

CONTRACT, LEASE, AGREEMENT CONTROL FORM

Date: 05/20/2022

Contract/Lease Control #: C22-3180-WS

Procurement#: ITB WS 23-22

Contract/Lease Type: AGREEMENT

Award To/Lessee: J&P CONSTRUCTION CO., INC DBA JAMISON CONSTRUCTION COMPANY

Owner/Lessor: OKALOOSA COUNTY

Effective Date: 05/17/2022

Expiration Date: 440 DAYS FROM NTP

Description of: REPLACEMENT OF OKALOOSA ISLAND WATER BOOSTER STATION

Department: WS

Department Monitor: LITRELL

Monitor's Telephone #: 850-651-7195

Monitor's FAX # or E-mail: JLITRELL@MYOKALOOSA.COM

Closed:

Cc: BCC RECORDS

**PROCUREMENT/CONTRACT/LEASE
INTERNAL COORDINATION SHEET**

Procurement/Contract/Lease Number: T30 Tracking Number: 4586-22
Procurement/Contractor/Lessee Name: J.P. Construction Co. Grant Funded: YES ___ NO X
Purpose: Replacement of Okaloosa Island Water Booster Station
Date/Term: 255 from NTP
Department #: 4120
Account #: 563398
Amount: 2,095,000.00
Department: WS Dept. Monitor Name: Littell

1. GREATER THAN \$100,000
2. GREATER THAN \$50,000
3. \$50,000 OR LESS

Purchasing Review

Procurement or Contract/Lease requirements are met:
White memo Date: 4-27-22
Purchasing Manager or designee: Jeff Hyde, DeRita Mason, Jessica Darr, Angela Etheridge

2CFR Compliance Review (if required)

Approved as written: no federal bids Grant Name: _____
Date: _____
Grants Coordinator: Suzanne Ulloa

Risk Management Review

Approved as written: see email attached Date: 4-27-22
Risk Manager or designee: Kristina LoFria

County Attorney Review

Approved as written: see email attached Date: 4-27-22
County Attorney: Lynn Hoshihara, Kerry Parsons or Designee

Department Funding Review

Approved as written: _____ Date: _____

IT Review (if applicable)

Approved as written: _____ Date: _____

DeRita Mason

From: Lynn Hoshihara
Sent: Wednesday, April 27, 2022 2:27 PM
To: DeRita Mason
Subject: Re: J.P. Construction Contract Draft

Thanks DeRita. This is approved.

Lynn M. Hoshihara
County Attorney
Okaloosa County, Florida

Please note: Due to Florida's very broad public records laws, most written communications to or from County employees regarding County business are public records, available to the public and media upon request. Therefore, this written e-mail communication, including your e-mail address, may be subject to public disclosure.

From: DeRita Mason
Sent: Wednesday, April 27, 2022 3:18:05 PM
To: Lynn Hoshihara
Subject: RE: J.P. Construction Contract Draft

Lynn,
See page 3, I added some language.

DeRita Mason



DeRita Mason, CPPB, NIGF-CPP
Senior Contracts and Lease Coordinator
Okaloosa County Purchasing Department
5479A Old Bethel Road
Crestview, Florida 32536
(850) 689-5960
dmason@myokaloosa.com

"Please note: Due to Florida's very broad public records laws, most written communications to or from County employees regarding County business are public records, available to the public and media upon request. Therefore, this written e-mail communication, including your e-mail address, may be subject to public disclosure."

From: Lynn Hoshihara <lhoshihara@myokaloosa.com>
Sent: Wednesday, April 27, 2022 2:15 PM

DeRita Mason

From: Kristina LoFria
Sent: Wednesday, April 27, 2022 1:25 PM
To: DeRita Mason
Subject: RE: J.P. Construction Contract Draft

DeRita,

Good afternoon, this is approved by Risk for insurance purposes only.

Thank You

Kristy LoFria

Okaloosa County BOCC-Risk Management
Public Records & Contract Specialist
302 N Wilson St Suite 301
Crestview, Florida 32536
klofria@myokaloosa.com
850-689-5979



For all things Wellness please visit:

<http://www.myokaloosa.com/wellness>

"When the winds of adversity blow against your boat, just adjust your sail."

"Don't aim for success if you want it; just do what you love and believe in, and it will come naturally." David Frost

Please note: Due to Florida's very broad public records laws, most written communications to or from county employees regarding county business are public records, available to the public and media upon request. Therefore, this written e-mail communication, including your e-mail address, may be subject to public disclosure.

From: DeRita Mason <dmason@myokaloosa.com>
Sent: Wednesday, April 27, 2022 1:16 PM
To: Lynn Hoshihara <lhoshihara@myokaloosa.com>
Cc: Kerry Parsons <kparsons@myokaloosa.com>; Kristina LoFria <klofria@myokaloosa.com>; Jessica Darr <jdarr@myokaloosa.com>
Subject: J.P. Construction Contract Draft

Good afternoon,



Board of County Commissioners Purchasing Department

State of Florida

Date: April 15, 2022

OKALOOSA COUNTY PURCHASING DEPARTMENT
NOTICE OF INTENT TO AWARD
ITB WS 23-22

Replacement of Okaloosa Island Water Booster Station

Okaloosa County would like to thank all businesses, which submitted bids to the Replacement of Okaloosa Island Water Booster Station. (ITB WS 23-22)

After in-depth examination of all bids in accordance with the County's Purchasing Manual, the County announces its intent to award the contract/purchase order to the following:

J&P Construction Co., Inc., d/b/a Jamison Construction Co.
2550 39th Street
Tuscaloosa, AL 35405

This Notice of Intent does NOT constitute the formation of a contract/purchase order between Okaloosa County and the apparent successful bidder/respondent. The County reserves the right to enter into negotiations with the successful bidder/respondent in order to finalize contract terms and conditions. No agreement is entered into between the County and any parties until a contract is approved and fully executed.

Any person/entity desiring to file a procurement protest must meet all the standards and criteria in accordance with Section 31 of the Okaloosa County Purchasing Manual. Failure to file a protest within the time prescribed in Section 31.02 of the Okaloosa County Purchasing Manual, shall constitute a waiver of protest proceedings.

