method for Amount of Material in Soils Finer Than the 200 (75-um) Sieve
 - 7. ASTM D1557 Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb (4.54-kg) Rammer and 18-in. (457-mm) Drop
 - 8. ASTM D2216 Test Method for Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures.
 - 9. ASTM D2487 Test Method for Classification of Soils for Engineering Purposes

10. ASTM D2922 Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
11. ASTM D2974 Test Method for Moisture, Ash, and Organic Matter of Peat and Other Organic Materials
12. ASTM D3017 Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
13. ASTM D4253 Test Methods for Maximum Index Density of Soils Using a Vibratory Table
14. ASTM D4254 Test Methods for Minimum Index Density of Soils and Calculation of Relative Density
15. ASTM D4318 Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils

1.4 DEFINITIONS

- A. Earthwork Terminology: Terms used in this Section and not defined herein shall be interpreted in accordance with the definitions given in ASTM D653.
- B. Soil Classification: Soil classification is based on the Unified Soil Classification system given in ASTM D2487. Group symbols, when used, conform with the symbols of ASTM D2487.
- C. Fill: Soil or soil-rock material placed to raise the subgrade or natural grade of the site.
- D. Backfill: Soil or soil-rock material used to backfill excavations and to backfill excavated spaces around foundation walls, building walls, retaining walls, head walls, and abutments.
- E. Embankment: Soil or soil-rock material for embankment construction. Embankment construction includes constructing embankments and dikes, including the preparation of the areas upon which they are to be placed, and the construction of temporary surcharge embankment above the grading plane.
- F. Borrow: Soil or soil-rock material used for fill, backfill, embankment, or other construction that is excavated from an off-site location and hauled in.
- G. Unsuitable Material: Excavated material or material below the natural ground surface in embankment areas or below sub grade elevation in excavated areas, which is unsuitable for its planned use. Unsuitable material is further defined as material determined to be:
 1. Of such unstable nature as to be incapable of being compacted to specified density using ordinary methods at optimum moisture content; or
 2. Too wet to be properly compacted and circumstances prevent suitable drying prior to incorporation into the work; or
 3. Otherwise unsuitable for the planned use.
- H. The presence of excessive moisture in a material is not, by itself, sufficient cause for determining that the material is unsuitable. The existence of unsuitable material may be indicated in the Contract Documents or may be determined by the Engineer during the progress of the work.
- I. Relative Compaction: The ratio, expressed as a percentage, of the in-place dry density of material as compacted in the field to the maximum dry density of the same material as determined by laboratory test ASTM D1557.

- J. Optimum Moisture Content: The water content at which a soil can be compacted to a maximum dry unit weight by a given compactive effort
- K. Relative Density: Mass per unit volume as specified in ASTM D4253 and ASTM D4254, as applicable to the soil and test method employed.

1.5 CLASSIFICATION OF EARTHWORK

- A. For specification purposes, earthwork shall be classified as follows:
 - 1. Excavation-Common: All excavation involved for demolition of the existing walls and construction of new retaining walls is classified as common excavation. Excavation- Common includes excavation of pavements and other obstructions visible on ground surface and other items indicated to be demolished and removed; together with earth and other materials encountered that are not classified as rock or unauthorized excavation.
 - 2. Excavation - Rock: Includes removal of material in place which cannot be loosened or broken down with one pass of a crawler tractor weighing not less than 55,000 pounds, with a maximum draw-bar pull of not less than 56,000 pounds-force, pulling a single 24-inch hydraulic ripper tooth approved by the tooth manufacturer for use with the tractor under full hydraulic down pressure, or equipment of equivalent ripping capacity at one mile per hour (Caterpillar D8K or larger) or excavated by a front-end loader with a minimum bucket breakout force of 25,600 pounds (Caterpillar 977 or larger).
 - a. Typical of materials classified as rock are solid rock, rock in ledges, and rock-hard continuous aggregate deposits.
 - b. Intermittent drilling or ripping performed to increase production and not necessary to permit excavation of material encountered will be classified as earth excavation.
 - c. Do not perform rock excavation work until material to be excavated has been cross- sectioned and classified by Owner. Such excavation will be paid on basis of contract conditions relative to changes in work.
 - d. Rock payment lines are limited to the following:
 - 1) Two feet outside of concrete work for which forms are required, except footings.
 - 2) One-foot outside perimeter of footings.
 - 3) In pipe trenches, 6" below invert elevation of pipe and 2 ft. wider than inside diameter of pipe, but not less than 3 ft. minimum trench width.
 - 4) At outside dimensions of concrete work where no forms are required.
 - 5) Under slabs on grade, 6" below bottom of concrete slab.
 - 3. Structure Backfill: Structure backfill includes furnishing structural fill material and placing and compacting structural fill material around structures to the lines and grades indicated. Structure backfill includes borrow excavation and material when required.
 - 4. Fill for Raising Grade: Includes raising of sub grade or grade to indicated elevation with structural fill, including moisture conditioning and compaction of placed fill material. Structural fill material includes borrow excavation and material when required.
 - 5. Pervious Backfill: Includes furnishing, placing, and compacting pervious backfill material behind abutments, wingwalls, and retaining walls, as indicated.

6. Salvaging Topsoil: Salvaging topsoil is the removal of topsoil, stockpiling the material on-site, and maintaining the stockpile until the material is reused in the work. Salvaging of topsoil shall be classified as Excavation - Common.
7. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of Owner. Unauthorized excavation, as well as remedial work directed by Owner, will be at Contractor's expense.
 - a. Under footings, foundation bases, or retaining walls, fill unauthorized excavation by extending indicated bottom elevation of footing or base to excavation bottom, without altering required top elevation. Lean concrete fill may be acceptable if approved by Owner.
 - b. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations of same classification, unless otherwise directed by Owner.

1.6 DESCRIPTION

- A. Provide excavation for pavement; excavation and placement of compacted fill and backfill for structures and subsurface and surface drainage; placement of pervious backfill; construction of embankments; sub grade and foundation preparation; subsurface extraction of miscellaneous structures and facilities indicated or required to be removed; and finish grading.

1.7 SUBMITTAL

- A. General: Refer to Section 01 30 00 Administrative Requirements for submittal requirements and procedures.
- B. Test Reports: Contractor shall coordinate quality control testing to be performed by Testing Laboratory engaged by the Owner.
- C. Samples: Furnish and deliver samples of fill and backfill materials for testing and analysis.
- D. Delivery Tickets: Submit a delivery ticket with each load of imported borrow material delivered to the site, stating the type of fill material and the quantity.

1.8 QUALITY CONTROL

- A. Quality Control: The Contractor shall provide proper quality control measures to assure compliance with specified requirements. Foundation and sub grade preparation and the placement and compaction of fills shall be performed under the surveillance of a Louisiana registered geotechnical engineer employed by the Owner. Contractor shall coordinate quality control inspections and testing to be performed by Testing Laboratory engaged by the Owner.

- B. Tests: The Owner shall engage the services of an approved independent soils testing laboratory to perform tests.
1. Testing Requirements:
 - a. Compaction tests in accord with ASTM D-698.
 - b. Field density tests for area fills for each 1'-0" lift, in accord with ASTM D-698, one test for each 2,500 sq. ft. of fill. A minimum of three (3) tests for fill placed in isolated areas.
 - c. Field density tests for trench excavations for each 1'-0" lift, in accord with ASTM D-698, one test for each 100 linear feet of trench under buildings and pavement, one test for each 200 linear feet otherwise.
 - d. Inspection and testing subgrades and proposed fill materials.
 - e. Inspection of excavation bracing system, including furnishing, installing and monitoring slope indicator devices and settlement gauges.
 - f. Contractor's duties relative to testing include:
 - 1) Provide representative fill soil samples to Testing Agency for test purposes. Provide 50 lb. samples of each fill soil.
 - 2) Advise Testing Agency sufficiently in advance of operations to allow for completion of quality tests and for assignment of personnel.
 - 3) Be responsible for paying costs of additional testing if initial tests reveal nonconformance with specified requirements.
 - a) Test report on borrow material.
 - b) Verification of each footing subgrade.
 - c) Field density test reports.
 - d) Verification of classification of soil type used in fill and backfill.
 - e) One optimum moisture-maximum density curve for each type of soil encountered.
 - f) Report of actual unconfined compressive strength and/or results of bearing tests of each strata tested.
- C. Tolerances:
1. Construct finished surfaces to plus or minus 1/2-inch of the elevations indicated.
 2. Complete embankment slopes to plus or minus 6 inches of the slope line indicated. Do not encroach on the roadbed.
 3. Maintain the moisture content of fill material as it is being placed within plus or minus two percent of the recommended moisture content of the material.

1.9 SITE CONDITIONS

- A. Unfavorable Weather Conditions:
1. Excavating, filling, backfilling, and grading work shall not be performed during weather conditions which might damage or be detrimental to the condition of existing ground, in-progress work, or completed work. When the work is interrupted by rain, excavating, filling, backfilling, and grading work shall not resume, until the site and soil condition (moisture content) are suitable for compaction.
 2. Sub grade shall be free from mud, snow, ice, and deleterious material when work is resumed.
 3. Soil material that is too wet for compaction shall be left to drain, to be aerated and dried by disking and harrowing or other approved methods until the moisture content of the area is uniform and within the specified limits.

- B. Prevention of Erosion: Comply with requirements specified in Section 31 25 00 Erosion and Sediment Controls, and the following:
 - 1. Prevent erosion of stockpiles, ditches, embankments, filled, backfilled, and graded areas until such time as permanent drainage and erosion control measures have been installed.
 - 2. Perform protective grading to provide positive drainage and to minimize ponding of surface water.
 - 3. Any repairs or mitigation due to erosion will be the responsibility of the Contractor.

PART 2 - PRODUCTS

2.1 FILL AND BACKFILL MATERIALS - GENERAL REQUIREMENTS

- A. Material used for fill, backfill, and embankment construction shall be an inert, inorganic soil, free from deleterious substances, and of such quality that it will compact thoroughly without the presence of voids when watered and rolled. (Inorganic soil is defined as soil containing less than two percent by weight of organic material when tested in accordance with ASTM D2974.) Excavated on-site material will be considered suitable for fill, backfill, and embankment construction if it is free from organic matter and other deleterious substances and conforms to the requirements specified herein.
 - 1. Satisfactory soil materials are defined as those with no organics, a plasticity index of less than 20 and a maximum particle size of four inches, with not more than 30% greater than 3/4 inch. It shall be clean material and rock no larger than 1/2 cu. ft. Fill material shall be tested and approved by Testing Agency for degree of compaction required by its intended use.
 - 2. Unsatisfactory soil materials are defined as those complying with ASTM D 2487 soil classification groups OH and PT or soil materials not capable of being compacted to density and moisture requirements of this section, debris, organic material and soil containing organic material.
- B. Excavated material that is suitable for fill, backfill, and embankment construction shall be conditioned for reuse and properly stockpiled for later filling and backfilling operations. Conditioning shall consist of spreading material in layers not to exceed 8 inches and raking free of debris and rubble. Rocks exceeding 6 inches in largest dimension and deleterious material shall be removed from the site and disposed of as specified herein under Disposal of Surplus Material.
- C. Where conditions require the importing of fill or backfill material, the material shall be an inert soil or soil-rock material free of organic matter and meeting or exceeding the minimum requirements specified herein for the location.
- D. All material to be used for filling, backfilling, and embankment construction requires written approval of the Engineer.

2.2 SOURCE QUALITY CONTROL

- A. Fill, backfill, and embankment materials proposed to be used in the work shall be tested in the laboratory for compliance with specified requirements as follows:
 - 1. Moisture-Density Relationship: ASTM D1 557.
 - 2. Moisture Content: ASTM D2216.
 - 3. Liquid Limit: ASTM D4318.
 - 4. Plastic Limit and Plasticity Index: ASTM D43 18.
 - 5. Percentage of Wear: ASTM C131 or C535 as applicable.
 - 6. Sieve Analysis: ASTM D422, and ASTM C136, as applicable.
 - 7. Percent Passing No 200 sieve: ASTM D1 140.
 - 8. Sand Equivalent: California Test 217.
 - 9. Organic Content of Soils: ASTM D2974.
- B. Where classification of soils is necessary to meet specified requirements, perform laboratory tests in accordance with ASTM D2487.
- C. Submit certified test reports of all tests as herein specified under Submittals.
- D. Provide samples as requested by the Engineer for preparing checklists. Provide ~~three~~ samples of each type of material proposed for use from locations selected by the Engineer.

PART 3 - EXECUTION

3.1 STAKING AND GRADES

- A. Lay out the work, establish all necessary markers, benchmarks, grading stakes, and other stakes as required. Layout work shall be done under the supervision of an engineer or land surveyor, registered in the State of Louisiana, familiar with construction layout work, at no additional cost to the Owner.
- B. Protect all grade stakes during the grading and filling operations and reset any grade stakes and line stakes destroyed.
- C. Verify and flag all property corners and benchmarks within 50 feet of any clearing or grading operations. Protect same during construction. If disturbed or destroyed, replace. If found at variance with Drawings, notify Owner before proceeding to layout work.

3.2 EXISTING UTILITIES

- A. Verify on site the location and depth (elevation) of all existing utilities and services before performing any excavation work. Excavation within 2 feet of an active utility line shall be performed by hand. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations.

1. Do not interrupt existing utilities serving facilities occupied and used by Owner or others, during occupied hours, except when permitted in writing by Engineer and then only after acceptable temporary utility services have been provided.
 - a. Provide minimum of 48-hour notice to Owner and notify LA One Call (Dial 811) and comply with provisions of Part VII of Chapter 8 of Title 40 (RS 40: 1750 to 1761 by Acts 1988, No 923, 51). Utility service to be provided to the facility at all times.
- B. Abandoned sewers, piping, and other utilities encountered in the progress of the excavating shall be removed and the ends plugged. Coordinate with utility companies for shut-off of services if lines are active. All trench excavations resulting from removal of utility lines shall be backfilled with Structural Fill.
- C. Active utility lines encountered, which are not indicated in the Contract Documents, shall be reported immediately to the Engineer and utility owners involved. The Engineer and utility owners shall be permitted free access to determine the measures deemed necessary to repair, relocate, or remove the utility. Cooperate with Owner and utility companies in keeping respective services and facilities in operation.

Repair damaged utilities to satisfaction of utility owner.

3.3 EARTHWORK GENERAL REQUIREMENTS

- A. Dust Control: Refer to Section 31 25 00 Erosion and Sedimentation Controls, for dust control requirements.
- B. Erosion Protection: Prevent erosion of the site at all times. Construct temporary berms and dikes and cut temporary swales to promote natural drainage of site. Refer to Section 31 25 13 Erosion Controls, for additional requirements.
- C. On-Site Excavation or Borrow Pits: Do not excavate or remove any material from the project site or right-of-way which is not within the designated excavation, as indicated by the slope and grade lines, without written authorization from the Engineer.
- D. Salvaging Topsoil:
 1. Salvage topsoil from stripped and excavated areas, and stockpile on the site at appropriate locations. Prevent topsoil from contamination by other materials and provide adequate drainage and erosion protection.
 2. Place stockpiled topsoil in areas to be landscaped as indicated on the Contract Drawings or as directed by the Engineer.
- E. Stockpiling of Fill and Backfill Material:
 1. Excavate and separately stockpile suitable fill and backfill material, as indicated, during the progress of the excavation work. Save sufficient suitable excavated material, if available, for later filling, backfilling, and embankment construction. Place, grade and shape stockpiles for proper drainage.
 2. Store materials from required excavations that are suitable for fill, backfill, and embankment as excavated, in stockpiles segregated by type.
 3. Establish excavated material stockpiles on site only in locations where they will not interfere with the progress of the work.
 4. Locate and retain soil materials away from edge of excavations. Do not store within drip line of trees indicated to remain.

- F. Maintenance of Excavations, Slopes, and Embankments:
 - 1. Excavate and remove material outside the limits of the excavation which is unstable and constitutes potential slides, and material which comes into excavations for any reason including from the driving of piles.
 - 2. Maintain slopes and embankments until substantial completion and acceptance of the work. Promptly repair slides, slipouts, washouts, settlements, and subsidences that occur for any reason, and refinish the slope or embankment to the indicated lines and grades. Any settlement or washing that occurs during and until completion of project and prior to acceptance of the work shall be repaired immediately and grades reestablished to the required elevations and slopes. Fill to required subgrade levels any areas where settlement occurs.
 - 3. Temporary Grading and Drainage: Provide effective drainage at all times. No impoundment of water shall be permitted except as provided. Pools, puddles or inundated excavations shall be drained immediately. The Contractor is fully responsible for any and all water damage within the Limit of Work and all water damage to the site or installed work.
 - 4. Safeguarding of Structure Walls: Heavy equipment shall not be operated within 4 feet of structure walls.
- G. Use of Explosives: The use of explosives is not permitted unless approved by the Owner.
- H. Protection of Persons and Property:
 - 1. Barricade open excavations occurring as part of this work and post with warning lights.
 - 2. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.
- I. Codes and Standards: Perform excavation work in compliance with applicable requirements of Standard Building Code (International Building Code) with Louisiana Title 40 Amendments.

3.4 SUBSURFACE EXTRACTION

- A. Remove subsurface facilities and obstructions to the extent indicated.
- B. When subsurface facilities are encountered during excavation which interfere with new construction, and such facilities are not indicated, notify the Engineer promptly for corrective determination.

3.5 EXCAVATION

- A. General Excavation Requirements:
 - 1. Perform excavating as indicated and required for roadway and parking lot beds, for concrete footings, foundations, retaining walls, exterior paving, floor slabs, concrete walks, and for site levels and grading, and provide shoring, bracing, underpinning, cribbing, pumping, and planking as required.
 - 2. The bottoms of excavations shall be level, firm, undisturbed earth, clean and free from loose material, debris, and foreign matter.
 - 3. Excavate to the lines and grades indicated on the Contract Drawings.

4. Excavations shall be supported and maintained by providing structural support of earth walls as specified in Section 31 50 00 - Excavation Support and Protection, so that sides are stable and will not move. Excavations may be maintained by sloping cut faces where space permits, if calculations, sealed and signed by a civil or structural engineer currently registered in the State of Louisiana, show that the slopes are safe. Calculations shall consider all existing conditions, including adjacent traffic, construction loading, and other local effects.
 5. Limits of excavations shall allow for adequate working space for installing forms, wall waterproofing, and as required for safety of personnel. Cut excavations in solid rock accurately to the lines indicated on the Contract Drawings, or to the width of the ductbank or concrete encasement.
 6. Dewater excavation as specified in 3.06.C. - Dewatering. Construct berms around excavations as required to prevent surface water and runoff from entering the excavation.
 7. Remove unstable bottom material. Remove large stones, debris, and compressible soils from excavation bottoms to a minimum depth of 12 inches. Where required to excavate to rock, it shall be understood to mean sound bedrock. Remove loose and unsound material.
 8. Except as otherwise indicated, preserve the material below and beyond the lines of excavations. Where an excavation is carried below the indicated grade, backfill to the indicated grade as herein specified.
 9. Place excavated material at a sufficient distance from edge of excavation to avoid causing cave-ins or bank slides, but in no case closer than 3 feet from the edge of excavations.
 10. Unauthorized over excavations for footings and foundations shall be filled with lean concrete to indicated elevations.
 11. Excavated earth material that is suitable for fill, backfill, or embankment shall be conditioned for re-use and properly stockpiled for later filling and backfilling operations as herein specified. Test, screen, and mix as necessary to meet specified requirements.
- B. Rock Excavation:
1. Rock, which cannot be broken up and removed by ripper equipment, shall be excavated and removed by drilling and blasting. The use of explosives requires written approval of the Engineer.
 2. Where footings or foundations are to be placed on rock which is not horizontal, key the center of the foundation approximately 12 inches in depth throughout an area approximately equal to the dimensions of the column or footing to be placed on the rock, or the entire width of the slab, at not more than 10-foot intervals. Remove loose fragments, and clean and fill all seams with lean concrete.
 3. Rock excavation beyond or below the indicated cross section shall be at the Contractors expense. Fill overbreakage to required invert with lean concrete at no additional expense to the Owner.
 4. Leave the side slopes of rock cuts with reasonably uniform faces whether the excavation is carried beyond the specified side slopes or not. Remove all loose rock on cut slopes immediately after blasting. Sloped surfaces shall conform to the typical section indicated or to natural cleavage planes, where these are compatible with the typical section.
 5. Exposed rock faces shall be mapped by a Contractor-employed, Louisiana registered geotechnical engineer or engineering geologist. If structural mapping indicates that unstable planes or other features are exposed which jeopardize the stability of the slope, the Contractor shall modify the slope as required.