Respectfully,



Jeffrey Hyde
Purchasing Manager

United States

United States

Doing Business as
Jamison Construction, Florida
Division Name
(blank)
Congressional District
Alabama 07
State / Country of Incorporation
Alabama / United States

Division Number
(blank)
URL
(blank)

Registration Dates

Activation Date
Jun 29, 2021
Submission Date
Jun 28, 2021

Initial Registration Date
Mar 19, 2002

Entity Dates

Entity Start Date
Feb 14, 1963
Fiscal Year End Close Date
Dec 31

Immediate Owner

CAGE
(blank)
Legal Business Name
(blank)

Highest Level Owner

CAGE
(blank)
Legal Business Name
(blank)

Executive Compensation

Registrants in the System for Award Management (SAM) respond to the Executive Compensation questions in accordance with Section 6202 of P.L. 110-252, amending the Federal Funding Accountability and Transparency Act (P.L. 109-282). This information is not displayed in SAM. It is sent to USAspending.gov for display in association with an eligible award. Maintaining an active registration in SAM demonstrates the registrant responded to the questions.

Proceedings Questions

Registrants in the System for Award Management (SAM) respond to proceedings questions in accordance with FAR 52.209-7, FAR 52.209-9, or 2.C.F.R. 200 Appendix XII. Their responses are not displayed in SAM. They are sent to FAPIS.gov for display as applicable. Maintaining an active registration in SAM demonstrates the registrant responded to the proceedings questions.

Active Exclusions Records?

No

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Business Types

Entity Structure

Entity Type

Organization Factors

Detail by FEI/EIN Number

Foreign Profit Corporation
JAMISON CONSTRUCTION COMPANY

Cross Reference Name

J & P CONSTRUCTION CO., INC. D/B/A JAMISON CONSTRUCTION COMPANY

Filing Information

| | |
|-----------------|------------|
| Document Number | 840782 |
| FEI/EIN Number | 63-0479050 |
| Date Filed | 06/05/1978 |
| State | AL |
| Status | ACTIVE |

Principal Address

2550 39TH ST
TUSCALOOSA, AL 35405

Changed: 01/31/2012

Mailing Address

P. O. DRAWER 3147
TUSCALOOSA, AL 35403

Changed: 01/27/2006

Registered Agent Name & Address

CT CORPORATION SYSTEM
1200 S. PINE ISLAND ROAD
PLANTATION, FL 33324

Name Changed: 02/26/1992

Address Changed: 02/26/1992

Officer/Director Detail

Name & Address

Title ST

MUIR, CAROL T
2550 39TH ST
TUSCALOOSA, AL 35405

250U 3911H S1
TUSCALOOSA, AL 35405

Title VP, Director

Meriwether, Robert
2550 39TH ST
TUSCALOOSA, AL 35405

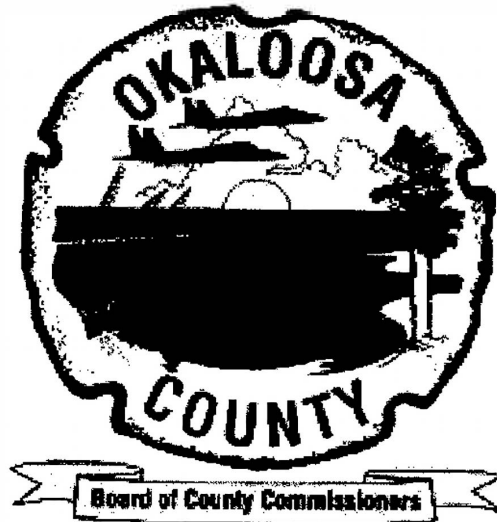
Annual Reports

| Report Year | Filed Date |
|-------------|------------|
| 2020 | 03/26/2020 |
| 2021 | 04/01/2021 |
| 2022 | 03/10/2022 |

Document Images

| | |
|---|--------------------------|
| 03/10/2022 -- ANNUAL REPORT | View image in PDF format |
| 04/01/2021 -- ANNUAL REPORT | View image in PDF format |
| 03/26/2020 -- ANNUAL REPORT | View image in PDF format |
| 03/29/2019 -- ANNUAL REPORT | View image in PDF format |
| 02/09/2018 -- ANNUAL REPORT | View image in PDF format |
| 02/09/2017 -- ANNUAL REPORT | View image in PDF format |
| 02/10/2016 -- ANNUAL REPORT | View image in PDF format |
| 01/23/2015 -- ANNUAL REPORT | View image in PDF format |
| 01/08/2014 -- ANNUAL REPORT | View image in PDF format |
| 01/15/2013 -- ANNUAL REPORT | View image in PDF format |
| 01/31/2012 -- ANNUAL REPORT | View image in PDF format |
| 01/05/2011 -- ANNUAL REPORT | View image in PDF format |
| 01/04/2010 -- ANNUAL REPORT | View image in PDF format |
| 03/19/2009 -- ANNUAL REPORT | View image in PDF format |
| 01/04/2008 -- ANNUAL REPORT | View image in PDF format |
| 01/03/2007 -- ANNUAL REPORT | View image in PDF format |
| 01/27/2006 -- ANNUAL REPORT | View image in PDF format |
| 04/08/2005 -- ANNUAL REPORT | View image in PDF format |
| 01/28/2004 -- ANNUAL REPORT | View image in PDF format |
| 02/04/2003 -- ANNUAL REPORT | View image in PDF format |
| 02/13/2002 -- ANNUAL REPORT | View image in PDF format |
| 02/12/2001 -- ANNUAL REPORT | View image in PDF format |

Project Manual



ITB WS 23-22

Replacement of Okaloosa Island Water Booster Station

Fort Walton Beach, Florida

OKALOOSA COUNTY COMMISSIONERS

Mel Ponder, Chair, District 5

Nathan Boyles, Vice Chair, District 3

Paul Mixon, District 1

Carolyn Ketchel, District 2

Trey Goodwin, District 4

COUNTY ADMINISTRATOR

John Hofstad

WATER AND SEWER DIRECTORS

Jeff Littrell, Director

Mark Wise, P.E., Deputy Director

ENGINEERING MANAGER

Jon C. Kanak, P.E.

ENGINEER OF RECORD

Michael Evans, P.E.

CONTRACT: C22-3180-WS
J&P CONSTRUCTION CO., INC DBA JAMISON
CONSTRUCTION COMPANY
REPLACEMENT OF OKALOOSA ISLAND WATER
BOOSTER STATION
EXPIRES: 440 DAYS FROM NTP

THIS AGREEMENT is by and between Okaloosa County, a political subdivision of the State of Florida, by and through its Board of County Commissioners, situated at 1250 N. Eglin Parkway, Suite 100 Shalimar, Florida ("OWNER") and J&P Construction Co., Inc. D/B/A Jamison Construction Company of 2550 39th Street, Tuscaloosa, Alabama 35405 (address), certified to do business in the state of Florida ("CONTRACTOR").

OWNER and CONTRACTOR hereby agree as follows:

ARTICLE 1 – WORK

1.01 CONTRACTOR shall complete all WORK as specified or indicated in the Contract Documents. The WORK is generally described as follows: **Replacement of Okaloosa Island Water Booster Station**

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: Construct the new water booster station including CMU building with ramp and retaining wall, three close-coupled vertical pumps, piping, valves, flowmeter, sodium hypochlorite disinfection system, controls, electrical including a generator set (generator, ATS and HVAC supplied by Owner, installed by Contractor) and sitework, along with two control valve assemblies at the east and west Island elevated tanks and other WORK as shown on the construction drawings and described in the specifications.

ARTICLE 3 – ENGINEER

3.01 The part of the Project that pertains to the WORK has been designed by Poly, Inc. (Design Engineer). The OWNER has retained the Design Engineer ("ENGINEER") 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 the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 Time of the Essence

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

4.02 Contract Times: Days

The Work will be substantially completed within ~~188~~ ³⁴⁵ calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within ~~255~~ ⁴⁴⁰ calendar days after the date when the Contract Times commence to run.

4.03 Liquidated Damages

Section 337.18(2) of the Florida Statutes, requires the OWNER adopt regulations for the determination of default and provisions that the Contractor pay liquidated damages (daily charge per calendar day) for any failure of the Contractor to complete the Contract work within the Contract Time.

CONTRACTOR and OWNER recognize that time is of the essence as stated in Paragraph 4.01 above and that OWNER will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay. Contractor specifically acknowledges that the liquidated damages is not a penalty and waives any right to argue such at a later time.

Substantial Completion: CONTRACTOR shall pay OWNER \$972.00 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.

Completion of Remaining Work: After Substantial Completion, if CONTRACTOR shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, CONTRACTOR shall pay OWNER \$972.00 for each day that expires after such time until the Work is completed and ready for final payment.

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

ARTICLE 5 – CONTRACT PRICE

5.01 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents the amounts equal to the sum of the amounts determined pursuant to Paragraph 5.01.A below:

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

As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by ENGINEER as provided in Paragraph 10.06 of the General Conditions. Unit prices have been computed as provided in Paragraph 13.03 of the General Conditions.

Contract Amount of Two Million, Ninety-Five Thousand Dollars and Zero cent (\$2,095,000.00)

ARTICLE 6 – PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

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

6.02 Progress Payments; Retainage

OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment in accordance with § 218.70-218.79 F.S. (Local Government Prompt Payment Act) during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established in Paragraph 2.03 of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

Progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as OWNER may withhold, including but not limited to liquidated damages, in accordance with the Contract:

95 percent of Work completed (with the balance being retainage)

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

6.03 Final Payment

Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST

7.01 All amounts not paid when due shall bear interest at the rate of 1% percent per month in accordance with § 218.735 F.S. (Local Government Prompt Payment Act).

ARTICLE 8 – CONTRACTOR’S REPRESENTATIONS

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

CONTRACTOR has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.

CONTRACTOR has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

CONTRACTOR is familiar with and is satisfied as to all Federal, State and Local Laws and Regulations that may affect cost, progress, and performance of the Work.

CONTRACTOR has carefully studied all, if any: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

CONTRACTOR has considered the information known to CONTRACTOR itself; information commonly known to CONTRACTORS doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports, if any, and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR; and (3) CONTRACTOR’s safety precautions and programs.

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

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

CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

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

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

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 Contents

The Contract Documents consist of the following:

This Agreement (pages 00520-1 to 00520-11, inclusive).

Bid Form with Attachments (pages 00410-1 to 00410-20, inclusive). **Federal Clauses within the bid documents are incorporated herein.**

Performance bond (pages 00610-1 to 00610-3, inclusive).

Payment bond (pages 00620-1 to 00620-3, inclusive).

EJCDC General Conditions (pages 00700-1 to 00700-62, inclusive).

Supplementary Conditions (pages 00800-1 to 00800-10, inclusive).

Summary of Work (page 01010-1, inclusive).

Project Coordination (pages 01040-1 to 01040-3, inclusive).

Warranties and Manuals (page 01350-1, inclusive).

Temporary Facilities (pages 01500-1 to 01500-4, inclusive).

Project Closeout (pages 01700-1 to 01700-3, inclusive).

Record Documents (pages 01750-1 to 01750-3, inclusive).

Drawings consisting of 31 sheets with each sheet bearing the following general title: Replacement of Okaloosa Island Water Booster Station, (incorporated by reference).

Appendix A - Technical Specifications as prepared by Poly, Inc. bearing the title, Replacement of Okaloosa Island Water Booster Station – Technical Specifications, January 2022 consisting of 241 pages.

Addenda (numbers 1 to 5, inclusive).

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

Notice to Proceed.

Work Change Directives.

Contractor's Application for Payment

Change Orders.

Field Orders.

The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).

There are no Contract Documents other than those listed above in this Article 9.

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

ARTICLE 10 – MISCELLANEOUS

10.01 Terms

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

10.02 Assignment of Contract

Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto 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 Documents.

10.03 Successors and Assigns

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.