- C. Dewatering: Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area.
 - 1. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.
 - 2. Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey rainwater and water removed from excavations to collecting or run-off areas. Do not use trench excavations as temporary drainage ditches.

3.6 SUBGRADE PREPARATION

- A. Remove vegetation, unsuitable soil materials, obstructions and deleterious materials from ground surface prior to placement of fills. Break up sloped surfaces steeper than one vertical to four horizontal so that fill material will bond with existing surface.
- B. Perform all cutting, blading, and shaping as required to cut and shape the subgrade to the grades and elevations indicated. Sub grade preparation includes fine grading, reworking as necessary, and preparation of cut, fill, or embankment upon which the structure will be placed.
- C. Finish subgrade to straightedge or template within specified tolerances with the finished surface bladed to a uniform, dense, smooth texture.

3.7 FOUNDATION PREPARATION

- A. Complete construction of the excavation support and dewatering systems prior to construction of structure and equipment foundations.
- B. Avoid disturbing bottom of excavation. If bottom is disturbed, restore and stabilize the bearing foundation with compacted pervious backfill material as specified herein.
- C. If material at bottom of the excavation is rock, remove loose material and roughly level the bearing foundation to indicated elevation. If the bottom contains occasional rock outcroppings or rock in only a portion of the area, remove such rock to a depth of 6 inches below indicated subgrade and backfill with lean concrete.
- D. Where unsuitable material is encountered at the elevations indicated for foundations, all soft, loose, or unsuitable material shall be removed. The area shall be scarified to a minimum depth of 12 inches, and the planned elevation shall be re-established by backfilling with structural backfill, moisture-conditioning, and compacting to a minimum dry density of 95 percent of the maximum laboratory dry density as determined in accordance with ASTM D 1557.

3.8 COMPACTION

- A. Compaction Density: Compact each layer of embankment, fill, and backfill material to not less than the indicated or specified compaction. Required compactions are defined as Class I and Class II, as follows:
 - 1. Class I Compaction: 95 percent relative compaction as determined by ASTM D698.
 - 2. Class II Compaction: 98 percent relative compaction as determined by ASTM D698.
- B. Required Compactions:
 - 1. Embankment or Fill where the Surface will be Bearing Foundation: Class II for full depth. Where embankment construction exceeds 8 feet in depth, provide minimum Class I compaction below the top 8 feet.
 - 2. Backfill around Structures: Class I below top 36 inches; Class II for top 36 inches.
 - 3. Where not otherwise indicated or specified and where structures are not involved, provide Class I compaction to minimize settlement.
- C. Moisture Control: Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations.
 - 1. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
 - 2. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by disking, harrowing or pulverizing until moisture content is reduced to a satisfactory value.
 - 3. Perform moisture density determinations for each soil type used, to provide data for quality control. The natural moisture content at the time of compaction must be within moisture content limits that will allow the specified compaction to be obtained, but not in excess of 3% above or below the optimum moisture content.

3.9 COMPACTION (NON-STRUCTURAL FILL)

- A. Perform compaction of soil materials for fills using mechanical soil compaction equipment for type and size materials to be compacted. Hand compact materials in areas inaccessible to machinery and within 5'-0" of below grade walls.
- B. Percentage of Maximum Density Requirements: Provide not less than the following percentages of maximum dry density by the Standard Proctor test, ASTM D698.
 - 1. Lawn or Unpaved Areas: Compact top 6" of subgrade & each layer of backfill or fill material at 90% maximum dry density.
- C. Moisture Control: Where subgrade or soil layer must be moisture conditioned before compaction, apply water to surface of subgrade or soil layer. Scarify and air-dry soil material that is too wet to permit compaction to specified density. Control soil moisture content of in place fill to within 3% of optimum moisture content.
- D. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread where directed by Owner and permitted to dry, until moisture content is reduced to satisfactory value, as determined by moisture density relation tests. When accepted by Testing Agency, soil material may be used in compacted backfill or fill.

3.10 BACKFILLING

- A. Use materials removed from site excavations if such material meets specified requirements.
- B. Backfilling is required around all substructures. Fill all abandoned vaults, shafts, airways, holes, pits, and other voids.
- C. Place backfill in layers not to exceed eight inches of loose material and compact each layer to specified density before the next layer is placed.
- D. Place backfill material in such manner that unbalanced horizontal loads will not be applied to a newly placed structure or portion of structure, utility, or pipeline. Do not backfill around portions of structures requiring backfill on only one side or on less than all sides, until the concrete has reached the specified 28-day strength to withstand the earth pressures on structures.
- E. When placing material for backfill around waterproofed structures, protect such structures and the waterproofing thereof with a shield when necessary to prevent displacement or injury by stones or other hard substances in the backfill.
- F. Do not backfill on or against structural concrete until the specified 28-day concrete strength has been attained.

3.11 FINISH GRADING

- A. Finish grade all areas to elevations and grades indicated. In areas to receive topsoil and landscape planting, finish grading shall be performed to a uniform 7 to 8 inches below the grades and elevations indicated.
- B. Place and spread stockpiled topsoil to a uniform thickness, approximately 1/2 inch below finish grades indicated.
- C. Coordinate with the landscape requirements of Division 32.
- D. Finish grade entire site obtaining uniform levels or slopes between points where elevations are shown or between such points and existing grades.
- E. At completion of finish grading operation, entire site is to be ready for grassing.
- F. Where finish grading meets or abuts curbs, walks or pavements, uphill grades are to be slightly higher than pavements to permit drainage.
- G. Protection of graded areas: Protect newly graded surfaces from traffic and erosion. Keep free of debris. Where graded or compacted surfaces are damaged by subsequent operations, return to indicated grade and state of compaction.

3.12 FIELD QUALITY CONTROL

- A. Regulatory Requirements: In compliance with the International Building Code, the Contractors earthwork operations shall be performed under the observance and inspection of an Owner employed geotechnical engineer currently registered in the State of Louisiana, as follows:
 - 1. Site preparation, cutting and shaping, excavating, filling, backfilling, and embankment construction shall be carried out under the inspection of the geotechnical engineer, who will perform appropriate field and laboratory tests, as determined by the geotechnical engineer, to evaluate the suitability of fill and backfill material, the proper moisture content for compaction, and the degree of compaction achieved. Fill or backfill that does not meet the specified requirements shall be removed or recompacted until the requirements are satisfied.
 - 2. Cutting and shaping, excavating, conditioning, filling, backfilling, and compacting procedures require approval of the geotechnical engineer as they are successively performed. Work found to be unsatisfactory or work disturbed by subsequent operations before approval is granted shall be corrected in an approved manner as approved by the geotechnical engineer.
- B. Density Tests: Compacted fill, backfill, and embankment shall be tested to verify compliance with specified requirements in accordance with ASTM D2922. Frequency of tests shall be in accordance with the Contractors Quality Plan, but not less than the following:
- C. Compaction Tests: Tests for compaction shall be performed in accordance with test procedures specified in ASTM D1557, Method D, as applicable. Field-testing of soils or compacted fill in place shall be performed in accordance with applicable requirements of ASTM D2922.
- D. Moisture Content Tests: Compacted fill, backfill, and embankment shall be tested to verify compliance with specified requirements in accordance with ASTM D3017. Minimum frequency of tests shall be as specified above for density tests.

END OF SECTION 310000

SECTION 311000 - SITE CLEARING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Protecting existing vegetation to remain.
 - 2. Removing existing vegetation.
 - 3. Clearing and grubbing.
 - 4. Stripping and stockpiling topsoil.
 - 5. Removing above- and below-grade site improvements.
 - 6. Disconnecting, capping or sealing, site utilities.
 - 7. Temporary erosion and sedimentation control.
- B. Related Requirements:
 - 1. Section 015000 "Temporary Facilities and Controls" for temporary erosion- and sedimentation-control measures.

1.3 DEFINITIONS

- A. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- B. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil," but in disturbed areas such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects larger than 2 inches (50 mm) in diameter; and free of weeds, roots, toxic materials, or other non-soil materials.
- D. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.

- E. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction.
- F. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 MATERIAL OWNERSHIP

- A. Except for materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.5 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Improvements on Adjoining Property: Authority for performing site clearing indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.
 - 1. Do not proceed with work on adjoining property until directed by Engineer.
- C. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises.
- D. Utility Locator Service: Notify LA One Call: 811 (1-800-272-3020) for area where Project is located before site clearing.
- E. Do not commence site clearing operations until temporary erosion- and sedimentation-control measures are in place.
- F. Soil Stripping, Handling, and Stockpiling: Perform only when the soil is dry or slightly moist.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 312000 "Earth Moving."
 - 1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Verify that trees, shrubs, and other vegetation to remain or to be relocated have been flagged and that protection zones have been identified and enclosed according to requirements in Section 015639 "Temporary Tree and Plant Protection."
- C. Protect existing site improvements to remain from damage during construction.
 - 1. Restore damaged improvements to their original condition, as acceptable To Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- D. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 EXISTING UTILITIES

- A. Owner will arrange for disconnecting and sealing indicated utilities that serve existing structures before site clearing, when requested by Contractor.
 - 1. Verify that utilities have been disconnected and capped before proceeding with site clearing.
- B. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place.
 - 1. Arrange with utility companies to shut off indicated utilities.
 - 2. Owner will arrange to shut off indicated utilities when requested by Contractor.
- C. Locate, identify, and disconnect utilities indicated to be abandoned in place.
- D. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others, unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Engineer not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Engineer's written permission.

3.4 CLEARING AND GRUBBING

- A. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
 - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches (200 mm) and compact each layer to a density equal to adjacent original ground.

3.5 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to depth of 6 inches (150 mm) in a manner to prevent intermingling with underlying subsoil or other waste materials.
 - 1. Remove subsoil and non-soil materials from topsoil, including clay lumps, gravel, and other objects larger than 2 inches (50 mm) in diameter; trash, debris, weeds, roots, and other waste materials.
- C. Stockpile topsoil away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.
 - 1. Limit height of topsoil stockpiles to 72 inches (1800 mm).
 - 2. Do not stockpile topsoil within protection zones.
 - 3. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.
 - 4. Stockpile surplus topsoil to allow for respreading deeper topsoil.

3.6 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

3.7 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.
- B. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities. Do not interfere with other Project work.

END OF SECTION 311000

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Excavating and filling for rough grading the Site.
 - 2. Preparing subgrades for walks, pavements, turf and grasses, and plants.
 - 3. Drainage course for concrete slabs-on-grade.
 - 4. Subbase course for concrete walks and pavements.
 - 5. Subsurface drainage backfill for walls and trenches.
 - 6. Excavating and backfilling trenches for utilities and pits for buried utility structures.
 - 7. Shaping berms.

1.3 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
 - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
 - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.
- C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.
- F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
 - 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Engineer. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.

2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.
- G. Fill: Soil materials used to raise existing grades.
- H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- I. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- J. Subgrade: Uppermost surface of an excavation or the topmost surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

PART 2 - EXECUTION

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: Soil Classification [Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487] [Groups A-1, A-2-4, A-2-5, and A-3 according to AASHTO M 145], or a combination of these groups; free of rock or gravel larger than 3 inches (75 mm) in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
1. Liquid Limit: N/A
 2. Plasticity Index: N/A
- C. Unsatisfactory Soils: Soil Classification [Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487] [Groups A-2-6, A-2-7, A-4, A-5, A-6, and A-7 according to AASHTO M 145], or a combination of these groups.
1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940/D 2940M; with at least 90 percent passing a 1- 1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.
- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 294/D 2940M 0; with at least 95 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.

- F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940/D 2940M; with at least 90 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.
- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940/D 2940M; except with 100 percent passing a 1-inch (25- mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.
- H. Drainage Course: Narrowly graded mixture of crushed stone or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading size 57; with 100 percent passing a 1-1/2-inch (37.5-mm) sieve and zero to 5 percent passing a No. 8 (2.36-mm) sieve.
- I. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch (25-mm) sieve and zero to 5 percent passing a No. 4 (4.75-mm) sieve.
- J. Sand: ASTM C 33/C 33M; fine aggregate.
- K. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

2.2 ACCESSORIES

- A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of the utility; colored as follows:
 - 1. Red: Electric.
 - 2. Yellow: Gas, oil, steam, and dangerous materials.
 - 3. Orange: Telephone and other communications.
 - 4. Blue: Water systems.
 - 5. Green: Sewer systems.
- B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches (750 mm) deep; colored as follows:
 - 1. Red: Electric.
 - 2. Yellow: Gas, oil, steam, and dangerous materials.
 - 3. Orange: Telephone and other communications.
 - 4. Blue: Water systems.
 - 5. Green: Sewer systems.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth-moving operations.
- C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
 - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

3.3 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
 - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

3.4 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.5 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
 - 1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.

- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches (300 mm) higher than top of pipe or conduit unless otherwise indicated.
 - 1. Clearance: 12 inches (300 mm) each side of pipe.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
 - 1. For pipes and conduit less than 6 inches (150 mm) in nominal diameter, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
 - 2. For pipes and conduit 6 inches (150 mm) or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe or conduit circumference. Fill depressions with tamped sand backfill.
 - 3. For flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support conduit on an undisturbed subgrade.
 - 4. Excavate trenches 6 inches (150 mm) deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.
- D. Trench Bottoms: Excavate trenches 4 inches (100 mm) deeper than bottom of pipe and conduit elevations to allow for bedding course. Hand-excavate deeper for bells of pipe.
 - 1. Excavate trenches 6 inches (150 mm) deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.
- E. Trenches in Tree- and Plant-Protection Zones:
 - 1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
 - 2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.
 - 3. Cut and protect roots according to requirements in Section 015639 "Temporary Tree and Plant Protection."

3.6 UNAUTHORIZED EXCAVATIONS

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi (17.2 MPa), may be used when approved by Engineer.
 - 1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Engineer.

3.7 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.8 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
 - 1. Construction below finish grade including, where applicable, sub-drainage, damp-proofing, waterproofing, and perimeter insulation.
 - 2. Surveying locations of underground utilities for Record Documents.
 - 3. Testing and inspecting underground utilities.
 - 4. Removing concrete formwork.
 - 5. Removing trash and debris.
 - 6. Removing temporary shoring, bracing, and sheeting.
 - 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.
- B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.9 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Trenches under Footings: Backfill trenches excavated under footings and within 18 inches (450 mm) of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings
- D. Backfill voids with satisfactory soil while removing shoring and bracing.
- E. Initial Backfill:
 - 1. Soil Backfill: Place and compact initial backfill of subbase material free of particles larger than [1 inch (25 mm)] in any dimension, to a height of 12 inches (300 mm) over the pipe or conduit.
 - a. Carefully compact initial backfill under pipe haunches and compact evenly upon both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
 - 2. Controlled Low-Strength Material: Place initial backfill of controlled low-strength material to a height of 12 inches (300 mm) over the pipe or conduit. Coordinate backfilling with utilities testing.

3.10 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
 - 1. Under grass and planted areas, use satisfactory soil material.
 - 2. Under walks and pavements, use satisfactory soil material.
 - 3. Under steps and ramps, use engineered fill.
 - 4. Under building slabs, use engineered fill.
 - 5. Under footings and foundations, use engineered fill.
- C. Place soil fill on subgrades free of mud, frost, snow, or ice.

3.11 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
 - 2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.12 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than [8 inches (200 mm)] in loose depth for material compacted by heavy compaction equipment and not more than 4 inches (100 mm) in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698
 - 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches (300 mm) of existing subgrade and each layer of backfill or fill soil material at 95 percent.
 - 2. Under walkways, scarify and recompact top 6 inches (150 mm) below subgrade and compact each layer of backfill or fill soil material at 92 percent.
 - 3. Under turf or unpaved areas, scarify and recompact top 6 inches (150 mm) below subgrade and compact each layer of backfill or fill soil material at 85 percent.
 - 4. For utility trenches, compact each layer of initial and final backfill soil material at 85 percent.

3.13 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 - 1. Provide a smooth transition between adjacent existing grades and new grades.
 - 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to elevations required to achieve indicated finish elevations, within the following subgrade tolerances:
 - 1. Turf or Unpaved Areas: Plus or minus [1 inch (25 mm)]
 - 2. Walks: Plus or minus [1 inch (25 mm)].
 - 3. Pavements: Plus or minus [1/2 inch (13 mm)].
- C. Grading inside Building Lines: Finish subgrade to a tolerance of [1/2 inch (13 mm)] when tested with a 10-foot (3-m) straightedge.

3.14 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

- A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:
 - 1. Shape subbase course and base course to required crown elevations and cross-slope grades.
 - 2. Place subbase course and base course 6 inches (150 mm) or less in compacted thickness in a single layer.
 - 3. Place subbase course and base course that exceeds 6 inches (150 mm) in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches (150 mm) thick or less than 3 inches (75 mm) thick.
 - 4. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95percent of maximum dry unit weight according to ASTM D 698.

3.15 DRAINAGE COURSE UNDER CONCRETE SLABS-ON-GRADE

- A. Place drainage course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
 - 1. Place drainage course 6 inches (150 mm) or less in compacted thickness in a single layer.
 - 2. Compact each layer of drainage course to required cross sections and thicknesses to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

3.16 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.
- C. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Engineer.
- D. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.17 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
 - 1. Scarify or remove and replace soil material to depth as directed by Engineer; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.18 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off owner's property.
- B. Transport surplus satisfactory soil to designated storage areas on owner's property. Stockpile or spread soil as directed by Engineer.
 - 1. Remove waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off owner's property.

END OF SECTION 312000

SECTION 312200 – GRADING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and all applicable specification sections, apply to this section.

1.2 DESCRIPTION

- A. This Section specifies the requirements for earthwork, including excavation, utility protection, filling, backfilling compaction, stabilization, grading and disposal of unacceptable and excess excavated material including but not limited to the following.
- B. Provide subbase materials, drainage fill, and common fill materials for slabs, pavements and site improvements.
- C. Provide suitable fill from off site if on site quantities are insufficient or unacceptable. Stockpile excess excavated material at a location designated by the Owner's Representative.
- D. Refer to Section 01010-Summary of Work for sequence of construction.

1.3 QUALITY ASSURANCE

- A. Reference Standards Applicable to this Section:
 - 1. ASTM: American Society for Testing and Materials
 - a. D 698: Test Methods for Moisture-Density Relations of Soils and soil Aggregate Mixtures Using 5.5 lb. Rammer and 12 in. Drop.
 - b. D 1785: Specification for Poly (Vinyl Chloride) (PVC) Pipe, Schedules 40, 80, and 120. Schedules 40, 80, and 120.
 - c. D 2487: Test Method for Classification of Soils for Engineering Purposes.
 - d. D 4318: Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
 - 2. Grading Tolerances Outside Building Lines: Finish excavations and grade within a tolerance of 5/8" above or 1 1/4" below required grades. Do not leave depressions in graded areas. Haul off excess excavated material not required for fill off site and dispose of same.
 - 3. Grading Tolerance for Fill under Building Slabs: Plus or minus 1/2 inch measured with a 10 foot straight edge.
- C. Submittals:
 - 1. Refer to Section 01340, Submittals.
 - 2. Test reports:
 - a. Fill materials: Report and certification of fill materials.

D. Job Conditions:

1. Site information: Refer to Drawings.
2. Use of explosives: The use of explosives will not be permitted.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

- A. Classification: Acceptable material shall be as classified in ASTM D 2487, Groups GW, GP, GM, SM, SW, and SP.

B. Common Fill:

1. Mineral soil substantially free from organic and unsuitable materials and free from rock or gravel larger than 2" in diameter; 80 percent passing No. 40 sieve and not more than 50 percent passing No. 200 sieve.
2. Common Fill is intended to be used for construction of berms and excavated areas and to achieve proposed elevation prior to placement of topsoil.

B. Topsoil

1. Secure adequate topsoil from an approved off-site location if on site quantities are insufficient or unacceptable. It shall be fertile, friable, natural loam containing a liberal amount of humus and shall be capable of sustaining vigorous plant growth. It shall be free of stone lumps, clods of hard earth, plants or their roots, sticks and other extraneous matter. The natural organic content by oven dry weight as measured by the "wet digestion" method shall not be less than 1.5%.
2. The pH of the topsoil shall not be less than 5.5 and shall not exceed 7.2. Sand content shall not exceed 50%, oven dry weight. Soil tests shall be run prior to topsoil sample approval and at Owners Representative's discretion throughout topsoil installation. Tests shall be done at Contractor's expense and results will suffice for fertilizer requirements in Section 02930 Planting. Topsoil not meeting these requirements will not be accepted.

- D. Planting Backfill Mix: As specified in Section 329300 Plants.

E. Crushed Limestone Gravel Base Material

1. Intended use: Gravel base material is intended for use under concrete walks, brick pavers, and flagstone.
2. Gradation: Type A, Grade 2. No variances from this specification will be allowed.

<u>Sieve Size</u>	<u>Percent Retained</u>
1 3/4"	0-10
No. 4	45-75
No. 40	60-85

3. Plasticity Characteristics: Minimum Liquid Limit = 40; Maximum Plasticity Index = 12.

4. Compassion Specification: A minimum of 95 percent of ATM D 698-78, Method D maximum dry density at a moisture content slightly dry of optimum. Lift thicknesses should not exceed six inches compacted thickness.
5. Generic Name(s): Crushed Limestone Base.

G. Gravel Drain Material

1. Intended use: Gravel drain material is intended to be used as drainage backfill in conjunction with planting underdrains and cloth covered ADS pipe.
2. Gradation: ASTM C 33-82, Size 6T.

<u>Sieve Size</u>	<u>Percent Retained</u>
1"	0
3/4"	0 - 10
3/8"	45 - 80
No. 4	90 - 100
No. 8	95 - 100
3. Plasticity Characteristics: Non-plastic
4. Compaction Specification: Compact by vibratory means a range of 70 to 85 percent of TEX-113-E maximum dry density. Lift thickness should not exceed eight (8) inches. Compaction by flooding is not acceptable.
5. General Name(s): Pea Gravel.

- H. Sharp Sand: Sand shall be thoroughly washed, coarse grade sharp, construction or brick sand, free of clay balls, weeds, and grass. So-called cushion sand, blow sand, or creek silt is not acceptable for substitution where sharp sand is specified.

PART 3 EXECUTION

3.1 EXCAVATION

A. General

1. Contractor shall inspect the site and confirm actual grades and levels, and existing conditions under which the work is to be performed.
2. If unsuitable material or soft spots are encountered at the required subgrade elevations at the time of excavation or when compacting the subgrade, notify the Owners Representative.
3. The following materials shall be classed as unsuitable when found in the subgrade zone:
 - a. Abandoned structures such as pipes or conduits, underground equipment, vaults, septic tanks, floor slabs or other similar constructions.
 - b. Deposits of refuse or debris.
4. Embankments or fills shall be constructed in successive horizontal layers, not exceeding 8 in. in thickness. Each layer shall extend across the entire fill and shall be compacted to the required dry density as specified in Article 3.02 of this Section.

B. Preparation

1. Protection: Provide adequate protective measures of shoring, bracing, piling, planking and cribbing to protect existing adjacent construction.
 - a. Protect all reference points, bench marks and monuments from dislocation or damage. Replace or repair immediately any points damaged, destroyed, or dislocated.
 - b. Sprinkle and dampen all dusty material from the beginning of work to its completion.
 - c. Protect and maintain all conduits, drains, inlets, sewers, pipes and wires that are to remain on the property.
 - d. Provide, erect and maintain all lights, barricades, warning signs, and guards as necessary.
2. Layout: All work shall be laid out by a licensed surveyor employed by the Contractor. Cost of all layout work shall be borne by Contractor. Refer to Special Conditions. Contractor shall be responsible for all elevations, dimensions and verifications of actual conditions. Refer discrepancies to Owners Representative for interpretation or necessary modifications.
3. Site preparation (refer to Section 02100): Remove topsoil, grass, weeds, trees, shrubbery, roots and other vegetation from the areas to be excavated, filled or graded.
4. Construction Slopes: No slopes shall be constructed or excavated that violate the provisions of OSHA (Occupational Safety and Health Administration) criteria given in Article 1926, Sub-Part P, Table P-1, without having the geotechnical consultant specifically analyze such slopes. Refer to Special Conditions for other requirements.

C. Unauthorized Excavation

1. Unauthorized excavation shall consist of removal of materials beyond indicated subgrade elevations, limits or dimensions.
2. Remedial work shall be equal to that specified for normal earthwork in this Section.

D. Dewatering

1. Prevent surface water and subsurface or ground water from flowing into excavations and from flooding the site and surrounding area.
2. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footing, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.
3. Convey water removed from excavations and rain water to collecting or run-off areas. Establish and maintain temporary drainage ditches and other diversions outside excavation limits. Do not use trench excavations as temporary drainage ditches.
4. Notify Owners Representative in writing of work delays due to water or water-affected conditions.

3.2 COMPACTION

- A. General: Control soil compaction during construction and attain the minimum percentage of density specified in this Section.
- B. Required Density and Moisture
 - 1. Compact fill material to 95 percent of the maximum dry density as determined in accordance with ACT D 698, Method A (Standard Proctor).
 - 2. Obtain the specified compaction for fill material at a moisture content above optimum moisture. Determine optimum moisture in accordance with ACT D 698, Method A.
- C. Moisture Control: Earthwork materials shall not be placed, spread, rolled or compacted during inclement weather. If such operations are interrupted by rain, operations shall not resume until the Contractor has determined that the moisture content and density of the previously placed material are within the specified limits.

3.3 BACKFILL AND FILL

- A. Earthwork
 - 1. Excavate to lines, elevations, and limits required by drawing details, plus sufficient distance and space to permit erection of forms, shoring and inspections. Excavate as required, regardless of types, conditions or moisture content of materials encountered. Refer to Uniform General Conditions for trenching requirements.
 - 2. Grades: Cut all areas accurately to required cross-sections and grades. Take care to prevent excavation below required grades.
 - 3. Materials shall be disposed of outside the limits of the project site and at the Contractor's responsibility. Make all necessary arrangements and obtain all permits required for traffic control during hauling operations.
- B. Filling
 - 1. Fill (or excavate as required) under items of construction as specified previously.
 - 2. Filling: All granular fill shall be installed in loose lifts and uniformly compacted as specified for the types listed.
 - 3. Preparations for filling:
 - a. Complete stripping operations in advance of fill construction. Any material found in fill areas after stripping operation which, in the opinion of the Owners Representative, is unsuitable shall be removed from site.
 - b. Areas on which any compacted earth fill is to be placed shall be rough graded, spot filled and leveled, and uniformly prepared to receive fills by means of power equipment.
 - 4. All vegetation and root systems shall be removed prior to any select fill placement or construction. The resulting grade shall be proof-rolled, and any loose or soft spots shall be filled and compacted with an approved fill material. Fill materials used beneath vault, fountain and pool shall be a select, non-expansive soil meeting the Type I or Type II Select Fill gradation, plasticity and compaction criteria.

5. Placing Fill:
 - a. Construct fill at location and to lines and grades required by drawings. Equipment for placing fills shall be capable of obtaining required density.
 - b. Combined excavation and fill placing operations shall be such that materials when compacted in fill will be blended sufficiently to secure best practicable degree of compaction. Dump successive loads of material and spread and mix to give a horizontal layer of not more than specified in depth, loose measurement.
 - c. No fill material shall be compacted until the layer of material has a uniform moisture content which will permit proper compaction, and material in each layer of fill, while being compacted, shall be maintained as nearly as practical at that degree of moisture content which is optimum for obtaining required compaction.
 - d. If fill is to be placed on existing slopes that are steeper than 5 (horizontal) to 1 (vertical), such as could occur during undercutting of existing fill materials, then the new fill materials should be benched into the existing slopes in such a manner as to provide a good contact between the two materials, remove potential sliding planes, and allow relatively horizontal lift placement.
 - e. After material has been brought to a uniform and satisfactory moisture content, each horizontal layer of all fill material shall be compacted as specified for each type.

C. Placing Topsoil

1. General: Topsoil shall be placed in all areas to receive hydromulch or solid sod.
2. Procedures: Excavate areas to receive topsoil a minimum depth of 2". Till or rake with fork bar to break-up compaction to 8" depth prior to placing topsoil.
3. Place topsoil for final grading as per Section 31 22 00 - Grading.

D. Backfilling

1. General: Backfilling includes filling and compaction beneath concrete paving and structural concrete; against and around concrete after forms have been removed and inspection completed. Compact backfills as specified.
2. Procedures:
 - a. Do not begin backfilling until construction below finish grade has been approved, underground utilities inspected; tested and approved, forms removed, and excavation cleaned of trash and debris. Bring backfields to required grades.
 - b. Backfill shall not be placed in wet or frozen areas. Heavy equipment for spreading and compacting backfill shall not be operated closer to foundations, curbs, or walls than a distance equal to the height of backfill above the top of structural members; the area remaining shall be compacted by power driven hand tampers suitable for the material being compacted.

- E. Reconditioning Subgrade Where Approved Compacted Subgrades are Distributed Contractor's subsequent operations or adverse weather: Scarify and compact subgrade to the required density prior to further construction thereon.
- F. Grading
 - 1. Establishment of grades: The Contractor shall be responsible for establishment of all grades by means of grade stakes placed at all abrupt changes of grade and elsewhere as required.
 - 2. Rough grading: Rough grade to elevations required by drawings. Remove soft and unstable materials which will not readily compact when rolled and tamped. Fill resulting depressions with stable material and roll until required compaction is obtained.
 - 3. Finish grade: Finish grade to elevations required by drawings less topsoil. All areas to be hydromulched or sodded shall receive imported topsoil to a depth indicated on drawings. At intermediate points for which finish grades are not indicated, finish grades shall be of uniform level or slope between points for which elevations are given. Round any abrupt changes in elevations. Make certain that finish grades slope away from structures in all directions to assure positive drainage.
- G. Pavement Areas
 - 1. Prepared subgrade for new pavement: Prior to pavement construction, the subgrade shall be scarified 6", uniformly recompact to a minimum of ninety-five (95) percent of ASTM D-698, at, or slightly above, the optimum moisture determined by that test and maintained in a moist condition until the pavement is placed.
 - 2. Restore, without extra cost to Owner, all paved areas of existing parking areas, streets, curbs, etc. that may be opened or damaged in performance of the work included in contract. Pavement work and lawn areas shall match existing and shall comply with the requirements of applicable governing ordinances.
- H. Grading Around Existing Trees: Refer Section 2100, Site Preparation.
- I. Field Testing Earthwork: All earthwork shall be field tested by a recognized independent testing agency selected and paid for by the Owner. Payment for service authorized by Owner will be by the Owner, directly to the Testing Lab, unless specifically specified to the contrary. Proof test of materials and mixes shall be by Lab selected by the Owner but paid for by the Contractor. After approval, all authorized successful tests are paid for by the Owner.
- J. Adjustments and Cleaning
 - 1. Settlement or washing: Settlement or washing that occurs in areas, prior to acceptance of the work, shall be repaired and grades reestablished to the required elevations and slopes.
 - 2. Clean up all debris caused by work of this section, keeping premises neat and clean at all times.

END OF SECTION 312200

SECTION 312333 - EXCAVATION, TRENCHING & BACKFILLING

All excavation will meet the most current OSHA Regulations.

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The work to be performed under this Specification shall consist of furnishing all labor, equipment and materials and performing all operations in connection with the excavating, trenching, and backfilling for pipelines as shown on the plans and as specified herein.

1.2 MEASUREMENT AND PAYMENT

- A. All trench excavation backfill and compaction are not considered pay items. Payment for these items shall be included in the unit price laid in the Proposal for each size of pipe at their respective depths. This unit price shall be full remuneration for performing the trench and backfill complete including grading, bell holes, sheeting, dewatering, tamping, and water soaking; and including the furnishing of sewer pipe, all equipment, labor, materials, power, teams, tools, and transportation necessary or incidental thereto; but not including tunneling, or boring, all of which will be paid for as a separate item.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Materials for pipe embedment will meet LDHH Regulations for depth of bury and class of pipe and local requirements for embedment.
- B. Concrete (For encasement or blocking) See SECTION 32 13 13 – CONCRETE PAVING.
Material shall conform to ASTM C94. The compressive strength of the concrete shall be at least 2,000 psi and shall contain at least four (4) sacks of cement per cubic yard.
- C. Cement stabilized sand.

2.2 TESTING REQUIREMENTS

- A. Compaction tests for all backfill may be required for every 200 linear feet of trench and for each twelve-inches (12") vertically. Density tests shall be measured as one unit for each test. The Owner shall pay for Geotechnical tests ordered that meet the requirements of the plans and specifications. Failed tests shall be charged to the Contractor.

PART 3 – EXECUTION

3.1 CONSTRUCTION METHODS

A. CONTROL OF WATER

Provide sufficient pumping equipment, in good working order, available at all times to remove any water that accumulates in excavations. When the excavation crosses a drainage pathway, the contractor shall provide for means of alternate drainage. The discharge of dewatering equipment shall not cause damage to private or public property.

B. SHEETING, SHORING, AND BRACING

In caving ground, or in wet, saturated, or flowing materials, the contractor shall sheet, shore, or brace the sides of the trench so as to maintain the excavation properly in place. When excavations are made adjacent to existing building or other structures or in paved streets, particular care must be taken to adequately sheet, shore, and brace the sides of the excavation to prevent undermining of, or settlement beneath, the structures or pavement. Underpinning of adjacent structures or pavement shall be done by the Contractor at his own cost and expense, in a manner satisfactory to the Engineer and when required by the Engineer. The pavement shall be removed, the void satisfactorily refilled and compacted, and the pavement replaced by the Contractor. The entire expense of such removal and subsequent replacement thereof shall be borne by the Contractor. Sheet piling, shoring, and bracing shall not be left in place, unless otherwise provided for in the contract or authorized by the Engineer. The removal of sheet piling, shoring and bracing shall be done in such a manner as not to endanger or damage either new or existing structure, private or public properties, and to avoid cave-ins or sliding of the banks. All holes or voids left by the removal of the sheet piling, shoring, or bracing shall be immediately and completely filled and compacted with suitable materials.

C. GUARANTEE

1. Guarantee the backfilling of excavation and trenches against settlement for a period of one (1) year after the final completion of the contract under which the work is performed.
2. Make all repairs or replacements made necessary by settlement, including refilling, compacting, and reseeding or re-sodding the upper portion of the ditch and repairing broken or settled pavements, driveways, and sidewalks within five (5) days after notice from the Engineer.

D. PREPARATION

1. Site Preparation
Prepare the construction site for construction operations by removing and disposing of all obstructions and objectionable materials in accordance with contract documents.
2. Alignment, Grade and Minimum Cover
 - a. General
The water and sewer mains shall be laid and maintained to lines and grades established by the plans and specifications with fittings, valves, hydrants, manholes and clean-outs at the required locations, unless otherwise pre-approved by the Engineer. Valve-operating stems shall be oriented in a manner to allow proper operation. Hydrants shall be installed plumb.

- b. Cut sheets shall be provided to the Inspector. The contractor shall determine the alignment and grade or elevation of the pipeline from offset stakes. The contractor shall also provide a continuous chalk line along the alignment of the trench for use by the operator of the excavating equipment. The contractor shall provide a laser beam and grade pole to assist in grading the ditch to the proper elevation.
 - c. Should the ditch be graded below the required elevation, bring subgrade to the required elevation with cement stabilized sand or rounded pea gravel. The use of excavating materials for this application will not be allowed.
 - d. Where pipe grades or elevations are not definitely fixed by contract drawings, trenches shall be excavated to a depth sufficient to provide a minimum depth of backfill cover over the pipe. Greater pipe cover depths may be necessary for clearance beneath existing pipes, conduits, drains, drainage structures, or other obstructions encountered at normal pipe grades. Measurement of pipe cover depth shall be made vertically from the outside top of pipe to finished ground or pavement surface elevations.
 3. Prior Investigation
Prior to excavation, investigation shall be made to the extent necessary to determine the location of existing underground structures and conflicts. Care should be exercised by the Contractor during excavation avoid damage to existing structures.
 4. Unforeseen Obstructions
When obstructions that are not shown on the plans are encountered during the progress of work and interfere so that an alteration of the plans is required, the Engineer will alter the plans or order a deviation in line and grade or arrange for removal, relocation or reconstruction of the obstructions.
 5. Clearance
When crossing existing pipelines or other structures, alignment and grade shall be adjusted as necessary, with the approval of the Engineer, to provide clearance as required by federal, state or local regulations or as deemed necessary by the Engineer to prevent future damage or contamination of either structure.
- E. EXCAVATION
All excavation shall meet the most current OSHA regulations.
 1. Classification
Excavation of trenches for pipelines is unclassified. Soils will be classified utilizing OSHA Standards and Regulations. The Contractor shall assume that the site contains the worse type of soils and make provisions for shoring the work area.
 2. Trench Excavation
 - a. General
The trench shall be excavated to the required alignment, depth and width and in conformance with all federal, state and local regulations for the protection of the workmen.