10.04 Severability

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

10.05 CONTRACTOR's Certifications

CONTRACTOR certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:

“corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;

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

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

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

10.06 Independent CONTRACTORS

CONTRACTOR enters into the Contract as, and shall continue to be, an independent CONTRACTOR. All services shall be performed only by CONTRACTOR and CONTRACTOR’s employees. Under no circumstances shall CONTRACTOR or any of CONTRACTOR’s employees look to the OWNER as his/her employer, or as partner, agent or principal. Neither CONTRACTOR, nor any of CONTRACTOR’s employees, shall be entitled to any benefits accorded to the OWNER’s employees, including without limitation worker’s compensation, disability insurance, vacation or sick pay. CONTRACTOR shall be responsible for providing, at CONTRACTOR’s expense, and in CONTRACTOR’s name, unemployment, disability, worker’s compensation and other insurance as well as licenses and permits usual and necessary for conducting the services to be provided under this Contract.

10.07 Audit Provision

The OWNER and/or its designee shall have the right from time to time at its sole expense to audit the compliance by the CONTRACTOR with the terms, conditions, obligations, limitations, restrictions and requirements of this Agreement and such right shall extend for a period of three (3) years after termination of this Agreement.

10.08 Public Records

CONTRACTOR shall adhere to the Public Records law of Florida.

Specifically, CONTRACTOR must:

Keep and maintain public records require by the OWNER to perform the service.

Upon request from the OWNER’s custodian of public records, provide the OWNER with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in chapter 119 Florida Statutes or as otherwise provided by law.

Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the Agreement term and following completion of the Agreement if the CONTRACTOR does not transfer the records to the OWNER.

Upon completion of the Agreement, transfer, at no cost, to the OWNER all public records in possession of the CONTRACTOR or keep and maintain public records required by the OWNER to perform the service. If the CONTRACTOR transfers all public records to the OWNER upon completion of the Contract, the CONTRACTOR shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the CONTRACTOR keeps and maintains public records upon completion of the Contract, the CONTRACTOR shall meet all applicable requirements for retaining the public records. All records stored electronically must be provided to the OWNER, upon the request from the OWNER’s custodian of public records, in a format that is compatible with the information technology system of the OWNER.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR’S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT OKALOOSA COUNTY RISK MANAGEMENT DEPARTMENT 302 N. WILSON ST., CRESTVIEW, FL 32536 PHONE (850) 689-5977 riskinfo@co.okaloosa.fl.us.

10.09 Third Party Beneficiaries

It is specifically agreed between the parties executing this Agreement that it is not intended by any of the provisions of any part of the Agreement to create in the public or any member thereof, a third party beneficiary under this Agreement, or to authorize anyone not a part to this Agreement to maintain a suit for personal injuries or property damage pursuant to the terms or provision of this Agreement.

10.10 Other Provisions

OWNER stipulates that if the General Conditions that are made a part of this Contract are based on EJCDC® C-700, Standard General Conditions for the Construction Contract, published by the ENGINEERS Joint Contract Documents Committee®, and if OWNER is the party that has furnished said General Conditions, then OWNER

has plainly shown all modifications to the standard wording of such published document to the CONTRACTOR, through a process such as highlighting or “track changes” (redline/strikeout), or in the Supplementary Conditions.

The individual signing this Agreement on behalf of CONTRACTOR represents and warrants that he or she is duly authorized and has legal capacity to execute and deliver this Agreement. The CONTRACTOR represent and warrants to the OWNER that the execution and delivery of the Agreement and the performance of CONTRACTOR’s obligations hereunder have been duly authorized and that the Agreement is a valid and legal agreement binding on the CONTRACTOR and enforceable in accordance with its terms.

The waiver by a party of any breach or default in performance shall not be deemed to constitute a waiver of any other or succeeding breach or default. The failure of the OWNER to enforce any of the provisions hereof shall not be construed to be a waiver of the right of the OWNER thereafter to enforce such provisions.

All notices required by this Agreement shall be in writing to the representatives listed below:

AUTHORIZED REPRESENTATIVES:

OWNER:

Chairman – Board of County Commissioners

Address

1250 N. Eglin Parkway, Suite 100

Shalimar, FL 32579

Phone

850-651-7105

CONTRACTOR:

J&P Construction Co., Inc.

D/B/A Jamison Construction Company

Address

2550 39th Street

Tuscaloosa, AL 35405

Phone

205-345-6631

10.11 Equal Opportunity Employment

During the performance of this CONTRACT, the contractor agrees as follows:

The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor 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 contractor 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.

The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.

The contractor 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 advising the said labor union or workers’ representatives of the contractor’s commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

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

The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, 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 administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders

In the event of the contractor’s noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24,

1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) 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, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

10.12 Federal Fair Labor Standards Act (Federal Minimum Wage)

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part time workers.

The CONTRACTOR has full responsibility to monitor compliance to the referenced statute or regulation. The CONTRACTOR must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

10.13 Occupational Safety and Health Act of 1970

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. CONTRACTOR must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The CONTRACTOR retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (20 CFR Part 1910). CONTRACTOR must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

10.14 E-Verify

Enrollment and verification requirements.

If the CONTRACTOR is not enrolled as a Federal Contractor in E-Verify at time of contract award, the CONTRACTOR shall-

Enroll. Enroll as a Federal Contractor in the E-Verify Program within thirty (30) calendar days of Contract award;

Verify all new employees. Within ninety (90) calendar days of enrollment in the E-Verify program, begin to use E-Verify to initiate verification of employment eligibility of all new hires of the CONTRACTOR, who are working in the United States, whether or not assigned to the Contract, within three (3) business days after the date of hire (but see paragraph (3.) of this section); and,

Verify employees assigned to the Contract. For each employee assigned to the Contract, initiate verification within ninety (90) calendar days after date of enrollment or within thirty (30) calendar days of the employee's assignment to the Contract, whichever date is later (but see paragraph (4.) of this section.)

If the CONTRACTOR is enrolled as a Federal Contractor in E-Verify at time of Contract award, the CONTRACTOR shall use E-Verify to initiate verification of employment eligibility of

All new employees.