- b. Trench Preparation
 - 1) Trench preparation shall proceed in advance of pipe installation for only as far as pipe will be laid that day.
 - 2) The contractor shall keep the trench dry from both storm water and seepage from the sides of the trench. Discharge from any trench dewatering pumps shall be conducted to natural drainage channels, storm sewers or a pre-approved reservoir. Do not discharge into any municipal sewer system without municipal approval. The contractor shall be responsible for cleaning any storm drain system, which was used for dewatering discharge.
 - 3) Excavated material shall be placed in a manner that will not obstruct the work nor endanger the workmen, obstruct sidewalks, driveways, or other structures and shall be done in compliance with federal, state, or local regulations.
- 3. Pavement Removal
Removal of pavement and road surfaces shall be a part of the trench excavation, and the amount removed shall depend upon the width of trench required for installation of the pipe and the dimensions of area required for the installation of valves, hydrants, specials, manholes or other structures. The dimensions of pavement removed shall not exceed the dimensions of the opening required for installation of pipe, valves, hydrants, specials, manholes and other structures by more than twelve (12") inches in any direction, unless otherwise required or pre-approved by the Engineer.
- 4. Width
See LDOTD Standard Bedding and Trench Detail.
- 5. Bell Holes
Holes for the bells shall be provided at each joint but shall be no larger than necessary for joint assembly and assurance that the pipe barrel will lie flat on the trench bottom. Other than noted previously, the trench bottom shall be true and even in order to provide support for the full length of the pipe barrel, except that a slight depression may be provided to allow withdrawal of pipe slings or other lifting tackle.
- 6. Subgrade in Earth
 - a. Where a firm and stable foundation for the pipe can be obtained in the natural soil, and where special embedment is not shown on the plans, or specified herein, carefully and accurately trim the bottom of the trench to fit the lower portion of the pipe barrel. The bottom of the trench shall be firm, stable and free of standing water.
 - b. If water is allowed to collect in an originally dry trench after a reasonable time has passed to complete the embedment of the pipe, as determined by the Engineer, the contractor shall place a minimum of four (4") inches of clean rounded pea gravel in the ditch and pump out all accumulated water before placing the pipe. No deleterious materials will be allowed in the gravel. No extra compensation will be allowed for this work.
 - c. Where wet, soft, or spongy material is encountered in the excavation at subgrade level, the contractor shall remove such material at the direction of the Engineer and replace it with crushed stone of sufficient quantity such that when fully compacted, the subgrade is firm and stable.

7. Subgrade in Rock

- a. When excavation of rock is encountered, all rock shall be removed to provide a clearance of at least six (6") inches below and on each side of all pipe, valves and fittings for pipe sizes twenty-four (24") inches or smaller, and nine (9") inches for pipe sizes thirty (30") inches and larger. When excavation is completed, the proper embedment material shall be placed on the bottom of the trench to the previously mentioned depths, leveled and tamped.
- b. These clearances and bedding procedures shall also be observed for pieces of concrete or masonry and other debris or subterranean structures, such as masonry walls, piers or foundations that may be encountered during excavation.
- c. The installation procedures specified in this section shall be followed when gravel formations containing loose boulders greater than eight (8") inches in diameter are encountered.
- d. In all cases, the specified clearances shall be maintained between the bottom of all pipe and appurtenances and any part, projection or point of rock, boulder or stones of sufficient size and placement, which, in the opinion of the Engineer, could cause a fulcrum point.

F. CONCRETE ENCASEMENT

The Contractor shall place 2,000 psi concrete encasement under and around pipe as shown on the embedment detail and provide necessary anchors to prevent the pipe from floating out of place. The contractor shall remove and relay any pipes that are floated out of proper position

G. BACKFILLING

1. General

- a. The Contractor shall not begin backfilling until approval has been obtained from the Inspector. Backfilling includes refilling and consolidation of the fill in trenches and excavations up to the natural ground surface or road grade.
- b. Backfill shall be accomplished in accordance with the specified laying condition as shown on the plans.

2. Backfill Material

- a. All backfill material shall meet latest edition of ASTM D2321 unless otherwise specified by the Engineer.
- b. If excavated material is indicated on the drawings or specified for backfill, and there is a deficiency due to a rejection of part thereof, the contractor shall provide the required amount of sand, gravel or other pre-approved material.

3. Do not leave trenches open overnight without backfilling to the natural ground level.
Steel plates (1/2" in thickness) may be used to cover open trenches only with the approval of the Engineer.

4. Compaction

Compaction requirements are as specified on the plans.

END OF SECTION 312333

SECTION 312513 – EROSION CONTROLS

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes installing, maintaining and removing:

1. Silt Fence
2. Temporary Construction Entrances
3. Diversion Channels
4. Sediment Traps
5. Rip Rap
6. Stone Check Dams
7. Inlet Protection
8. Site Stabilization

B. Related Sections:

1. Section 31 10 00 - Site Clearing.
2. Section 31 23 16 - Excavation and Fill.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:

1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-pound) rammer and a 457-mm (18-inch) drop.

B. ASTM International:

1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
2. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft³ (2,700 kN-m/m³)).
3. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
4. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

C. LDOTD Standard Specifications:

1. Standard Specifications for Roads and Bridges, 2006, published by the Louisiana Department of Transportation.

1.3 SUBMITTAL

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data on geotextile, posts, woven wire, concrete mix design, and pipe.

C. Manufacturer's Certificate: Certify products and aggregates meet or exceed specified requirements.

- D. Closeout Submittals: Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

1.4 QUALITY ASSURANCE

- A. Standard of quality shall conform to the standards and practices set forth in: "Louisiana Storm Water Management and Sedimentation Control Handbook for Land Disturbance Activities", February 1998 or latest edition.
- B. Maintain one copy of document on site.

1.5 PRE-INSTALLATION MEETINGS

- A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.
- B. Convene minimum one week prior to commencing work of this Section.

PART 2 – PRODUCTS

2.1 GEOTEXTILE MATERIALS

- A. Engineering Fabric Materials: Non-biodegradable conforming to Section 815.02 of LDOTD Standard Specifications:
 - 1. Silt Fence: Type 3, Class A or B Engineering Fabric.
 - 2. Under Rip Rap or Construction Entrances: Type 2 Engineering Fabric.

2.2 STONE, AGGREGATE, AND SOIL MATERIALS

- A. Stone for Sediment Trap and Check Dam: Class B erosion control stone conforming to Division 800 of the LDOTD Standard Specifications. Minimum size 5 inches, midrange size 8 inches, and maximum size 12 inches equally distributed.
- B. Stone for Rip Rap: Class 1 erosion control stone conforming to Division 800 of the LDOTD Standard Specifications. Minimum size 5 inches, midrange size 10 inches, and maximum size 17 inches equally distributed.
- C. Washed Stone: Coarse aggregate, Gradation No. 57 conforming to Division 800 of the LDOTD Standard Specifications.
- D. Aggregate for Construction Entrance: Coarse aggregate, Gradation No. 4 or larger with maximum size of 3 inch, conforming to Division 800 of the LDOTD Specifications.
- E. Soil Fill: Clean natural soil with a plasticity index of 15 or less that is free of clay, rock, or gravel lumps larger than 2 inches in any dimension; debris; waste; frozen material; and any other deleterious material that might cause settlement. Suitable material excavated from the site may be used as soil fill under optimum moisture conditions.

2.3 PLANTING MATERIALS

- A. General: Conform to rules and regulations as specified in the LDOTD Standard Specifications for seed, agricultural ground limestone, fertilizers, and mulch.
- B. Temporary Seed Mixture:
 - 1. Late winter and early spring: Rye
 - 2. Summer: Common Bermuda
 - 3. Fall: Rye and Common Bermuda
- C. Fertilizer: Commercial grade; recommended for grass.
- D. Lime: ASTM C602, Class O agricultural ground limestone containing a minimum 80 percent calcium carbonate equivalent.
- E. Mulch: Wheat straw, free from weeds, foreign matter detrimental to plant life, and dry. Hay or chopped cornstalks are not acceptable.

2.4 CONCRETE

- A. Concrete: Class B concrete conforming to Section 701 of the LDOTD Standard Specifications.
 - 1. Compressive strength of 2,500 psi at 28 days.
 - 2. Air entrained.
 - 3. Water cement ratio of 0.488 with rounded aggregate and 0.567 with angular aggregate.
 - 4. Maximum slump of 2.5 inches for vibrated concrete and 4 inches for non-vibrated concrete.
 - 5. Minimum cement content of 508 lbs per cubic yard for vibrated and 545 lbs per cubic yard for non-vibrated concrete.

2.5 PIPE MATERIALS

- A. Pipe: Corrugated steel pipe and fittings conforming to Section 715.2.3 of LDOTD Standard Specifications.

2.6 ACCESSORIES

- A. Posts for Silt Fence and Inlet Protection: Steel posts 5 feet long, 1-3/8 inches wide, minimum weight 1.25 lbs/ft. conforming to Section 815.4.6 of the LDOTD Standard Specifications.
- B. Woven Wire Fence for Silt Fence: Minimum 32 inches high, minimum 5 horizontal wires, vertical wires spaced 12 inches apart, minimum 10 gage top and bottom wires, and minimum 12-1/2 gage; all other wires conforming to Section 815 of the LDOTD Standard Specifications.
- C. Attachment Devices for Silt Fence: No. 9 staple, minimum 1-1/2 inches long, or other approved attachment devices.

D. Hardware Cloth for Inlet Protection: 24 gage, 1/4-inch mesh opening hardware cloth.
2.7 SOURCE QUALITY CONTROL (AND TESTS)

- A. Section 01 40 00 - Quality Requirements: Testing, inspection, and analysis requirements.
- B. Perform tests on cement, aggregates, and mixes to ensure conformance with specified requirements.
- C. Make rock available for inspection at producer's quarry prior to shipment. Notify Architect/Engineer at least seven days before inspection is allowed.
- D. Allow witnessing of inspections and tests at manufacturer's test facility. Notify Architect/Engineer at least seven days before inspections and tests are scheduled.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Verify compacted subgrade is acceptable and ready to support devices and imposed loads.
- C. Verify gradients and elevations of base or foundation for other work are correct.

3.2 SILT FENCE

- A. Install in accordance with Section 815 of the LDOTD Standard Specifications at locations shown on Drawings.
- B. Use wire fence with Class A fabric.
- C. Class B fabric may be used without woven wire backing subject to the following:
 - 1. Fabric is approved by Architect/Engineer.
 - 2. Maximum post spacing is 6 feet.
 - 3. Posts are inclined toward runoff source not more than 20 degrees from vertical.

3.3 TEMPORARY CONSTRUCTION ENTRANCES

- A. Excavate and compact subgrade as specified in Section 31 23 16.
- B. Install construction entrances at the dimensions and locations as shown on Drawings. Minimum thickness is 6 inches.

- C. Mound aggregate near intersection with public road to prevent site runoff entering road.
- D. Periodically dress entrances with 2-inch thick course aggregate when aggregate becomes clogged with soil.

3.4 DIVERSION CHANNELS

- A. Excavate channel
- B. Windrow excavated material on low side of channel.
- C. Compact to 95 percent maximum density.
- D. On entire channel area, apply soil supplements and sow seed
- E. Mulch seeded areas with hay

3.5 SEDIMENT TRAPS

- A. Clear site as specified in Section 31 00 00.
- B. Construct trap by excavating and forming embankments as specified in Section 31 23 16.
- C. Place coarse aggregate or rock at outlet as indicated on Drawings.
- D. Place geotextile fabric as specified for rock lining.
- E. On entire sediment trap area, apply soil supplements and sow seed as specified in Section 32 92 19.
- F. Mulch seeded areas with hay as specified in Section 32 92 19.
- G. Clean trap of accumulated sediment when directed but no less than when trap is half full of sediment.

3.6 ROCK LINING (RIP RAP)

- A. Excavate to depth of rock lining as indicated on Drawings or nominal placement thickness as follows. Remove loose, unsuitable material below bottom of rock lining and replace with suitable material. Thoroughly compact and finish entire foundation area to firm, even surface.
- B. Lay and overlay geotextile fabric over substrate. Lay fabric parallel to flow from upstream to downstream. Overlap edges upstream over downstream and upslope over downslope. Provide a minimum overlap of 3 feet. Offset adjacent roll ends a minimum of 5 feet when lapped. Cover fabric as soon as possible and in no case leave fabric exposed more than 4 weeks.
- C. Carefully place rock on geotextile fabric to produce an even distribution of pieces

with minimum of voids and without tearing geotextile.

- D. Unless indicated otherwise, place full course thickness in one operation to prevent segregation and avoid displacement of underlying material. Arrange individual rocks for uniform distribution.

3.7 STONE CHECK DAM

- A. Determine length required for ditch or depression slope and excavate, backfill, and compact foundation area to firm, even surface.
- B. Place Class B erosion control stone in an even distribution of rock pieces with minimum voids to the indicated shape, height, and slope.
- C. Construct washed stone filter blanket against upstream face of stone check dam to the thickness indicated on Drawings.

3.8 INLET PROTECTION

- A. Install four posts around drainage structure and attach hardware cloth as indicated on Drawings.
- B. Place Class B erosion control stone at base of fabric and mound at approximately 2:1.
- C. Place washed stone filter blanket on upstream side(s).

3.9 SITE STABILIZATION

- A. Incorporate erosion control devices indicated on the Drawings into the Project at the earliest practicable time.
- B. Construct, stabilize, and activate erosion controls before site disturbance within tributary areas of those controls.
- C. Stockpile and waste pile heights shall not exceed 35 feet. Slope stockpile sides at 2:1 or flatter.
- D. Stabilize any disturbed area of affected erosion control devices on which activity has ceased and which will remain exposed for more than 20 days.
 - 1. During non-germinating periods, apply mulch at recommended rates.
 - 2. Stabilize disturbed areas which are not at finished grade and which will be disturbed within one year in accordance with Section 32 92 19 at 75 percent of permanent application rate with no topsoil.
 - 3. Stabilize disturbed areas which are either at finished grade or will not be disturbed within one year in accordance with Section 32 92 19 permanent seeding specifications.
- E. Stabilize diversion channels, sediment traps, and stockpiles immediately.

3.10 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Inspect erosion control devices on a weekly basis and after each runoff event. Make necessary repairs to ensure erosion and sediment controls are in good working order.
- C. Perform laboratory material tests in accordance with ASTM D1557 or AASHTO 180.
- D. Perform in place compaction tests in accordance with the following:
 - 1. Density Tests: ASTM D1556, ASTM D2167, or ASTM D2922.
 - 2. Moisture Tests: ASTM D3017.
- E. When tests indicate Work does not meet specified requirements, remove Work, replace, and retest.
- F. Frequency of Tests: Twice per lift for every 10,000 square feet.

3.11 CLEANING

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for cleaning.
- B. When sediment accumulation in sedimentation structures has reached a point one-half depth of sediment structure or device, remove and dispose of sediment.
- C. Do not damage structure or device during cleaning operations.
- D. Do not permit sediment to erode into construction or site areas or natural waterways.
- E. Clean channels when depth of sediment reaches approximately one-half channel depth.

3.12 SCHEDULES

- A. Erosion Control Schedule:

Erosion Control Element	Location	Size
Silt Fence		
Temporary Construction Entrance		
Diversion Channel		
Sediment Trap		
Rock Lining (Rip Rap)		
Stone Check Dams		
Inlet Protection		
Sediment Pond		

END OF STION 312513

SECTION 313213 – LIME SOIL STABILIZATION

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Excavating, treatment, and placement of lime treated subsoil mix.

1.2 RELATED REQUIREMENTS

- A. Section 310000 – Earthwork.
- B. Section 312000 – Earth Moving.
- C. Section 312200 – Grading.

1.3 PRICE AND PAYMENT PROCEDURES

- A. See Section 012200 – Unit Prices, for unit price requirements and Louisiana Uniform Public Works Bid Form, Unit Price Form for included quantity and unit price requirements.
- B. Measurement Method: By ton of material delivered to site and placed.

1.4 REFERENCE STANDARDS

- A. AASHTO M 216 – Standard Specification for Lime for Soil Stabilization; American Association of State Highway and Transportation Officials; 2005.
- B. ASTM C977 – Standard Specification for Quicklime and Hydrated Lime for Stabilization; 2010.

1.5 SUBMITTALS

- A. See Section 01 30 00 – Administrative Requirements, for submittal procedures.
- B. Samples: Submit 5 lb. sample of lime, in airtight containers, along with material analysis from source, to testing laboratory for processing.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with State of Louisiana DOTD standards.

1.7 FIELD CONDITIONS

- A. Do not mix subgrade and lime in wind more than 10 mph or when temperature is below 40 degrees F.

PART 2 – PRODUCTS

2.1 MIX MATERIALS

- A. Subsoil: Existing reused.
- B. Lime: AASHTO M 216 hydrated lime.

2.2 ACCESSORIES – N/A

2.3 EQUIPMENT

- A. Equipment: Capable of excavating subsoil, mixing and placing materials, wetting, consolidation, and compaction of material.

2.4 LIME/SOIL MIX

- A. Mix materials in accordance with State of Louisiana DOTD standard.
- B. Carefully add water to the mix to achieve a consistent mixture, without lumping, yet not create a wet-plastic consistency.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Do not place fill over frozen or spongy subgrade surfaces.

3.3 EXCAVATION

- A. Protect adjacent structures from damage by this work.
- B. Proof roll subgrade to identify soft areas; excavate those areas.
- C. Notify Engineer of unexpected subsurface conditions. Discontinue affected Work in area until notified to resume work.
- D. Stockpile excavated material in designated area on site.

3.4 SOIL TREATMENT AND BACKFILLING

- A. Site mix subsoil, back fill and compact.
- B. Maintain optimum moisture content of mix materials to attain required stabilization.
- C. Compact to 95 percent of maximum density determined in accordance with ASTM D698.
- D. Shape to required line, grade and cross section.

3.5 CURING

- A. Allow blended subsoil to "mellow" for a period of forty-eight (48) hours prior to testing for compaction, via on-site density testing.

3.6 TOLERANCES

- A. Top surface of Fill: Plus, or minus one-half inch from required elevations.

3.7 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01 40 00.
- B. Compression test and analysis of hardened fill material will be performed in accordance with ASTM D698.
- C. Frequency of Tests: Four (4) evenly spaced density tests of subgrade.

END OF SECTION 313213

SECTION 321373 – CONCRETE PAVING JOINT SEALANTS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Cold-applied joint sealants.
 - 2. Hot-applied joint sealants.
 - 3. Cold-applied, fuel-resistant joint sealants.
 - 4. Hot-applied, fuel-resistant joint sealants.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- C. Paving-Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
- B. Product Testing: Test joint sealants using a qualified testing agency.

1.5 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer [or are below 40 deg. F (5 deg. C)].
 - 2. When joint substrates are wet.
 - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 – PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

2.2 COLD-APPLIED JOINT SEALANTS

- A. Single-Component, Self-Leveling, Silicone Joint Sealant: ASTM D 5893/D 5893M, Type SL.

2.3 JOINT-SEALANT BACKER MATERIALS

- A. Joint-Sealant Backer Materials: Non-staining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by joint-sealant manufacturer, based on field experience and laboratory testing.
- B. Round Backer Rods for Cold-Applied Joint Sealants: ASTM D 5249, Type 3, of diameter and density required to control joint-sealant depth and prevent bottom-side adhesion of sealant.
- C. Backer Strips for Cold- and Hot-Applied Joint Sealants: ASTM D 5249; Type 2; of thickness and width required to control joint-sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.

2.5 PRIMERS

- A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine joints to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Before installing joint sealants, clean out joints immediately to comply with joint-sealant manufacturer's written instructions.
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
- B. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.3 INSTALLATION OF JOINT SEALANTS

- A. Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.
- B. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions.
- C. Install joint-sealant backings to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of joint-sealant backings.
 - 2. Do not stretch, twist, puncture, or tear joint-sealant backings.
 - 3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install joint sealants immediately following backing installation, using proven techniques that comply with the following:
 - 1. Place joint sealants so they fully contact joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

- E. Tooling of Non-sag Joint Sealants: Immediately after joint-sealant application and before skinning or curing begins, tool sealants according to the following requirements to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint:
 - 1. Remove excess joint sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.
- F. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

3.4 CLEANING AND PROTECTION

- A. Clean off excess joint sealant as the Work progresses, by methods and with cleaning materials approved in writing by joint-sealant manufacturers.
- B. Protect joint sealants, during and after curing period, from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.

END OF SECTION 321373

SECTION 321600 – SIDEWALKS, CURBS, AND GUTTERS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Concrete WORK shall consist of air entrained Portland cement constructed on a prepared subgrade in accordance with these SPECIFICATIONS. The completed WORK shall conform to the thicknesses and typical cross-sections shown on the DRAWINGS. The completed WORK shall conform to the lines and grades shown on the DRAWINGS or to those established by ENGINEER at the job site.

1.2 RELATED SECTIONS

- A. The following is a list of SPECIFICATIONS which may be related to this section:
 - 1. Section 31 23 00, Excavation and Fill.
 - 2. Section 31 23 19, Dewatering.
 - 3. Section 31 23 33, Trenching and Backfilling.

1.3 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
 - 1. American Association of State Highway and Transportation Officials (AASHTO):
 - a. M6, Standard Specification for Fine Aggregate for Hydraulics Cement Concrete.
 - b. M80, Standard Specification for Coarse Aggregate for Hydraulics Cement Concrete.
 - c. M148, Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
 - d. M154, Standard Specification for Air-Entraining Admixtures for Concrete
 - M171, Standard Specification for Sheet Materials for Curing Concrete.
 - f. M182, Standard Specification for Burlap Cloth Made from Jute or Kenaf and Cotton Mats.
 - g. M194M/M194, Standard Specification for Chemical Admixtures for Concrete.
 - h. T22, Standard Method of Test for Compressive Strength of Cylindrical Concrete Specimens.
 - i. T23, Standard Method of Test for Making and Curing Concrete Test Specimens in the Field.
 - j. T26, Standard Method of Test for Quality of Water to Be Used in Concrete.
 - T27, Sieve Analysis of Fine and Coarse Aggregates
 - l. T96, Standard Method of Test for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
 - m. T11, Standard Method of Test for Clay Lumps and Friable Particles in Aggregate.
 - n. T119M/T119, Standard Method of Test for Slump of Hydraulic Cement Concrete.
 - o. T121M/T121, Standard Method of Test for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete.
 - p. T141, Standard Method of Test for Sampling Freshly Mixed Concrete.

- q. T152, Standard Method of Test for Air Content of Freshly Mixed Concrete by the Pressure Method.
- r. T176, Standard Method of Test for Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test.
- s. T199, Standard Method of Test for Air Content of Freshly Mixed Concrete by the Chace Indicator.
- 2. ASTM International (ASTM):
 - a. C618, Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
 - b. C920, Standard Specification for Elastomeric Joint Sealants.
- 3. Louisiana Department of Transportation (CDOT):
 - a. Section 703.01, Fine Aggregate for Concrete.
 - b. CP30, Sampling of Aggregates.
 - c. CP31A, Sieve Analysis of Fine and Coarse Aggregates.
 - d. CP60, Determining Surface Moisture in Fine and Coarse Aggregates.

1.4 SUBMITTALS

- A. CONTRACTOR shall cooperate with ENGINEER in obtaining and providing samples of all specified materials.
- B. CONTRACTOR shall submit certified laboratory test certificates for all items required in this section.
- C. Contractor shall submit mix design for concrete in writing to ENGINEER for approval prior to placement of concrete.
- D. CONTRACTOR shall submit batch tickets for each load of concrete. Tickets shall show weight of all materials and additives used in each batch.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Concrete Conformance:

- 1. Concrete shall conform to the following requirements:

Concrete Requirements	
28-Day Field Compressive Strength	3,500 psi
Cement/Fly Ash	600 lbs./cu. yd.
Max. Water/Cement Ratio	0.53
Air Content % Range	5-8
Maximum Slump	4"
Fine Aggregate (max. % of total Aggregate)	50%

- 2. This material shall consist of a mixture of course and fine aggregates, Portland

cement, water and other materials or admixtures as required. The type of cement shall be Type I, II, or I/II unless sulfate conditions dictate otherwise. If sulfate conditions exist, Type V cement shall be used.

- B. Concrete Aggregates: The grading and composition requirements for coarse and fine aggregates for concrete shall conform to the following tables.

Coarse Aggregates for Portland Cement Concrete	
Sieve Size or Test Procedure	% Passing or Test Requirement
1 inch	100
$\frac{3}{4}$ inch	90-100
$\frac{3}{8}$ inch	20-55
No. 4	0-10
No. 8	0-5
% Wear	45, Max
Clay Lumps * Friable Particles, %	2.0, Max
Coal & Lignites, %	0.5, Max
Sodium Sulfate Soundness %	12, Max

Fine Aggregates for Portland Cement Concrete	
Sieve Size or Test Procedure	% Passing or Test Requirement
3/8 inch	100
No. 4	95 - 100
No. 16	45 - 80
No. 50	10 - 30
No. 100	2 - 10
No. 200	3, Max
Friable Particles, %	1.0, Max
Coal & Lignite, %	1.0, Max
Deleterious Material (AASHTO T112), %	3, Max
Sand Equivalent (AASHTO T176), %	80, Min
Fineness Modules	2.50 - 3.50
Sodium Sulfate Soundness, %	20.0, Max
Fine Aggregates for Portland Cement Concrete	
Sieve Size or Test Procedure	% Passing or Test Requirement
3/8 inch	100
No. 4	95 - 100
No. 16	45 - 80
No. 50	10 - 30
No. 100	2 - 10
No. 200	3, Max
Friable Particles, %	1.0, Max
Coal & Lignite, %	1.0, Max
Deleterious Material (AASHTO T112), %	3, Max
Sand Equivalent (AASHTO T176), %	80, Min
Fineness Modules	2.50 - 3.50
Sodium Sulfate Soundness, %	20.0, Max

- C. Coarse Aggregate for Concrete: Coarse aggregates shall conform to the requirements of AASHTO M80, except that the percentage of wear shall not exceed forty-five (45) when tested in accordance with AASHTO T96. Coarse aggregate shall conform to the grading in above table.
- D. Fine Aggregate for Concrete: Fine aggregates shall meet Louisiana Department of Transportation requirements and gradation as shown above. Fine aggregate for concrete shall conform to the requirements of AASHTO M6. The amount of deleterious substances removable by elutriation shall not exceed three percent (3%) by dry weight of fine aggregate when tested in accordance with AASHTO T11, unless otherwise specified. The minimum Sand Equivalent, as tested in accordance with AASHTO T176 shall be eighty (80), unless otherwise specified. The Fineness Modules shall not be less than two and five-tenths (2.50) nor greater than three and five-tenths (3.50), unless otherwise approved.
- E. Fly Ash and Water: Upon approval based on a satisfactory trial mix, CONTRACTOR shall have the option of substituting approved fly ash for Portland cement, up to a maximum of twenty percent (20%) by weight. The total weight of cement and fly ash shall not be less than the specified mix design.
 - 1. Fly ash for concrete shall conform to the requirements of ASTM C618, Class C or Class F. All chemical requirements of ASTM C618 Table 1-A shall apply with the exception of footnote A.
 - a. Class C fly ash will not be permitted where sulfate resistant cement is required.
 - b. CONTRACTOR shall submit certified laboratory test results for the fly ash. Test results that do not meet the physical and chemical requirements may have been taken to ensure that the material meets the SPECIFICATIONS.
 - 2. Water used in mixing or curing shall be clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substance injurious to the finished product. Water shall be tested in accordance with and shall meet the suggested requirements of AASHTO T26. Water known to be of potable quality may be used without test. Where the source of water is relatively shallow, the intake shall be enclosed to exclude silt, mud, grass, or other foreign materials.
- F. Concrete Curing Materials and Admixtures:
 - 1. Curing Materials: Curing materials shall conform to the following requirements as specified:
 - a. Burlap Cloth made from Jute or Kenaf: AASHTO M182.
 - b. Liquid Membrane-Forming Compounds Curing Concrete: AASHTO M148.
 - c. Sheet Materials for Curing Concrete: AASHTO M171.
 - d. Straw shall not be used for curing unless approved by ENGINEER.
 - 2. Air-Entraining Admixture: Air-entraining admixtures shall conform to the requirements of AASHTO M154. Admixtures which have been frozen will be rejected. No chloride containing additives shall be permitted.

3. Chemical Admixtures: Chemical admixtures for concrete shall conform to the requirements of AASHTO M194M/M194. Admixtures which have been frozen will be rejected.
4. Joint Fillers: The joint fillers shall meet the requirements of ASTM C920.

PART 3 EXECUTION

3.1 SUBGRADE PREPARATION

- A. The subgrade shall be excavated or filled to the required grades and lines. All soft, yielding, or otherwise unsuitable material shall be removed and replaced with suitable material with ENGINEER's approval. Filled sections shall be compacted and compaction shall extend a minimum of six (6) inches outside the form lines.
- B. The moisture content of the subgrade shall be brought within +/- two percent (2%) of optimum moisture content and compacted to ninety-five percent (95%) of the maximum standard Proctor density (ASTM D698) for subgrade materials classified as A-4 through A-7 or ninety five percent (95%) of modified proctor density for materials classified as A-1 through A-3.

3.2 CONCRETE PLACEMENT

- A. General:
 1. Concrete transported in truck mixers or truck agitators shall be delivered to the site of the WORK and completely discharged within a period of ninety (90) minutes after the cement comes in contact with the mixing water or with the combined aggregates containing free moisture in excess of two percent (2%) by weight.
 2. The concrete shall be placed either by an approved slip form/extrusion machine, by the formed method, or by a combination of these methods.
 3. The subgrade shall be conditioned to provide a uniformly moist surface when concrete is placed.
- B. Machine Placement: The slip form/extrusion machine shall be so designed to place, spread, consolidate, screed, and finish the concrete in one (1) complete pass in such a manner that a minimum of hand finishing will be necessary to provide a dense and homogenous concrete section. The machine shall shape, vibrate, and/or extrude the concrete for the full width and depth of the concrete section being placed. It shall be operated with as nearly a continuous forward movement as possible. All operations of mixing, delivery, and spreading concrete shall be so coordinated as to provide uniform progress, with stopping and starting of the machine held to a minimum.
- C. Formed Method:
 1. The vertical face of previously sawed and adjacent asphalt pavement may NOT be used as a forming surface. CONTRACTOR shall use forms on front and back of all curb and gutter, sidewalks and crosspans.

2. The forms shall be of metal or other suitable material that is straight and free from warp, having sufficient strength to resist the pressure of the concrete without displacement and sufficient tightness to prevent the leakage of mortar. Flexible or rigid forms of proper curvature may be used for curves having a radius of one hundred (100) feet or less. Division plates shall be metal. Where directed by ENGINEER, CONTRACTOR shall use a thin metal back form to preserve landscaping, sprinklers, etc. Form shall be straight and rigid and shall be approved by ENGINEER prior to use on PROJECT.
3. The front and back forms shall extend for the full depth of the concrete. All of the forms shall be braced and staked so that they remain in both horizontal and vertical alignment until their removal. No wooden stakes will be allowed. They shall be cleaned and coated with an approved form-release agent before concrete is placed against them. The concrete shall be deposited into the forms without segregation and then it shall be tamped and spaded or mechanically vibrated for thorough consolidation. Low roll or mountable curbs may be formed without the use of a face form by using a straight edge and template to form the curb face. When used, face forms shall be removed as soon as possible to permit finishing. Front and back forms shall be removed without damage to the concrete after it has set. In the asphalt patch detail to properly correct failed concrete sections, CONTRACTOR shall remove and replace said asphalt pavement beyond all failures to provide a smooth repair. ENGINEER shall be notified prior to commencing any additional asphalt removal.

3.3 FINISHING

- A. The plastic concrete shall be finished smooth by means of a wood float and then it shall be given final surface texture using a light broom or burlap drag. Concrete that is adjacent to forms and formed joints shall be edged with a suitable edging tool to the dimensions shown on the DRAWINGS.

3.4 JOINTING

- A. Contraction Joints:
 1. Contraction and construction joints shall be placed at the standard spacing of ten (10) feet in curb, gutter, sidewalks, crosspans, trickle channel, etc. A minimum spacing of five (5) feet shall be allowed for repairs.
 2. Transverse weakened-plane contraction joints shall be constructed at right angles to the curb line at intervals not exceeding ten (10) feet for curb and gutter or five (5) feet for sidewalk. Joint depth shall average at least one-fourth (1/4) of the cross-section of the concrete.
 3. Contraction joints may be sawed, hand-formed, or made by one-eighth inch (1/8") thick division plates in the formwork. Sawing shall be done early after the concrete has set to prevent the formation of uncontrolled cracking. The joints may be hand-formed either by (1) using a narrow or triangular jointing tool or a thin metal blade to impress a plane of weakness into the plastic concrete, or (2) inserting one-eighth inch (1/8") thick steel strips into the plastic concrete temporarily. Steel strips shall be withdrawn before final finishing of the concrete.

Where division plates are used to make contraction joints, the plates shall be removed after the concrete has set and while the forms are still in place.

B. Expansion Joints:

1. Expansion joints shall be constructed at right angles to the curb line at immovable structures and at points of curvature for short radius curves. Filler material for expansion joints shall conform to requirements of the requirements of ASTM C920 and shall be furnished in a single one-half inch (1/2") thick piece for the full depth and width of the joint.
2. Expansion joints in a slip-formed curb or curb-and-gutter shall be constructed with an appropriate hand tool by raking or sawing through partially set concrete for the full depth and width of the section. The cut shall be only wide enough to permit a snug fit for the joint filler. After the filler is placed, open areas adjacent to the filler shall be filled with concrete and then troweled and edged. CONTRACTOR may choose to place the filler and pour the concrete around it.
3. Alternately, an expansion joint may be installed by removing a short section of freshly extruded curb-and-gutter immediately, installing temporary holding forms, placing the expansion joint filler, and replacing and reconsolidating the concrete that was removed. Contaminated concrete shall be discarded.
4. Construction joints may be either butt or expansion-type joints. Curbs or combined curbs-and-gutters constructed adjacent to existing concrete shall have the same type of joints as in the existing concrete, with similar spacing however, contraction joint spacing shall not exceed ten (10) feet.

3.5 PROTECTION

- A. CONTRACTOR shall always have materials available to protect the surface of the plastic concrete against rain. These materials shall consist of waterproof paper or plastic sheeting. For slip-form construction, materials such as wood planks or forms to protect the edges shall also be required. Concrete damaged by rain shall be required to be removed and replaced at CONTRACTOR's expense.
- B. Concrete being placed in cold weather during which the temperature may be expected to drop below thirty-five degrees Fahrenheit (35°F), shall be suitably protected to keep the concrete from freezing until it is at least ten (10) days old. Concrete injured by frost action shall be required to be removed and replaced at CONTRACTOR's expense.
- C. CONTRACTOR shall be responsible for correcting any vandalism or defacement (graffiti) that occurs on the concrete prior to final acceptance.

3.6 CURING

- A. Concrete shall be cured for at least seven (7) days after placement to protect against loss of moisture, rapid temperature change, and mechanical injury prior to any overlay or reconstruction work. Moist burlap, waterproof paper, white polyethylene sheeting, white liquid membrane compound, or a combination thereof may be used as the curing material. Membrane curing shall not be permitted in frost-affected areas when the concrete will be exposed to deicing chemicals within thirty

(30) days after completion of the curing period.

3.7 BACKFILLING

- A. The spaces in front and back of curbs shall be refilled with suitable material to the required elevations after the concrete has set sufficiently. The fill material shall be thoroughly tamped in layers.

3.8 SEALING

- A. Where required, concrete shall be sealed with a mixture of one-half (1/2) linseed oil and one-half (1/2) diesel fuel, unless otherwise specified by ENGINEER.

3.9 TOLERANCE

- A. Forms shall not deviate from true line by more than one-quarter (1/4) inch at any point.
- B. Mixed concrete shall be not less than fifty degrees Fahrenheit (50°F), nor more than eighty degrees Fahrenheit (80°F) at the time of placement in forms, unless otherwise directed.
- C. If air temperature is thirty-five degrees Fahrenheit (35°F) or less at the time of placing, ENGINEER shall require water and/or aggregate heated to not less than seventy degrees Fahrenheit (70°F), or more than one-hundred fifty degrees Fahrenheit (150°F).
- D. Finished joints shall not deviate more than one-quarter (1/4) inch in the horizontal alignment from a straight line.
- E. Any localized humps and or depressions greater than one-quarter (1/4) inch shall require removal and replacement of the WORK in question at CONTRACTORS expense
- F. No ponding of water greater than three-eighths (3/8) inch shall be allowed.
- G. Combination curb, gutter and walk and/or vertical curb and gutter flowline depth shall not vary from adopted standards by more than +/- one-half (1/2) inch, measured vertically from the top of curb to the gutter invert.
- H. Pedestrian walks shall have a minimum of two percent (2.0%) and a maximum of two- and one-half percent (2.5%) slope toward the roadway.
- I. Heave or settlement of sidewalk, relative to separate curb pour, greater than one-half (1/2) inch shall be cause for corrective action. This provision shall not apply to transverse sidewalk joints.

3.10 QUALITY CONTROL

- A. Testing: Concrete testing and testing laboratory services required shall conform to the following unless otherwise determined by ENGINEER.

Section Type of Test	Project Acceptance Frequency	Point of Sampling Acceptan	Procedures	
			Test Sampling	Project Testing
Sidewalks (Concrete Aggregate)	1/1000 square yards or fraction thereof for each size aggregate of	Stockpile, Belt or Bin	LDOTD	LDOTD
Curbing (Concrete Aggregate)	1/2000 lineal feet or fraction thereof for each size aggregate of concrete placed		LDOTD	LDOTD
Moisture Content (Fine)	1 per day and as often as needed for quality control		LDOTD	LDOTD

Section Type of Test	Project Acceptance Frequen	Point of Sampling Acceptan	Procedures	
			Test Sampling	Project Testing
Moisture Content (Coarse Aggregat	1 per day min. where moisture content is greater than +0.5% from SSD condition	Stockpile, Belt or Bin	LDOTD	LDOTD
Slump	1 set of tests for every 1000 square yards or fraction thereof of concrete placed per day	The slump, air content, unit weight and compressive strength tests shall be carried out on the first truck of concrete for the daily placement and thereafter in conformance with this table by sampling from the mixer discharge or pumper truck discharge hose	AASHTO T141	AASHTO T119M/ T119
Air Content	1 set of tests for every 1000 square yards or fraction thereof of concrete placed per day		AASHTO T141 T199	AASHTO T152
Yield and Cement	4 tests for every 2000 lineal feet or fraction thereof of concrete placed per a day		AASHTO T141	AASHTO T121M/ T121
Compressive (Sidewalks)	1 set (4) of cylinders per 1000 square yards or fraction thereof of concrete placed per day		AASHTO T141 T23	AASHTO T22
Compressiv e (Curbing)	1 set (4) of cylinders per 2000 lineal feet or fraction thereof of concrete placed per day		AASHTO T141 T23	AASHTO T22

B. Repair:

1. Prior to backfilling and after forms are removed, honeycombed, defective or damaged areas of concrete shall be repaired. Repairs shall be made within seven (7) days after the forms are removed.
2. At the time of final acceptance inspection, the repair of all cracks shall be completed.
 - a. Cracks that are less than one-quarter (1/4) inch wide, exhibit no horizontal or vertical shifting, may at the discretion of the OWNER, be sealed by routing approximately three-quarter (3/4) inch to one (1) inch deep by one-quarter (1/4) inch wide and filling with Sikaflex 1-A or equivalent.
 - b. Any crack that extends through a joint shall require removal and replacement of the entire cracked area.
 - c. Any longitudinal cracked section of concrete shall require complete removal and replacement of that section between joints.
 - d. Repair action for hairline cracks as determined in 1, above, may be waived at the discretion of OWNER. For the purpose of this section, a hairline crack is one that is reasonably immeasurable and without separation as determined by ENGINEER.