Enrolled ninety (90) calendar days or more. The CONTRACTOR shall initiate verification of all new hires of the CONTRACTOR, who are working in the United States, whether or not assigned to the Contract, within three (3) business days after the date of hire (but see paragraph (3.) of this section); or

Enrolled less than ninety (90) calendar days. Within ninety (90) calendar days after enrollment as a Federal Contractor in E-Verify, the CONTRACTOR shall initiate verification of all new hires of the CONTRACTOR, who are working in the United States, whether or not assigned to the contract, within three (3) business days after the date of hire (but see paragraph (3.) of this section); or

Employees assigned to the Contract. For each employee assigned to the Contract, the CONTRACTOR shall initiate verification within ninety (90) calendar days after date of Contract award or within thirty (30) days after assignment to the Contract, whichever date is later (but see paragraph (4.) of this section.)

If the CONTRACTOR is an institution of higher education (as defined at 20 U.S.C. 1001(a)); a State of local government or the government of a Federally recognized Indian tribe, or a surety performing under a takeover agreement entered into with a Federal agency pursuant to a performance bond, the CONTRACTOR may choose to verify only employees assigned to the Contract, whether existing employees or new hires. The CONTRACTOR shall follow the applicable verification requirements of (1.) or (2.), respectively, except that any requirement for verification of new employees applies only to new employees assigned to the Contract.

Option to verify employment eligibility of all employees. The CONTRACTOR may elect to verify all existing employees hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), rather than just those employees assigned to the Contract. The CONTRACTOR shall initiate verification for each existing employee working in the United States who was hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), within one hundred eighty (180) calendar days of-

Enrollment in the E-Verify program; or

Notification to E-Verify Operations of the CONTRACTOR's decision to exercise this option, using the Contract information provided in the E-Verify program Memorandum of Understanding (MOU)

The CONTRACTOR shall comply, for the period of performance of this Contract, with the requirements of the E-Verify program MOU.

The Department of Homeland Security (DHS) or the Social Security Administration (SSA) may terminate the CONTRACTOR's MOU and deny access to the E-Verify system in accordance with the terms of the MOU. In such case, the CONTRACTOR, will be referred to a suspension or debarment official.

During the period between termination of the MOU and a decision by the suspension or debarment official whether to suspend or debar, the CONTRACTOR is excused from its obligations under paragraph (b) of this clause. If the suspension or debarment official determines not to suspend or debar the CONTRACTOR, then the CONTRACTOR must reenroll in E-Verify.

Web site. Information on registration for and use of the E-Verify program can be obtained via the Internet at the Department of Homeland Security Web site: <http://www.dhs.gov/E-Verify>.

Individuals previously verified. The CONTRACTOR is not required by this clause to perform additional employment verification using E-Verify for any employee-

Whose employment eligibility was previously verified by the CONTRACTOR through the E-Verify program;

Who has been granted and holds an active U.S. Government security clearance for access to confidential, secret, or top secret information in accordance with the National Industrial Security Program Operating Manual; or

Who has undergone a completed background investigation and been issued credentials pursuant to Homeland Security Presidential Directive (HSPD)-12. Policy for a Common Identification Standard for Federal Employees and Contractors.

Subcontracts. The CONTRACTOR shall include the requirements of this clause, including this paragraph € (appropriately modified for identification of the parties in each subcontract that -

Is for

Commercial and noncommercial services (except for commercial services that are part of the purchase of a COTS item (or an item that would be a COTS item, but for minor modifications), performed by the COTS provider, and are normally provided for that COTS item); or

Construction;

Has a value of more than \$3,500; and

Includes work performed in the United States.

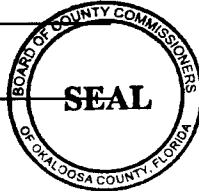
IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement.

This Agreement will be effective on MAY 17 2022 (which is the Effective Date of the Contract).

OWNER:

BOARD OF COUNTY COMMISSIONERS
OKALOOSA COUNTY, FLORIDA

Mel Ponder
Mel Ponder, Chairman



CONTRACTOR:

J&P Construction Co., Inc.
D/B/A/ Jamison Construction Company

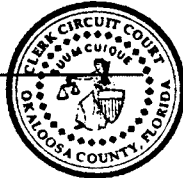
By: Robert Meriweather

Title: Robert Meriweather, Vice President
(If CONTRACTOR is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

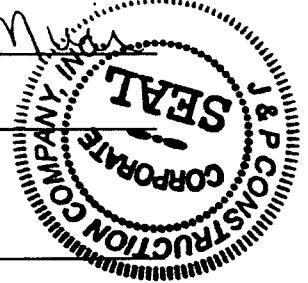
JD Peacock II

JD Peacock II, Clerk of Courts



Attest: Carol Muir

Title: Secretary/Treasurer



Address for giving notices:

1250 N. Eglin Parkway, Suite 100

Shalimar, FL 32579

Address for giving notices:

2550 39th Street

Tuscaloosa, AL 35405

License No.: CGC060077

END OF DOCUMENT 00520 –AGREEMENT BETWEEN OWNER & CONTRACTOR
FOR CONSTRUCTION CONTRACT

DOCUMENT 00620 – PAYMENT BOND

CONTRACTOR (name and address):
J&P Construction Co., Inc.
D/B/A Jamison Construction Company
2550 39th Street
Tuscaloosa, AL 35403

SURETY (name and address of principal place of business):
Western Surety Company
151 N. Franklin Street
Chicago, IL 60606

OWNER (name and address): Okaloosa Board of County Commissioners
1250 N. Eglin Parkway
Shalimar, FL 32579

CONSTRUCTION CONTRACT

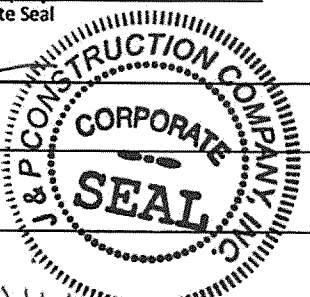
Effective Date of the Agreement: _____
Amount: Two Million, Ninety-Five Thousand Dollars and Zero Cent (\$2,095,000.00)
Description (name and location): Replacement of Okaloosa Island Water Booster Station