3.11 CLEAN-UP

- A. The surface of the concrete shall be thoroughly cleaned upon completion of the WORK and prior to the substantial completion walk through, and the site left in a neat and orderly condition.

END OF SECTION 321600

SECTION 32 8400 – PLANTING IRRIGATION

PART 1- GENERAL

1.1 SECTION INCLUDES

- A. Installation of underground, automatically controlled irrigation system, including electrical connections, connections to water mains and necessary accessories such as vacuum breakers.

Provide and execute 1 – Year Maintenance Agreement and Warranty

1.2 RELATED SECTIONS

- A. Excavation, Backfill and Compaction for Utilities.
- B. Water Distribution Systems
- C. Landscaping
- D. Local Governing Authority and code requirements
- E. Construction Drawings

1.3 REFERENCE STANDARDS

- A. American Society for Testing Materials (ASTM) latest edition
 - D2239 Polyethylene (PE) Plastic Pipe (SIDR-PR) based on controlled inside diameter
 - D2241 Polyvinyl Chloride (PVC) pressure rated pipe (SDR series)
 - D2609 Plastic Insert Fittings for Polyethylene (PE) plastic pipe
 - D2855 Making solvent cemented joints with Polyvinyl Chloride (PVC) pipe and fittings
- B. National Fire Protection Agency (NFPA) latest edition
- C. National Electric Code, latest edition.

1.4 QUALITY ASSURANCE

- A Following installation, make final adjustments to irrigation system prior to Owner's final inspection.
 - 1. Flush system completely, with nozzles removed, to remove debris.
 - 2. Verify sprinkler operation and alignment for direction of throw.
 - 3. Check pop-up spray nozzling for proper arc of spray.
 - 4. Insure uniform distribution and head to head coverage.

- B. Following final adjustment, operate entire installation to demonstrate complete and successful operation of equipment.
- C. Guarantee installation for one (1) year from date of final acceptance for following:
 - 1. Defects in material, equipment and workmanship.
 - 2. Repair of damage to premises resulting from leaks or other defects in material, equipment and workmanship to satisfaction of the Owner.
- D. Repairs if required shall be done promptly at no cost to the Owner from the entire length of the one (1) year guarantee period.

1.5 SUBMITTALS

- A. Submittals:
 - 1. Required for items specified herein. Provide three (3) copies of each to the Owner for review. Show piping and sprinkler head locations on shop drawing submittals.
 - 2. Do not proceed with purchase or installation of materials prior to receipt of approved submittals from the owner.
 - 3. Shop drawings to provide system with complete coverage all landscaped areas.

1.6 PROJECT RECORD DOCUMENTS

- A. As-built drawings: two (2) sets, noting exact locations of elements.
- B. Operating Manual: two (2) copies, bound in one (1) inch diameter three ring binders, indexed and tabbed for easy reference, and labeled on spine and cover. Manual is to include the following:
 - 1. Approved submittals as specified herein.
 - 2. Installation instructions including mounting details for control valves.
 - 3. Operating instructions:
 - a. Winterization procedures
 - b. Recommended operation sequence, frequency and length of operation cycle, as per relationship to estimated absorption rate, evaporation rate and anticipated flow.
 - 4. Maintenance instructions:
 - a. Items requiring manufacturer's product data, installation and maintenance instructions.
 - b. Complete warranty information and mail to manufacturer and provide copies to Owner.
- C. Controller Chart – Prepare coded chart, reduced in size, containing same plan information as As-Built drawings, and laminated in plastic on both sides with the following specific information:

1. Note routing of control wires.
2. Identify valves as to size, station number shown on controller and type of irrigation head on each valve. Number in clockwise direction.

1.7 PROJECT CONDITIONS

- A. Visit site and become familiar with nature and location of work, existing conditions and conditions that will exist during installation.
- B. If irrigation work is part of General Construction Contract, then meter shall be provided by Plumbing Sub-contractor.
- C. If irrigation work is not part of General Construction Contract, Irrigation Contractor shall contract with and pay local utility company, including meter deposit, to tap water main and install meter(s) as required.

1.8 QUALIFICATIONS

- A. The Irrigation Contractor must have a minimum of two (2) consecutive years experience and must show proof of having installed other jobs of similar size and scope.

Provide minimum of three (3) references and list similar projects with Owner's names, addresses, and telephone numbers, if requested by the Owner.

PART 2- PRODUCTS

2.1 GENERAL

Acceptable manufacturers shall include:

1. Rain Bird Sales, Inc - Turf Division
2. The Toro Company – Irrigation Division
3. OR approved equal.

2.2 PIPE

- A. Polyvinyl Chloride (PVC) Main Line- Pipe shall conform to ASTM D2241, Schedule 40.
- B. Polyvinyl Chloride (PVC) Lateral Line- Pipe shall conform to ASTM D2241, Schedule 40.
- C. Flexible Polyethylene (PF) Lateral Line- Pipe shall conform to ASTM 2239, SDR 11.5, PE 23, rated at one hundred (100) PSI National Sanitation Foundation (NSF) approved.
- D. Pipe Sizes – larger than 2 ½ inch, shall have snap connections with rubber gasket joints. Thrust blocking shall be required in accordance with standard practice.

2.3 FITTINGS

- A. Sleeves- shall conform to ASTM D2241, Schedule 40. Minimum diameter of six (6) inches for mainline and four (4) inches for lateral lines. Lines should be a minimum of two (2) sizes larger than pipe scheduled to pass through them.
- B. Plastic Fittings:
 - 1. Polyvinyl Chloride (PVC) Main Line Fittings – shall conform to ASTM D 2241, Schedule 40.
 - 2. Polyvinyl Chloride (PVC) Lateral Line Fittings – shall conform to ASTM D2241, Schedule 40.
 - 3. Flexible Polyethylene (PE) Lateral Line Fittings – shall conform to ASTM D 2609, Type 1 PVC insert fittings designed for use with this type of pipe. Pipe and fittings shall be joined with stainless steel pinch clamps or worm-gear clamps, including stainless steel screw.
 - 4. Polyvinyl Chloride (PVC) conduit, ASTM D2241, schedule 40 to run wiring in.
- C. PVC Solvent Cement – shall conform to ASTM D 2563
- D. Swing Joint Connections – between heads and laterals shall be pre-fabricated schedule 40 swing joint assembly from one of the following:
 - 1. Spears
 - 2. Lasco
 - 3. Approved Equal

2.4 HOSE BIB VALVES

Each shall be one (1) inch, with a key, and possessing three quarters (3/4) inch male top pipe threads for the hose connection. Each shall be set in a minimum ten (10) inch round box.

2.5 ELECTRIC CONTROL VALVES

- A. Rain Bird PEB Valves.
- B. Approved equal.

2.6 MASTER VALVES

- A. Shall be electric control valve as specified herein.
- B. Size of valve shall be same as diameter of main line pipe as noted on the construction drawings.
- C. Provide water tight connectors with sealant for wiring connections.

2.7 SPRINKLER HEADS

A. Turf Spray Heads

1. Acceptable Products

- a. Rainbird 1806 ADJ-Shrub spray 4.0" Pop-up sprinkler with co-molded wiper seal. Side and bottom inlet.
- b. Approved equal.

B. Turf Rotor

1. Acceptable Products

- a. Rain Bird 3504-PC-Turf rotor, 4.0" Pop-up. Adjustable and full circle.
- b. Approved equal

2.8 VALVE BOX

A. When used with a single valve, provide a ten (10) inch box with black or dark green snap fit cover labeled "Valve Box" as manufactured by:

1. Ametek, "Economy Turf Box, 10", Model No. 181014"
2. NDS, "10" model No. 11B6"
3. Approved equal

B. When used with two valves, provide a twenty (20) by fourteen (14) inch box with black or dark green snap fit cover, labeled "Control Valve" as manufactured by:

1. Ametek, "Jumbo Box, Model No. 170101"
2. NDS, "Jumbo Box, Model No. 117RC"
3. Approved equal.

2.9 LOW POINT DRAINS

A. Low point drains with automatic drain valves are required on all zones. Provide two (2) at lowest points of each zone and place on top of one (1) cubic foot area of coarse gravel.

B. Automatic drain valves shall be manufactured by:

1. Rain Bird, "Model No. 16A, D/FDV"
2. King Drain, "Model No. GF 24-181"
3. Approved equal.

2.10 AUTOMATIC CONTROLLER

Controller shall be mechanical, containing 20 stations, and have wall mount, weather-proof, lockable cabinet with internal transformer located as shown on the plans. Acceptable manufacturers are as follows:

A. "Rain Bird" Model Number ESP-8LXME-LXMM with (1) ESPLXMSM4 modules.

B. "The Toro Company" – Irrigation Division.

- C. Approved equal.

2.11 CONTROL WIRE

All wire shall be copper, U.L. approved for underground direct burial. For lengths not exceeding 1000 feet, 18-gauge wire shall be used; for lengths exceeding 1000 feet, use 14-gauge wire.

- A. Colored wire shall match that shown on controller.
- B. Provide single wire from controller to each valve.

Provide common neutral from controller to each valve.

2.12 BACKFLOW PREVENTOR

- A. Comply with requirements and codes of local governing authority regarding backflow prevention.
- B. Provide the necessary materials, insulation/draining capabilities, and acceptable concealment to satisfy requirements and codes of local authority and aesthetic needs of the Owner. Concealment techniques would include painting of exposed piping, providing appropriate screen, providing painted metal enclosure around unit or approved equal. In most cases, this will be addressed by the landscape plan.
- C. Backflow preventors shall be the type suitable for use in high hazard cross connection to potable water system.
- D. In Absence of local codes or requirements for double check assembly backflow shall be in strict accordance with manufacturer's written instructions.
- E. Reduced pressure backflow preventors shall be manufactured by:
 - 1. Febco 825Y 2"
 - 2. Watts Regulator Co., "No. U009, Reduced Pressure Principle Backflow Preventor"
 - 3. Approved equal.

2.13 RAINFALL SENSOR

Provide rainfall sensor to cancel operation of controller during substantial rainfall. Sensor shall be by same manufacturer of controller provided and shall be one of the following:

- A. Rain Bird RSD-BEx
- B. "Toro Rainswitch Model No. 850-74"
- C. Approved equal.

2.14 METER

Meter Box shall meet or exceed requirements set forth by the local utility company.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Pressure/Flow Test – Conduct tests at beginning tap or meter and provide written results to Owner containing the following information:
 - 1. Static pressure in psi
 - 2. Residual pressure in psi
 - 3. Flow in gpm
- B. Layout of sprinkler heads – stake locations of each sprinkler head in accordance with approved shop drawings.
- C. Prior to installation, receive approval from Owner to proceed with construction along with proposed revisions required due to test results.

3.2 EXCAVATION

- A. Excavate trench to proper depth.
- B. Minimum trench width shall be 3 ½ inches.
- C. Backfill and hand tamp over excavation after installing piping.
- D. Excavate trenches deeper than required in soils containing rock or other hard material that might damage pipe. Backfill to proper depth with selected fine earth or sand.
- E. Keep trenches free of obstructions and debris that would damage pipe.
- F. Avoid heating trenches, electric ducts, storm and sanitary sewer lines, water and gas lines when trenching for piping.
- G. Do not cut sidewalks, paved areas or curb and gutter when trenching for piping.
 - 1. Provide sleeves, as needed, under paving prior to installation of paving. Coordinate with General Contractor.
 - 2. Under existing paving, auger bore or tunnel.
 - 3. Hand dig when within the existing drip lines of trees to remain.

3.3 PIPING SYSTEM

- A. Minimum cover from top of piping to finished grade shall be provided as follows:
 - 1. Lawn and Planting Areas
 - a. Mains and Control Valves – eighteen (18) inches

- b. Laterals – twelve (12) inches
- 2. Drives or Parking Areas – twenty-four (24) inches
- B. Clearances – minimum of three (3) inch horizontal clearance between parallel lines in same trench or vertical clearance between lines crossing at angles.
- C. Special Requirements – PVC and PE pipe
 - 1. Snake in trench at least one (1) foot per one hundred (100) feet of pipe to allow for thermal expansion.
 - 2. Pipe laterals to drain to low point drains located at lowest elevations.

3.4 SLEEVING

Provide sleeves for both piping and control wiring where either passes under paved surfaces. In some cases, this has been installed by the General Contractor.

- A. Depths of sleeve shall be same as that required for piping at each location or condition.
- B. Extend sleeves twelve (12) inches beyond paving at each end. This may have been installed by the general contractor. Verify on site.
- C. Install permanent benchmark at top of curbs for reference to sleeve locations unless they have been installed by others.

PIPING INSTALLATION

- A. Do not lay pipe on unstable material or blocking or, when in the opinion of the Owner, conditions are unsuitable.
- B. Rest full length of pipe section on bed of trench, excavating recesses to accommodate joints.
- C. Hold pipe securely while joints are being made.
- D. Threaded Plastic Pipe
 - 3. Do not use solvent cement on threaded joints.
 - 4. Wrap joints with Teflon tape or use virgin Teflon lubricant.

3.5 VALVES

- A. Do not locate beneath paved surfaces.
- B. Install plumb to within 1/16 inch.
- C. Locate within valve box with six (6) inch deep layer of coarse gravel beneath bottom of valve.

- D. Top of hose bib valves shall be as close to top of valve box as possible. Top of gravel layer shall be three (3) inches below top of valve.
- E. Master Valve
 - 5. Locate immediately behind backflow preventor.
 - 6. Valve shall be energized by master valve circuit on automatic controller.

3.6 SPRINKLERS

- A. Install plumb to within 1/16 inch of top collar, not nozzle, flush with finish grade.
- B. Provide swing joint with each sprinkler, except where entire head is raised above grade and/or where rigid riser piping is required.
- C. Heads adjacent to paving curb – shall be located between one (1) inch and four (4) inches from edge of paving or back of curb.

3.7 ELECTRICAL CONNECTIONS and CONTROL WIRE

- A. Shall be in strict accordance with latest edition of National Electrical Code and local electrical codes.
- B. Provide electrical connection to system as designated on Construction Drawings and as specified herein.
- C. General
 - 1. Do not run control and power supply wiring in same conduit.
 - 2. Provide continuous runs of wire between controller and valves. Splices shall be made with one of the following:
 - a. Watertight below ground electrical junction boxes
 - b. Watertight connectors, such as utilized for valves and located within valve box for ease of locating.
 - 7. Run control wire in schedule 40 PVC conduit beside pipe in same trench.
- D. Expansion Loops – constructed by wrapping wire around ½ inch diameter pipe to create coil. A three-(3) foot section of wire shall be used to create twelve (12) inch coil with six (6) foot section being used to create twenty-four (24) inch coil.
 - 1. Provide twelve (12) inch coils at each wire splice, not including valves, and at each change of wire direction.
 - 2. Provide twenty-four (24) inch coils at each control valve and where each valve enters conduit for automatic controller.

3.8 BACKFILLING

- A. Sand or fine-grained soils should be used for the initial backfill to a sufficient depth to prevent damage to pipe from rocks or other debris during compaction of subsequent backfill.
- B. Fill trench to within three (3) inches of finish grade with excavated soil.
- C. Fill top three inches with existing topsoil in planting or turf areas and wheel roll until compaction of backfill is same as surrounding soil.
- D. Grade backfilled trench uniform with surrounding grades.

3.9 BACKFLOW PREVENTOR

- A. Comply with local codes for installation of backflow preventor. In absence of local codes, minimum requirements shall be set in accordance with the manufacturer's written instructions.
- B. Provide combination of drains and hose bib valves to accommodate winterization of entire system by forced air. Submit materials/methods to Owner or Owner's agent for consideration and receive approval prior to installation of work.

3.10 AUTOMATIC CONTROLLER

- A. Location and installation shall be as shown on Construction Drawings and approved by Owner or Owner's agent prior to installation.
- B. Provide either plastic or steel conduits for both power supply and control wiring with conduits screened from view.
 - 1. Control wire conduit shall extend to eighteen (18) inches below grade.
 - 2. Secure conduit to wall in manner and location acceptable to Owner.
- C. Provide electrical grounding for controller in accordance with manufacturer's written instructions.

3.11 MAINTENANCE

Once each month, for first six (6) months of operation following final acceptance, provide on-site consultation with Owner's operating personnel. This shall include up to four (4) hours time each month and is in addition to the one (1) year guarantee discussed previously in these specifications.

END OF SECTION 32 1400

SECTION 329200 – TURF AND GRASSES

PART ONE - GENERAL

1.1 SODDING

A. SCOPE

The work under this section of the Specifications consists of furnishing all fertilizer, seed, sod and related materials, supervision, labor, equipment, appliances, and services necessary for and incidental to completing all operations in connection with the dressing, fertilizing, sodding of earthwork areas in strict accordance with these Specifications and the applicable drawings. In general, the work shall include but not be limited to, the following:

1. Dressing, Fertilizing, Sodding – lawn areas, cut and fill areas or swales, both for temporary establishment during the winter months and for permanent establishment in the warm months.
2. Establishing Lawn Areas – or erosion control and fertilizing in all other areas on the project site disturbed by construction, but not to be otherwise planted or covered.

B. SUBMITTALS

1. Soil Analysis: For each un-amended soil type, furnish soil analysis and a written report by a qualified soil-testing laboratory.
 - a. The soil-testing laboratory shall oversee soil sampling.
 - b. Report suitability of tested soil for plant growth.
 - c. State recommendations for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.
 - d. Report presence of problem salts, minerals, or heavy metals; if present, provide additional recommendations for corrective action.

PART TWO - PRODUCTS

A. TOPSOIL

Topsoil: ASTM D 5268 topsoil, with pH range of 5.5 to 7, a minimum of 2 percent and maximum of 20% organic material content. Imported topsoil or manufactured topsoil from off-site sources; do not obtain from agricultural land, bogs, or marshes. Verify suitability of soil to produce viable planting soil as determined by the testing lab to meet project specifications. Clean soil of roots, plants, sod, stones, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth.

Sieve Sizes	Percentage Passing
1-inch	100%
½ inch	95%-100%
No. 4	75%-100%
No. 10	60%-100%
No. 200	10%-60%

Mix soil with the following soil amendments and fertilizers in the following quantities to produce planting soil:

1. Ratio of Loose Wood Derivatives to Topsoil by Volume: 1:3
2. Volume of Sand to Topsoil by Volume.: 1:3
3. Weight of Commercial Fertilizer per 1000 Sq. Ft. (92.9 Sq. m): 3lbs

B. FERTILIZER

Fertilizer shall be 10-12-12 or other approved blend, applied at the rate of one thousand (1000) pounds per acre or as recommended by the Manufacturer, and shall be a commercial lawn starter fertilizer conforming to all applicable state laws. It shall be delivered in original, unopened containers, each bearing the manufacturer's guaranteed analysis, and shall be uniform in composition, dry and free flowing. Any fertilizer that becomes wet, caked or otherwise damaged, making it unsuitable for use will not be accepted.

C. GRASS – (Bermuda)

- a. Sod – shall be in areas as shown on plans. Sod shall be live, free of weeds and nut grass, and shall be cut with a full three-quarters (3/4) inch of natural soil covering the roots. It shall be delivered to the job in twelve (12) inch wide strips and shall not have been stacked for more that twenty-four (24) hours between the time of cutting and delivery to the job site. During delivery, prior to and during the planting of the lawn areas, the sod panels shall always be protected from excessive drying and exposure of the roots to the sun. Practice field sod shall be big roll sod, at 42"-48" width.

PART THREE – EXECUTION

A. SODDING

1. Thoroughly till Areas to be Sodded – to a depth of four (4) inches with fertilizer as specified at the rate of one thousand (1000) pounds per acre. If suggested by the soil test analysis, work limestone into the soil ad required (normal application is approximately 2000 pounds per acre).

2. Fine Grade Sod Bed – to remove ridges and depressions and clear surface of weeds, grass growth, stones, and debris. Taking care not to disturb or adversely alter drainage.
3. Lay Sod Panels – tightly together to make a solid sodded lawn area. Immediately following the sod laying, the lawn areas shall be rolled with a lawn roller commonly used for such purposes and then thoroughly watered as described under "Seeding".
4. Top Dress – with builders' sand (Clean course textured sand to be approved by project landscape architect) to smooth out uneven spots in the new lawn surface, if deemed necessary by the Owner or the Landscape Architect.

B. CLEAN-UP

Thoroughly clean the entire project area of all trash and other debris and all unused or salvaged materials resulting from grassing operations. After completion of the work, remove all spoil piles and sweep or rake the entire project area clean.

C. MAINTENANCE

Maintenance of grass areas shall consist of watering, weeding, cutting, repair of any erosion and re-seeding and/or re-sodding as necessary to establish a uniform stand of the specified grass and shall continue until provisional acceptance of the entire planting and grassing work.

All lawn areas that do not show satisfactory growth within fifteen (15) days sodding shall be scarified, and re-sodded and re-fertilized as directed until a satisfactory lawn has been established. The lawns shall be considered established when they are reasonably free from weeds, green in appearance and the specified grass is vigorous and growing well, with no bare spots larger than one (1) square foot. Full coverage is required within thirty (30) days.

D. PROTECTION

All lawn areas shall be protected until accepted. All eroded and damaged areas, regardless of cause, shall be immediately repaired and re-sodded. Protect lawns against traffic.

E. FINAL INSPECTION and ACCEPTANCE

As soon as the lawns have become established as required, a final inspection of the work will be made by the Landscape Architect and the Owner. If the work is found to be satisfactory and in accordance with all requirements of the Contract documents, the work will be provisionally accepted.

F. GUARANTEE PERIOD

The entire sodded area shall be maintained for 90 days and guaranteed by the Landscape Contractor for 12 months following provisional acceptance of work.

3.1 SPECIAL LANDSCAPE PROVISIONS

Definition – the term “Contractor” as referred to in this section means only the Landscape Contractor. The Landscape Contractor shall be currently licensed to perform landscape contracting work in this state.

- A. Water – will be available for the work. Contractor to coordinate with the Owner for sources. Hose or other watering equipment required for the work shall be furnished and operated by the Contractor at his own expense.
- B. Finished Grading – shall be the Contractor's responsibility. It will be the Contractor's responsibility to provide whatever fine grading is required to bring areas to be planted back up to the existing finished grades or to grades specified on the Drawings or in these Specifications. This will also include grading to ensure proper drainage of all planting areas wherever necessary and shall also apply to existing slopes, berms or lawn areas damaged during the work described herein. If additional topsoil is required to accomplish these items, it will be the responsibility of the Contractor to do so unless decided otherwise by the Owner. All areas designated to be sodded shall have topsoil spread evenly and shall have a minimum depth after compaction and settlement of 4 inches.
- C. Period of Establishment and Replacements
 - 1. Upon the completion of sodding and if sod is in place, living and conforms to these Specifications, provisional acceptance will be granted.
 - 2. The Contractor shall be responsible for replacing dead, damaged or unhealthy sod and, in general, ensuring proper plant growth for a Period of Establishment, which shall be one (1) year after the provisional acceptance is made.
 - 3. Plant materials that have partially died so that shape, size, or symmetry has been damaged, shall be considered subject to replacement. In such cases, the opinion of the Landscape Architect shall be final.
 - 4. Plants used for replacement shall be of the same quantity, size, kind, and quality as those originally planted, and they shall be planted as originally specified. This extra work, including all materials, labor and equipment used in these replacements shall be at no cost to the Owner. Replaced sod shall carry the same establishment period as the original. Damage, including ruts in lawn or bed areas, existing utilities, paving and other improvements, incurred while making replacements shall be immediately repaired to the satisfaction of the Owner.
 - 5. With the approval of the Landscape Architect, plants may be replaced at the start of next year's planting or digging season but, in such cases, dead plants shall be removed from the site immediately.

6. The Contractor agrees that, for the Period of Establishment of ninety (90) days for sodded turf, he will water the sod a minimum of two (2) times each week during dry periods. Watering shall consist of thoroughly soaking each planting area to ensure that deep watering has occurred. The irrigation system may be used to accomplish all necessary watering.
7. This replacement guarantee does not apply where sod dies after final acceptance because of injury by excessive wind (hurricane), hail or vandalism.
8. Final acceptance will be made only if all sod is in place, living and is in conformance with the Drawings, Specifications, and these Special Provisions.

END OF SECTION 329200

SECTION 329300 – PLANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

Plants.
Planting soils.

1.2 DEFINITIONS

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Duff Layer: The surface layer of native topsoil that is composed of mostly decayed leaves, twigs, and detritus.
- C. Finish Grade: Elevation of finished surface of planting soil.
- D. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- E. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- F. Pests: Living organisms that occur where they are not desired, or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- G. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- H. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.
- I. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
- J. Subsoil: All soil beneath the topsoil layer of the soil profile and typified by the lack of organic matter and soil organisms.
- K. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated, including soils.
- B. Sample of mulch, in 1-gallon zip-loc type container.
- C. Product certificates.
- D. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of plants during a calendar year.

1.4 QUALITY ASSURANCE

- A. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.

Landscape Contractor: State licensed, commercial.

Pesticide Applicator: State licensed, commercial.

- B. Soil Analysis: For each un-amended soil type, furnish soil analysis and a written report by a qualified soil-testing laboratory.

The soil-testing laboratory shall oversee soil sampling.

Report suitability of tested soil for plant growth.

- a. State recommendations for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.
 - b. Report presence of problem salts, minerals, or heavy metals; if present, provide additional recommendations for corrective action.
- C. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.
- D. Provide photographs, with scale figures, and locations of where material will be sourced, prior to procurement for approval by Landscape Architect.
- E. Pre-installation Conference: Contractor to conduct conference with Owner and/or Owner's Representative at a location to be determined.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.
- B. Handle planting stock by root ball.

- C. Deliver plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.

1.6 WARRANTY

- A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.

Failures include, but are not limited to, the following:

- a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner, or incidents that are beyond Contractor's control.
- b. Structural failures including plantings falling or blowing over.

Warranty Periods from Date of Substantial Completion

- a. Trees, Shrubs, Vines, and Ornamental Grasses: 12 months.

1.7 MAINTENANCE SERVICE

- A. Initial Maintenance Service: Provide maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established but for not less than maintenance period below.

- 1. Maintenance Period for Trees and Shrubs: 90 days from date of Substantial Completion.
- 2. Maintenance Period for Turf and Landscape Beds: 90 days from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PLANT MATERIAL

- A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant Schedule or Plant Legend shown on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
- B. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which shall begin at root flare according to ANSI Z60.1. Root flare shall be visible before planting.

2.2 INORGANIC SOIL AMENDMENTS

- A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
 - 1. Class: T, with a minimum of 99 percent passing through No. 8 (2.36-mm) sieve and a minimum of 75 percent passing through No. 60 (0.25-mm) sieve.
 - 2. Class: O, with a minimum of 95 percent passing through No. 8 (2.36-mm) sieve and a minimum of 55 percent passing through No. 60 (0.25-mm) sieve.
- B. Sulfur: Granular, biodegradable, and containing a minimum of 90 percent sulfur, with a minimum of 99 percent passing through No. 6 (3.35-mm) sieve and a maximum of 10 percent passing through No. 40 (0.425-mm) sieve.
- C. Sand: Clean, washed, natural or manufactured, and free of toxic materials.

2.3 ORGANIC SOIL AMENDMENTS

- A. Wood Derivatives: Decomposed, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture and free of chips, stones, sticks, soil, or toxic materials.

2.4 FERTILIZERS

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
 - 1. Composition: 1 lb/1000 sq. ft. (0.45 kg/92.9 sq. m) of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
- B. Planting Tablets: Tightly compressed chip type, long-lasting, slow-release, commercial-grade planting fertilizer in tablet form. Tablets shall break down with soil bacteria, converting nutrients into a form that can be absorbed by plant roots.
 - 1. Size: 5-gram tablets.
 - 2. Nutrient Composition: 20 percent nitrogen, 10 percent phosphorous, and 5 percent potassium, by weight plus micronutrients.

2.5 PLANTING SOILS

- A. Planting Soil: ASTM D 5268 topsoil, with pH range of 5.5 to 7, a minimum of 2 percent organic material content. Imported topsoil or manufactured topsoil from off-site sources; do not obtain from agricultural land, bogs or marshes. Verify suitability of soil to produce viable planting soil as determined by the testing lab in order to meet project specifications. Clean soil of roots, plants, sod, stones, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth. Mix soil with the following soil amendments and fertilizers in the following quantities to produce planting soil:
1. Ratio of Loose Wood Derivatives to Topsoil by Volume: 1:3
 2. Volume of Sand to Topsoil by Volume: 1:3
 3. Weight of Commercial Fertilizer per 1000 Sq. Ft. (92.9 Sq. m): 3lbs

2.6 MULCHES

- A. Organic Mulch: Ground or shredded hardwood mulch.

2.7 PESTICIDES

- A. General: Pesticide registered and approved by EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

PART 3 - EXECUTION

3.1 PLANTING AREA ESTABLISHMENT

- A. Loosen subgrade of planting areas to a minimum depth of 12 inches. Remove stones larger than 1-1/2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
1. Thoroughly blend planting soil off-site before spreading or spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil.
 2. Spread planting soil to a depth of 8 inches but not less than required to meet finish grades after natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
- B. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.2 EXCAVATION FOR TREES AND SHRUBS

- A. Planting Pits and Trenches: Excavate circular planting pits with sides sloping inward at a 45-degree angle. Excavations with vertical sides are not acceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.
 - 1. Excavate approximately three times as wide as ball diameter.
 - 2. Excavate at least 12 inches wider than root spread and deep enough to accommodate vertical roots for bare-root stock.
 - 3. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
- B. Subsoil and topsoil removed from excavations may not be used as planting soil.

3.3 TREE, SHRUB, AND VINE PLANTING

- A. Before planting, verify that root flare is visible at top of root ball according to ANSI Z60.1.
- B. Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.
- C. Set stock plumb and in center of planting pit or trench with root flare 1 inch above adjacent finish grades.
 - 1. Use planting soil for backfill.
 - 2. Balled and Potted or Container-Grown: Carefully remove root ball from container without damaging root ball or plant.
 - 3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
 - 4. Place planting tablets in each planting pit when pit is approximately one-half filled; in amounts recommended in soil reports from soil-testing laboratory. Place tablets beside the root ball about 1 inch from root tips; do not place tablets in bottom of the hole.
 - 5. Continue backfilling process. Water again after placing and tamping final layer of soil.
- D. When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

3.4 TREE, SHRUB, AND VINE PRUNING

- A. Remove only dead, dying, or broken branches. Do not prune for shape.

- B. Prune, thin, and shape trees, shrubs, and vines according to standard professional horticultural and arboricultural practices. Unless otherwise indicated by Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.

3.5 PLANTING AREA MULCHING

- A. Mulch backfilled surfaces of planting areas and other areas indicated.
 - 1. Trees and Tree-like Shrubs in Turf Areas: Apply organic mulch ring of 3-inch average thickness, 36-inch radius around trunks or stems. Do not place mulch within 6 inches of trunks or stems.
 - 2. Organic Mulch in Planting Areas: Apply 3-inch average thickness of mulch extending 12 inches beyond edge of individual planting pit or trench and over whole surface of planting area, and finish level with adjacent finish grades. Do not place mulch within 3 inches of trunks or stems.

3.6 PLANT MAINTENANCE

- A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease.
- B. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
- C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use practices to minimize the use of pesticides and reduce hazards.
- D. Apply pesticides and other chemical products and biological control agents in accordance with authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- E. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.

END OF SECTION 329300

SECTION 330500 - COMMON WORK RESULTS FOR UTILITIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Summary: This Section includes water system piping for potable-water service outside the building.
 - 1. This Section does not include tapping of the utility company water main by utility company and charging directly to Owner.
- B. Comply with NSF 14 for plastic potable-water-service piping.
- C. Comply with NSF 61 for materials for water-service piping and specialties for domestic water.

PART 2 - PRODUCTS

2.1 PIPE AND FITTINGS

- A. PVC Plastic Pipe: ASTM D 1785, Schedule 80.
 - 1. PVC Socket Fittings: Schedule 80, ASTM D 2467.
 - 2. Solvent Cement for Joining PVC Piping: ASTM D 2564. Include primer according to ASTM F 656.
- B. PVC, AWWA Pipe: AWWA C900, Class 150, with bell end with gasket and spigot end.
 - 1. Comply with UL 1285 for fire-service mains.
 - 2. PVC Fabricated Fittings: AWWA C900, Class 150, with bell-and-spigot or double-bell ends. Include elastomeric gasket in each bell.
 - 3. PVC Molded Fittings: AWWA C907, Class 150, with bell-and-spigot or double-bell ends. Include elastomeric gasket in each bell.

2.2 VALVES

- A. Nonrising-Stem, Resilient-Seated Gate Valves, NPS 3 and Larger: AWWA C509, gray and bonnet; with bronze or gray- or ductile-iron gate, resilient seats, bronze stem, and stem nut. Include 200-psig minimum working-pressure design, interior coating according to AWWA C550, and mechanical-joint ends.
- B. Nonrising-Stem Gate Valves: UL 262, FMG-approved iron body and bonnet with flange for indicator post, bronze seating material, and inside screw; 175-psig working pressure, and flanged end connections.
- C. Valve Boxes: NEMA 4X Fiberglass box with top section and cover with lettering "WATER"; bottom section with base of size to fit over valve and barrel approximately 5 inches in diameter, and adjustable cast-iron extension of length required for depth of bury of valve.

- D. Indicator Posts: UL 789, FMG-approved, vertical-type, cast-iron body with operating wrench, extension rod, and adjustable cast-iron barrel of length required for depth of bury of valve.
- E. Curb Valves: Comply with AWWA C800. Include bronze body, ground-key plug or ball, and wide tee head, with inlet and outlet matching service piping material.

2.3 SPECIALTIES

- A. Backflow Prevention Devices: ASSE standard backflow preventers, bronze body, 150-psig working pressure, of size indicated for maximum flow rate and maximum pressure loss indicated.
- B. Plastic Underground Warning Tapes: Polyethylene plastic tape, 6 inches wide by 4 mils thick, solid blue in color with metallic core and continuously printed black-letter caption "CAUTION--WATER LINE BURIED BELOW."

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Connect water system piping and water-supply source and building water-distribution and fire-protection systems at the building wall in locations and pipe sizes indicated.
- B. Install restrained joints for buried piping within 60 inches of building. Use restrained-joint pipe and fittings, thrust blocks, anchors, tie rods and clamps, and other supports at vertical and horizontal offsets.
- C. Install fittings for changes in direction and branch connections.
- D. Comply with NFPA 24 for fire-service-main piping materials and installation.
- E. Install copper tube and fittings according to CDA's "Copper Tube Handbook."
- F. Install PVC, AWWA pipe according to AWWA M23 and ASTM F 645.
- G. Bury piping with depth of cover over top at least 30 inches, with top at least 12 inches below level of maximum frost penetration.
- H. Install continuous underground detectable warning tape during backfilling of trench for underground water- service piping. Locate below finished grade, directly over piping.
- I. Clean and disinfect water distribution piping according to authorities having jurisdiction.

END OF SECTION 330500

SECTION 331100 - WATER UTILITY DISTRIBUTION PIPING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Buried pipe and piping.
- B. Valves.
- C. Thrust blocks and harnessing.
- D. Field quality control.
- E. Test.
- F. System disinfection.
- G. Connections to existing mains.

1.2 RELATED SECTIONS

- A. Trenching, bedding and backfilling for pipelines are specified in Section 31 23 33 – Excavation, Trenching and Backfilling.
- B. Coordinate the work of this Section with the work of Section 22 11 16 – Domestic Water Piping and Appurtenances.

1.3 MEASUREMENT AND PAYMENT

- A. General: Measurement and payment for the water distribution system will be by the lump-sum method.
- B. Lump Sum: If the bid schedule indicated a lump sum for the water distribution system, the lump-sum method of measurement and payment will be in accordance with Section 01 20 00 Price and Payment Procedures.

1.4 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM A126 Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings
 - 2. ASTM A197 Specification for Cupola Malleable Iron
 - 3. ASTM A307 Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile
 - 4. ASTM D1784 Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
 - 5. ASTM D1785 Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120

6. ASTM D2466 Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
 7. ASTM D2564 Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
 8. ASTM D2855 Practice for Making Solvent-Cemented Joints, with Poly (Vinyl Chloride) (PVC) Pipe and Fittings
 9. ASTM D3139 Specifications for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
 10. ASTM F439 Specification for Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fitting, Schedule 80
 11. ASTM F477 Specification for Elastomeric Seal (Gaskets) for Joining Plastic Pipe
- B. American Water Works Association (AWWA):
1. AWWA C500 Gate Valve, 3 through 48 inches NPS – for Water and Sewage System
 2. AWWA C503 Standard for Wet-Barrel Fire Hydrants
 3. AWWA C504 Rubber Seated Butterfly Valve
 4. AWWA C508 Swing-Check Valves for Water Works Service, 2 inches through 24 inches NPS
 5. AWWA C606 Grooved and Shouldered Type Joints
 6. ANSI/AWWA Standard for Disinfecting Water Mains C651
 7. ANSI/AWWA Specification for Polyvinyl Chloride (PVC) Pressure Pipe, 4-inch C900 through 12 inch for Water Distribution
- C. Water Utility District Standards: Note that all work shall be performed and completed in accordance with the jurisdictional water utility district's standard drawings and specifications. The Contractor shall be responsible for obtaining all such standards and for compliance with such standards as applicable.
- D. Underwriters Laboratories Inc. (UL):
1. UL 246 Hydrant for Fire-Protection Service
- 1.5 SUBMITTALS
- A. Refer to Section 01 33 00 – Submittal Procedures, and Section 01 30 00 – Administrative Procedures, for submittal requirements and procedures.
- B. Submit respective manufacturer's product data for manufactured materials and equipment, including all valves and fire hydrants.
- C. Submit Shop Drawings showing piping layout and pipe, valves, hydrants, and locations of tie-ins, buttresses, and thrust blocks.
- 1.6 SUBMITTALS FOR CLOSEOUT
- A. General: Refer to Section 01 70 00 – Execution and Closeout Requirements, and Section 01 78 00 – Closeout Submittals, for Submittal Requirements and Procedures.
- B. Record Drawings: Record actual location of piping mains, valves, connections, and invert elevations for review.