BOND

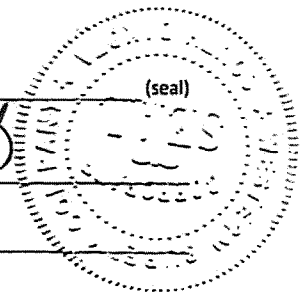
Bond Number: 30150794
Date (not earlier than the Effective Date of the Agreement of the Construction Contract): _____
Amount: Two Million, Ninety-Five Thousand Dollars and Zero Cent (\$2,095,000.00)
Modifications to this Bond Form: None See Paragraph 16

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

CONTRACTOR AS PRINCIPAL
J&P Construction Co., Inc.
D/B/A Jamison Construction Company (seal)
Contractor's Name and Corporate Seal
By: Barry Atkinson
Signature
Barry Atkinson
Print Name
President of Operations
Title
Attest: Carol Murr
Signature
Secretary/Treasurer
Title



SURETY
Western Surety Company
Surety's Name and Corporate Seal (seal)
By: R. Forrest Fitts
Signature
R. Forrest Fitts
Print Name
Attorney-in-Fact
Title
Attest: [Signature]
Signature
Bond/CSR
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 shall be considered plural where applicable.

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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 satisfy 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 shall 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 shall be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall 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 shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall 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:

1. The name of the Claimant;
2. The name of the person for whom the labor was done, or materials or equipment furnished;
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;
4. A brief description of the labor, materials, or equipment furnished;
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;
6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
7. The total amount of previous payments received by the Claimant; and
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 shall be 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 shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows:

END OF DOCUMENT 00620 – PAYMENT BOND

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

T Gary Fitts, J David Fitts, Charles F Horton Jr, Timothy L Donahue, R Forrest Fitts, Cheryl A Camak, Julie Tubbs, Jeffrey Hogg, Raven Davis, Individually

of Tuscaloosa, AL, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 23rd day of June, 2021.



WESTERN SURETY COMPANY

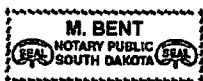
Paul T. Bruffat
Paul T. Bruffat, Vice President

State of South Dakota }
County of Minnehaha } ss

On this 23rd day of June, 2021, before me personally came Paul T. Bruffat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires

March 2, 2026



M. Bent
M. Bent, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this _____ day of _____, _____.



WESTERN SURETY COMPANY

L. Nelson
L. Nelson, Assistant Secretary

Authorizing By-Law

ADOPTED BY THE SHAREHOLDERS OF WESTERN SURETY COMPANY

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the shareholders of the Company.

Section 7. All bonds, policies, undertakings, Powers of Attorney, or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, and Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or agents who shall have authority to issue bonds, policies, or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile.

DOCUMENT 00610 – PERFORMANCE BOND

CONTRACTOR (name and address):
J&P Construction Co., Inc.
D/B/A Jamison Construction Company
2550 39th Street
Tuscaloosa, AL 35403

SURETY (name and address of principal place of business):
Western Surety Company
151 N. Franklin Street
Chicago, IL 60606

OWNER (name and address): Okaloosa Board of County Commissioners
1250 N. Eglin Parkway
Shalimar, FL 32579

CONSTRUCTION CONTRACT

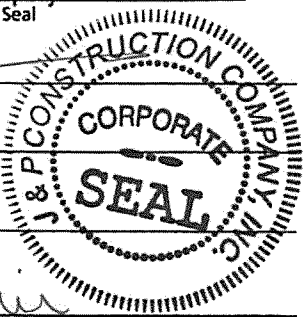
Effective Date of the Agreement: _____
Amount: Two Million, Ninety-Five Thousand Dollars and Zero Cent (\$2,095,000.00)
Description (name and location): **Replacement of Okaloosa Island Water Booster Station**

BOND

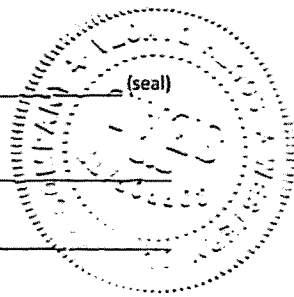
Bond Number: 30150794
Date (not earlier than the Effective Date of the Agreement of the Construction Contract): _____
Amount: Two Million, Ninety-Five Thousand Dollars and Zero Cent (\$2,095,000.00)
Modifications to this Bond Form: None See Paragraph 16

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

CONTRACTOR AS PRINCIPAL
J&P Construction Co., Inc
D/B/A Jamison Construction Company (seal)
Contractor's Name and Corporate Seal
By: [Signature]
Signature
Barry Atkinson
Print Name
President of Operations
Title
Attest: [Signature]
Signature
Secretary/Treasurer
Title



SURETY
Western Surety Company
Surety's Name and Corporate Seal (seal)
By: [Signature]
Signature
R. Forrest Fitts
Print Name
Attorney-in-Fact
Title
Attest: [Signature]
Signature
Bond/CSR
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 shall be 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall 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 shall not be reduced or set off on account of any such unrelated obligations. No right of action shall 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 may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall 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 shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall 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 shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall 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 shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

END OF DOCUMENT 00610 – PERFORMANCE BOND

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

T Gary Fitts, J David Fitts, Charles F Horton Jr, Timothy L Donahue, R Forrest Fitts, Cheryl A Camak, Julie Tubbs, Jeffrey Hogg, Raven Davis, Individually

of Tuscaloosa, AL, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 23rd day of June, 2021.



WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

State of South Dakota }
County of Minnehaha } ss

On this 23rd day of June, 2021, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires

March 2, 2026



M. Bent, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this _____ day of _____, _____



WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Form F4280-7-2012

Go to www.cnasurety.com > Owner / Oblige Services > Validate Bond Coverage, if you want to verify bond authenticity.

Authorizing By-Law

ADOPTED BY THE SHAREHOLDERS OF WESTERN SURETY COMPANY

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the shareholders of the Company.

Section 7. All bonds, policies, undertakings, Powers of Attorney, or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, and Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or agents who shall have authority to issue bonds, policies, or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile.