1.7 SITE CONDITIONS

- A. Excavations in which products will be buried shall be dry.
- B. Coordinate the installation of the water supply system with the jurisdictional water utility owner.
- C. The jurisdictional water utility district shall provide water services to the demark point indicated on the drawings. The Contractor shall be responsible for making all such arrangements.

PART 2 – PRODUCTS

2.1 BURIED PIPE AND FITTINGS

- A. Requirements: Provide the types, sizes, and configurations of pipe, fittings, and miscellaneous materials and installation accessories as indicated.
- B. PVC Pipe and Fittings, 3 inches and Smaller:
 - 1. Pipe: Polyvinyl chloride (PVC), ASTM D1785, Schedule 40 or 80, as indicated, Type I, Grade
 - 2. Fittings: ASTM D2466, socket weld, same material and schedule as pipe, or meeting requirements of ASTM F439, as applicable.
 - 3. Joints: Socket welded with PVC solvent cement conforming to ASTM D2564 and ASTM D2855.
- C. PVC Pipe and Fittings, 4inches or Larger:
 - 1. Pipe: AWWA C900, Class 200, polyvinyl chloride (PVC) water pipe with bell and spigot ends and flexible ring joints.
 - 2. Fittings: ASTM D1784, Type 1, Grade 1, polyvinyl chloride (PVC) fittings, Class 200, or meeting requirements of ASTM F439, as applicable.
 - 3. Joints: ASTM D3139, gasketed bell joints with ASTM F477 gaskets.

2.2 VALVES

- A. Gate Valves:
 - 1. Gate Valves up to 2-1/2 inches: 150-pound bronze body, non-rising stem, single wedge, threaded connection.
 - 2. Gate Valve 3 inches and Over: AWWA C500, iron body, bronze trim, non-rising stem with square nut, single wedge, mechanical joint ends with type gland and serration's designed for plastic pipe service.
- B. Pressure Reducing Valves: All bronze construction, spring-loaded, single-seated, suitable for tight shutoff under dead-end conditions. Provide with renewable composition seat discs, nylon inserted diaphragm, bolted spring chamber, and threaded connection.
- C. Backflow Preventer: Provide a device that is approved by the jurisdictional water utility company. As a minimum, the backflow preventer shall be a reduced pressure principle assembly with two rising-stem gate shut-off valves, two resilient seat ball-valve test cocks, two check valves replaceable resilient disks and seat with relief valve with replaceable

seat. Backflow preventer shall be suitable for 175 psig operating pressure and 140 degrees F operating temperature, and shall be of bronze construction with bronze construction with bronze internal parts and stainless steel springs, screwed inlet and outlet for 2-inch and smaller sizes, and cast iron, epoxy-coated construction with 150 pound flanged inlet and outlet for 3-inch and larger sizes.

2.3 CONCRETE FOR THRUST BLOCKS

- A. Provide Class 3000, 1-inch aggregate, concrete for all thrust blocks, as specified in Section 03 05 15 – Portland Cement Concrete, with reinforcement where indicated.

2.4 MISCELLANEOUS METAL

- A. Tie Rods: Stainless steel, Type 316, threaded ANSI standard, bolt threaded on both ends. Minimum 1/2 -inch diameter for 4-inch pipe, 5/8-inch minimum diameter for 6-inch and 8-inch diameter pipe, and 3/4-inch minimum diameter for 12-inch and larger.
- B. Rod Couplings: Malleable iron, ASTM A197, turnbuckle design, female threaded to mate with tie rods, 5/8-inch and 3/4-inch sizes to mate with both rods and mechanical joint bolts.
- C. Pipe Clamps: For sizes 4 inches and larger, provide with malleable iron rod sockets. Provide washers in lieu of rod sockets where authorized, conforming with ASTM A126, Class A, cast iron. Bolts and bolting shall conform with ASTM A307.

PART 3 – EXECUTION

3.1 MAINTAINING WATER SERVICES

- A. Maintain water service and conduct operations at times selected to minimize the duration and inconvenience of service interruption.
- B. At least 24 hours prior to the required cutting or abandoning of an existing water main, notify the jurisdictional water utility owner, and obtain approval of the schedule. Actual cutting or abandoning of an existing water main shall be performed by the Contractor after receiving approval from the owner of the facility.
- C. Keep existing water mains parallel to new water mains in service until new water mains are ready for service.
- D. Where the existing water main or service is to be cut for connection to new piping, the work shall be performed by the Contractor. Initial work operations shall include the test-pitting of all points of connection (tie-in) to ensure the true location of existing linework.
- E. Water valves in service shall be operated only by personnel of the jurisdictional water utility owner.
- F. Except as specified otherwise herein, construction methods shall be in accordance with the applicable provisions of the jurisdictional water utility owner's standard drawings and specifications.

3.2 INSTALLATION

A. Installation Requirements:

1. Excavate pipe trench in accordance with Section 33 05 28 - Trenching and Backfilling for Utilities. Hand trim bottom of trench to approximately 6 inches below invert of pipe.
2. Top of pipe to finished grade shall be 30 inches unless otherwise indicated or approved by the Engineer.
3. Place sand bedding material, meeting the requirements of Section 33 05 28 - Trenching and Backfilling for Utilities, at trench bottom, level in one continuous layer not exceeding 8 inches in compacted depth. Compact bedding to 95 percent relative density.
4. Backfill around sides and to 6 inches above pipe with cover fill tamped in place and compacted to 95 percent relative density.
5. Test pipe distribution system and place tracer wire on top of pipe as specified herein prior to covering pipe. Backfill trench in accordance with Section 33 05 28 – Trenching and Backfilling for Utilities.
6. Maintain optimum moisture content of bedding material to attain required compaction density.
7. Provide concrete thrust blocks for elbows, tees, valves, and appurtenances of buried piping. Thrust blocks shall be constructed as indicated and in accordance with AWWA requirements.
8. Install piping true to line and grade, supported and guided to assure alignment under all conditions.
9. Install pipe to allow for expansion and contraction without stressing pipe or joints.
10. Install unions at each connection to valves, both sides of each valve.
11. Make change in line with fittings. Do not spring joints to effect change of direction.
12. Do not field cut pipe unless necessary. Make such necessary cuts by means of equipment designed for the purpose, ensuring a smooth and square end.
13. For connection to existing pipe, provide pipe with suitable ends or adapters, after verification of size and type of existing pipe.
14. Install tie rods and pipe clamps at every joint fitting and valve.

B. Valves:

1. Install valves in accordance with the valve manufacturer's installation instructions.
2. Where valves are provided by the jurisdictional water utility owner, provide suitable access for performance of such work.
3. Where necessary, alter the typical valve manhole to suit actual conditions. Any alterations in valve manholes shall be operable from the street level. All operator nuts shall be plumb to the valve manholes.
4. Set valve on solid bearing.
5. Center and plumb valve box over valve. Set box cover flush with finished grade.

C. Thrust Blocks and Harnessing

1. Provide for counteracting thrust caused by static and dynamic forces, including water hammer at bends, tees, reducers, valves, and dead ends by installing harnessing as indicated or required. For other methods, submit details for approval of the jurisdictional water utility owner prior to use.
2. Provide concrete thrust blocks as indicated where harnessing is not practicable.

D. Water Service Connections: Provide water service connections, where necessary, in accordance with the Local Plumbing Code, the installation instructions of the service pipe and fittings manufacturer, and the utility company requirements with reduced pressure

back-flow preventer (as specified and approved by Baton Rouge Water Co.) and water meter with by-pass valves.

- E. Acceptance Requirements: After installation of pipes, ends of pipes shall be either capped or plugged. No piping shall be buried before being inspected and tested.

3.3 FIELD QUALITY CONTROL

- A. Refer to Section 01 40 00 – Quality Requirements, for requirements.
- B. Compaction testing of related earthwork shall be performed in accordance with applicable requirements of Section 31 00 00 – Earthwork.
- C. If tests indicate work does not meet specified requirements, remove such work, replace, and retest at no additional cost to the Owner.

3.4 TESTS

- A. Protection from Flooding: Provide positive measures to protect exposed, installed pipe and compacted pipe bedding from flooding during testing.
- B. Notice of Testing:
 - 1. Give 48-hour notice of intention of testing to the jurisdictional water utility owner, which will furnish, install, and operate pumps, gages, meters, and individual pipe connections to test openings.
 - 2. Designate largest sections feasible for testing and sterilizing. Testing and sterilizing operations shall be performed by the Contractor, at Contractor's expense.
- C. Testing Requirements:
 - 1. General:
 - a. For hydrostatic tests, provide approved caps and plugs in sections to be tested, and remove them after testing.
 - b. Prevent leakage in pipes and fittings at openings. Temporarily block plugged and capped ends to prevent displacement.
 - c. Install the water source connection for testing the isolated section. The Engineer may permit the use of a tap that will be furnished and installed by utility owner.
 - d. Provide labor and materials required for leakage testing, including excavation for installation and removal of pumps, gages, meters, and water source connections.
 - e. Where leakage exceeds the water utility company's standards, perform necessary corrective measures.
 - f. Remove and replace defective pipes, joints, fittings, valves, and other appurtenances. Reset such items if displaced.
 - g. Perform hydrostatic tests in accordance with the jurisdictional water utility district's requirements. All such tests shall be witnessed by the jurisdictional water utility district's representative. The Contractor shall be responsible for making all such arrangements.

- D. Testing and Flushing of Potable Water System: Test the potable water system hydrostatically in sections to a pressure of at least 150 psi for not less than 15 minutes, witnessed by the Engineer. Pressure test pipe before burial. Repair leaks and retest the system until the system is leak free. Use testing instruments calibrated by a qualified laboratory in accordance with Section 01 45 00 - Quality Control. Test sequence shall be as follows:
1. Lines shall be fully flushed.
 2. Lines shall be hydrostatically tested.
 3. Lines shall be fully flushed.
 4. Lines shall be fully disinfected.

3.5 SYSTEM DISINFECTION

- A. Before final acceptance of the water supply system, each section of the new line shall be disinfected in accordance with ANSI/AWWA C651. One of the following sources of disinfectant shall be used:
1. Mixture of water and chlorine gas.
 2. Direct application of chlorine.
 3. Mixture of water and calcium hypochlorite; or
 4. Mixture of water and calcium chloride.
- B. Before disinfecting, flush the line thoroughly to remove dirt and extraneous materials. Clean each section of the line between valves independently.
- C. Retain the disinfectant solution in the pipe for at least 24 hours. Following this sterilization period, the residual chlorine content at the ends of the section and at other representative points shall be not less than five parts per million. Then, the line shall be drained and thoroughly flushed with water until the residual chlorine content is similar to that obtained from the existing water distribution system.
- D. Take water samples and test in accordance with ANSI/AWWA C651.

3.6 CONNECTIONS TO EXISTING MAINS

- A. Following testing and sterilization, new water distribution lines shall be connected to existing mains as indicated. Each connection shall be made at a time and in a manner that will result in the least interruption of service.
- B. All connections involving shut down of jurisdictional water utility's existing facilities shall be made under the immediate supervision of the jurisdictional water utility district. No member of the Contractor's forces may operate any valve controlling the flow of water in the water utility's existing system.
- C. The Contractor shall provide tie-ins to the existing system at a time that is convenient to jurisdictional water utility district, which may be in the evenings and on weekends.

END OF SECTION 331100

SECTION 334100 - STORM UTILITY DRAINAGE PIPING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Storm drainage piping.
 2. Accessories.
 3. Concrete Collars.

1.2 REFERENCES

- A. American Association of State Highway and Transportation Officials
1. AASHTO M36 – Corrugated Steel Pipe, Metallic Coated, for Sewers and Drains.
 2. AASHTO M190 – Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches.
 3. AASHTO M196 – Corrugated Aluminum Pipe for Sewers and Drains.
 4. AASHTO M294 – Corrugated Polyethylene Pipe
- B. ASTM International:
1. ASTM C14 - Standard Specification for Concrete Sewer, Storm Drain, and Culvert Pipe.
 2. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
 3. ASTM C443 - Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.
 4. ASTM C924 - Standard Practice for Testing Concrete Pipe Sewer Lines by Low- Pressure Air Test Method.
 5. ASTM C969 - Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines.
 6. ASTM C1103 - Standard Practice for Joint Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines.
 7. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
 8. ASTM D3034 - Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
 9. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
- C. LADOTD Standard Specifications:
1. Standard Specifications for Roads and Bridges, 2006, published by the Louisiana Department of Transportation.

1.3 SUBMITTALS

- A. Section 013000 – Administrative Requirements: Requirements for submittals.
- B. Product Data: Submit data for pipe and pipe accessories.
- C. Manufacturer's Installation Instructions: Submit special procedures required to install products specified.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

- A. Section 017000 – Execution and Closeout Requirements: Requirements for submittals.
- B. Project Record Documents:
 - 1. Accurately record actual locations of pipe runs, connections, catch basins, cleanouts, and invert elevations.
 - 2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with LADOTD Standard Specification.
- B. Maintain one copy of document on site.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing Products specified in this Section with minimum 5 years documented experience.
- B. Installer: Company specializing in performing Work of this section with minimum 5 years documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 016000 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Block individual and stockpiled pipe lengths to prevent moving.
- C. Do not place pipe or pipe materials on private property or in areas obstructing pedestrian or vehicle traffic.
- D. Do not place pipe flat on ground. Cradle to prevent point stress.
- E. Store UV sensitive materials out of direct sunlight.

1.8 COORDINATION

- A. Section 013000 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate Work with local storm drain authority.
- C. Notify affected utility companies minimum of 72 hours prior to construction or as required by law.

PART 2 - PRODUCTS

2.1 STORM DRAINAGE PIPING

- A. Reinforced Concrete Pipe (RCP): ASTM C76, bell and spigot or tongue and groove ends.
 - 1. Pipe Class: Class III with Wall Type B, or as otherwise specified on Drawings.
 - 2. Fittings: Reinforced concrete.
 - 3. Joints: ASTM C443, rubber compression gasket.
- B. HDPE Corrugated Polyethylene Pipe: AASHTO M294, Type S or Type D.
 - 1. Fittings: PVC conforming to pipe specifications.
 - 2. Joints: ASTM F477, elastomeric gaskets.
- C. Corrugated Metal Pipe (CMP):
 - 1. Steel Pipe: ASSHTO M36.
 - 2. Aluminum Pipe: AASHTO M196.
 - 3. Fittings: Corrugated Steel or Aluminum to match pipe.
 - 4. Joints: Corrugated coupling bands, galvanized steel or aluminum to match pipe, minimum 10 inches wide; connected with two neoprene "O" ring gaskets per and two galvanized steel bolts.
- D. Bituminous Coated CMP: AASHTO M 190, Coated inside and out with 0.050-inch-thick bituminous coating or polymer coating.

2.2 CONCRETE AND GROUT

- A. Concrete: Concrete conforming to the LADOTD Standard Specifications with:
 - 1. Compressive strength of 3,000 psi at 28 days.
 - 2. Air entrained.
 - 3. Water cement ratio of 0.488 with rounded aggregate and 0.532 with angular aggregate.
 - 4. Maximum slump of 3.5 inch for vibrated concrete and 4 inch for non-vibrated concrete.
 - 5. Minimum cement content of 564 pounds per cubic yard for vibrated concrete and 602 pounds per cubic yard for non-vibrated concrete.
- B. Grout: Non-shrink, non-metallic in accordance with LADOTD Standard Specifications with a compressive strength of at least 5,000 psi at 3 days.

2.3 BEDDING AND COVER MATERIALS

- A. General: Compaction testing or related earthwork shall be performed in accordance with applicable requirements of 31 00 00 Earthwork.
- B. Bedding for Rigid Pipe (RCP): Clean sand, slightly silty sand, or slightly clayey sand having a Unified Soil Classification of SP, SP-SM or SP-SC.
- C. Bedding for Flexible Pipe (HDPE and CMP): Clean coarse aggregate Gradation No. 57 conforming to the LADOTD Standard Specifications.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 013000 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Verify trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on Drawings.

3.2 PREPARATION

- A. Excavate pipe trench in accordance with Section 312317.
- B. Excavate to lines and grades shown on Drawings or required to accommodate installation of encasement.
- C. Dewater excavations to maintain dry conditions and preserve final grades at bottom of excavation.
- D. Provide sheeting and shoring in accordance with Section 312317.
- E. Place bedding material at trench bottom, level continuous layer not exceeding 8-inch compacted depth; compact to 95 percent per Section 312317.
- F. Maintain optimum moisture content of bedding material to attain required compaction density.

3.3 INSTALLATION – PIPE

- A. Install in accordance with manufactures instructions and as indicated on Drawings.
- B. Install plastic pipe, fittings, and accessories in accordance with ASTM D2321.
- C. Seal joints watertight.

- D. Lay pipe to slope gradients indicated on Drawings; with maximum variation from indicated slope of 1/8 inch in 10 feet. Begin at downstream end and progress upstream.
- E. Assemble and handle pipe in accordance with manufacturer's instructions except as modified on the Drawings or by Engineer.
- F. Keep pipe and fittings clean until work is completed and accepted by Engineer. Cap open ends during periods of work stoppage.
- G. Lay bell and spigot pipe with bells upstream.
- H. Connect pipe to existing sewer system as indicated on Drawings at existing manhole or using doghouse manhole connection per Section 330514.
- I. Install underground marking tape continuously 12 inches above pipeline.
- J. Connect to sub-drainage tile system piping. Refer to Section 33 46 00.
- K. Install site storm drainage system piping to 5 feet of building and plug.

3.4 INSTALLATION – CONNECTION TO EXISTING STRUCTURES

- A. Core drill existing manhole to clean opening. Do not use pneumatic hammers, chipping guns, and sledgehammers.
- B. Install watertight neoprene gasket and seal with non-shrink concrete grout.
- C. Concrete encase new sewer pipe minimum of 24 inches to nearest pipe joint. Use epoxy binder between new and existing concrete.
- D. Prevent construction debris from entering existing sewer line when making connection.

3.5 INSTALLATION – MANHOLES, CATCH BASINS, AND CLEANOUTS

- A. Install manholes in accordance with Section 330514.
- B. Form bottom of excavation clean and smooth to correct elevation.
- C. Form and place cast-in-place concrete base pad or pre-cast concrete base with provision for storm sewer pipe end sections.
- D. Level top surface of base pad; sleeve concrete shaft sections to receive storm sewer pipe sections.
- E. Establish elevations and pipe inverts for inlets and outlets as indicated on Drawings.
- F. Mount lid and frame level in grout, secured to top cone section to elevation indicated.

3.6 FIELD QUALITY CONTROL

- A. Section 014000 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Request inspection prior to and immediately after placing bedding.
- C. Perform tests on storm drain system in accordance with Section 330134 and local code. Perform the following tests:
 - 1. Gravity Sewer Testing:
 - a. Low Pressure Air Test.
 - b. Infiltration Test.
 - 2. Deflection Testing of Plastic Piping.
 - 3. Manhole Testing: Vacuum Test.
 - 4. Notify Engineer 72 hours in advance of test and have witness test.
- D. Soil Compaction Testing: In accordance with Section 312317.
- E. When tests indicate Work does not meet specified requirements, remove work, replace, and retest.

3.7 PROTECTION OF FINISHED WORK

- A. Section 017000 - Execution and Closeout Requirements: Protecting finished Work.
- B. Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.
 - 1. Take care not to damage or displace installed pipe and joints during construction of pipe supports, backfilling, testing, and other operations.
 - 2. Repair or replace pipe that is damaged or displaced from construction operations.

END OF SECTION 334100