**ADDITIONAL REMARKS SCHEDULE**

| | | | |
|------------------------------------|-----------------------------|---|--|
| AGENCY Fitts Agency Inc. | | NAMED INSURED J&P Construction Co Inc DBA Jamison Construction Co PO Drawer 3147 Tuscaloosa, AL 35403 | |
| POLICY NUMBER SEE PAGE 1 | | EFFECTIVE DATE: SEE PAGE 1 | |
| CARRIER SEE PAGE 1 | NAIC CODE SEE P 1 | | |

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: ACORD 25 FORM TITLE: Certificate of Liability Insurance

Description of Operations/Locations/Vehicles:
respective officers, directors, members, partners, employees, agents, consultants and subcontractors with respects to General Liability, Auto Liability, Umbrella Liability and Workers Compensation coverages when required by written contract.

Builders Risk coverage will be issued upon start-up of job.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET ADDITIONAL INSURED – AUTOMATIC STATUS IF REQUIRED BY WRITTEN CONTRACT (CONTRACTORS)

This endorsement modifies insurance provided under the following:
COMMERCIAL GENERAL LIABILITY COVERAGE PART

The following is added to **SECTION II – WHO IS AN INSURED**:

Any person or organization that:

- a. You agree in a written contract or agreement to include as an additional insured on this Coverage Part; and
- b. Has not been added as an additional insured for the same project by attachment of an endorsement under this Coverage Part which includes such person or organization in the endorsement's schedule;

is an insured, but:

- a. Only with respect to liability for "bodily injury" or "property damage" that occurs, or for "personal injury" caused by an offense that is committed, subsequent to the signing of that contract or agreement and while that part of the contract or agreement is in effect; and
- b. Only as described in Paragraph (1), (2) or (3) below, whichever applies:

(1) If the written contract or agreement specifically requires you to provide additional insured coverage to that person or organization by the use of:

- (a) The Additional Insured – Owners, Lessees or Contractors – (Form B) endorsement CG 20 10 11 85; or
- (b) Either or both of the following: the Additional Insured – Owners, Lessees or Contractors – Scheduled Person Or Organization endorsement CG 20 10 10 01, or the Additional Insured – Owners, Lessees or Contractors – Completed Operations endorsement CG 20 37 10 01;

the person or organization is an additional insured only if the injury or damage arises out of "your work" to which the written contract or agreement applies;

(2) If the written contract or agreement specifically requires you to provide additional insured coverage to that person or organization by the use of:

(a) The Additional Insured – Owners, Lessees or Contractors – Scheduled Person or Organization endorsement CG 20 10 07 04 or CG 20 10 04 13, the Additional Insured – Owners, Lessees or Contractors – Completed Operations endorsement CG 20 37 07 04 or CG 20 37 04 13, or both of such endorsements with either of those edition dates; or

(b) Either or both of the following: the Additional Insured – Owners, Lessees or Contractors – Scheduled Person Or Organization endorsement CG 20 10, or the Additional Insured – Owners, Lessees or Contractors – Completed Operations endorsement CG 20 37, without an edition date of such endorsement specified;

the person or organization is an additional insured only if the injury or damage is caused, in whole or in part, by acts or omissions of you or your subcontractor in the performance of "your work" to which the written contract or agreement applies; or

(3) If neither Paragraph (1) nor (2) above applies:

(a) The person or organization is an additional insured only if, and to the extent that, the injury or damage is caused by acts or omissions of you or your subcontractor in the performance of "your work" to which the written contract or agreement applies; and

(b) Such person or organization does not qualify as an additional insured with respect to the independent acts or omissions of such person or organization.

The insurance provided to such additional insured is subject to the following provisions:

- a. If the Limits of Insurance of this Coverage Part shown in the Declarations exceed the minimum limits required by the written contract or agreement, the insurance provided to the additional insured will be limited to such minimum required limits. For the purposes of determining whether

COMMERCIAL GENERAL LIABILITY

this limitation applies, the minimum limits required by the written contract or agreement will be considered to include the minimum limits of any Umbrella or Excess liability coverage required for the additional insured by that written contract or agreement. This provision will not increase the limits of insurance described in Section III – Limits Of Insurance.

b. The insurance provided to such additional insured does not apply to:

(1) Any "bodily injury", "property damage" or "personal injury" arising out of the providing, or failure to provide, any professional architectural, engineering or surveying services, including:

- (a) The preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders or change orders, or the preparing, approving, or failing to prepare or approve, drawings and specifications; and
- (b) Supervisory, inspection, architectural or engineering activities.

(2) Any "bodily injury" or "property damage" caused by "your work" and included in the "products-completed operations hazard" unless the written contract or agreement specifically requires you to provide such coverage for that additional insured during the policy period.

c. The additional insured must comply with the following duties:

(1) Give us written notice as soon as practicable of an "occurrence" or an offense which may

result in a claim. To the extent possible, such notice should include:

- (a) How, when and where the "occurrence" or offense took place;
- (b) The names and addresses of any injured persons and witnesses; and
- (c) The nature and location of any injury or damage arising out of the "occurrence" or offense.

(2) If a claim is made or "suit" is brought against the additional insured:

- (a) Immediately record the specifics of the claim or "suit" and the date received; and
- (b) Notify us as soon as practicable and see to it that we receive written notice of the claim or "suit" as soon as practicable.

(3) Immediately send us copies of all legal papers received in connection with the claim or "suit", cooperate with us in the investigation or settlement of the claim or defense against the "suit", and otherwise comply with all policy conditions.

(4) Tender the defense and indemnity of any claim or "suit" to any provider of other insurance which would cover such additional insured for a loss we cover. However, this condition does not affect whether the insurance provided to such additional insured is primary to other insurance available to such additional insured which covers that person or organization as a named insured as described in Paragraph 4., Other Insurance, of Section IV – Commercial General Liability Conditions.

COMMERCIAL GENERAL LIABILITY COVERAGE FORM

Various provisions in this policy restrict coverage. Read the entire policy carefully to determine rights, duties and what is and is not covered.

Throughout this policy the words "you" and "your" refer to the Named Insured shown in the Declarations, and any other person or organization qualifying as a Named Insured under this policy. The words "we", "us" and "our" refer to the company providing this insurance.

The word "insured" means any person or organization qualifying as such under Section II – Who Is An Insured.

Other words and phrases that appear in quotation marks have special meaning. Refer to Section V – Definitions.

SECTION I – COVERAGES

COVERAGE A – BODILY INJURY AND PROPERTY DAMAGE LIABILITY

1. Insuring Agreement

- a. We will pay those sums that the insured becomes legally obligated to pay as damages because of "bodily injury" or "property damage" to which this insurance applies. We will have the right and duty to defend the insured against any "suit" seeking those damages. However, we will have no duty to defend the insured against any "suit" seeking damages for "bodily injury" or "property damage" to which this insurance does not apply. We may, at our discretion, investigate any "occurrence" and settle any claim or "suit" that may result. But:

- (1) The amount we will pay for damages is limited as described in Section III – Limits Of Insurance; and
- (2) Our right and duty to defend end when we have used up the applicable limit of insurance in the payment of judgments or settlements under Coverages A or B or medical expenses under Coverage C.

No other obligation or liability to pay sums or perform acts or services is covered unless explicitly provided for under Supplementary Payments.

- b. This insurance applies to "bodily injury" and "property damage" only if:

- (1) The "bodily injury" or "property damage" is caused by an "occurrence" that takes place in the "coverage territory";
- (2) The "bodily injury" or "property damage" occurs during the policy period; and
- (3) Prior to the policy period, no insured listed under Paragraph 1. of Section II – Who Is An Insured and no "employee" authorized by you to give or receive notice of an "occurrence" or claim knew that the "bodily injury" or "property damage" had occurred, in whole or in part. If such a listed insured or authorized "employee" knew, prior to the policy period, that the "bodily injury" or "property damage" occurred, then any continuation, change or resumption of such "bodily injury" or "property damage" during or after the policy period will be deemed to have been known prior to the policy period.

- c. "Bodily injury" or "property damage" which occurs during the policy period and was not, prior to the policy period, known to have occurred by any insured listed under Paragraph 1. of Section II – Who Is An Insured or any "employee" authorized by you to give or receive notice of an "occurrence" or claim, includes any continuation, change or resumption of that "bodily injury" or "property damage" after the end of the policy period.
- d. "Bodily injury" or "property damage" will be deemed to have been known to have occurred at the earliest time when any insured listed under Paragraph 1. of Section II – Who Is An Insured or any "employee" authorized by you to give or receive notice of an "occurrence" or claim:
 - (1) Reports all, or any part, of the "bodily injury" or "property damage" to us or any other insurer;
 - (2) Receives a written or verbal demand or claim for damages because of the "bodily injury" or "property damage"; or
 - (3) Becomes aware by any other means that "bodily injury" or "property damage" has occurred or has begun to occur.

c. Method Of Sharing

If all of the other insurance permits contribution by equal shares, we will follow this method also. Under this approach each insurer contributes equal amounts until it has paid its applicable limit of insurance or none of the loss remains, whichever comes first.

If any of the other insurance does not permit contribution by equal shares, we will contribute by limits. Under this method, each insurer's share is based on the ratio of its applicable limit of insurance to the total applicable limits of insurance of all insurers.

d. Primary And Non-Contributory Insurance If Required By Written Contract

If you specifically agree in a written contract or agreement that the insurance afforded to an insured under this Coverage Part must apply on a primary basis, or a primary and non-contributory basis, this insurance is primary to other insurance that is available to such insured which covers such insured as a named insured, and we will not share with that other insurance, provided that:

- (1) The "bodily injury" or "property damage" for which coverage is sought occurs; and
- (2) The "personal and advertising injury" for which coverage is sought is caused by an offense that is committed;

subsequent to the signing of that contract or agreement by you.

5. Premium Audit

- a. We will compute all premiums for this Coverage Part in accordance with our rules and rates.
- b. Premium shown in this Coverage Part as advance premium is a deposit premium only. At the close of each audit period we will compute the earned premium for that period and send notice to the first Named Insured. The due date for audit and retrospective premiums is the date shown as the due date on the bill. If the sum of the advance and audit premiums paid for the policy period is greater than the earned premium, we will return the excess to the first Named Insured.
- c. The first Named Insured must keep records of the information we need for premium computation, and send us copies at such times as we may request.

6. Representations

By accepting this policy, you agree:

- a. The statements in the Declarations are accurate and complete;
- b. Those statements are based upon representations you made to us; and
- c. We have issued this policy in reliance upon your representations.

The unintentional omission of, or unintentional error in, any information provided by you which we relied upon in issuing this policy will not prejudice your rights under this insurance. However, this provision does not affect our right to collect additional premium or to exercise our rights of cancellation or nonrenewal in accordance with applicable insurance laws or regulations.

7. Separation Of Insureds

Except with respect to the Limits of Insurance, and any rights or duties specifically assigned in this Coverage Part to the first Named Insured, this insurance applies:

- a. As if each Named Insured were the only Named Insured; and
- b. Separately to each insured against whom claim is made or "suit" is brought.

8. Transfer Of Rights Of Recovery Against Others To Us

If the insured has rights to recover all or part of any payment we have made under this Coverage Part, those rights are transferred to us. The insured must do nothing after loss to impair them. At our request, the insured will bring "suit" or transfer those rights to us and help us enforce them.

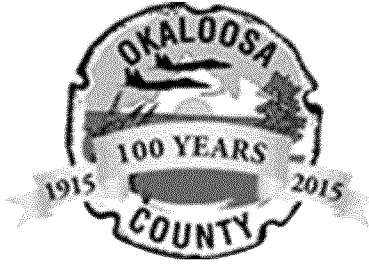
9. When We Do Not Renew

If we decide not to renew this Coverage Part, we will mail or deliver to the first Named Insured shown in the Declarations written notice of the nonrenewal not less than 30 days before the expiration date.

If notice is mailed, proof of mailing will be sufficient proof of notice.

SECTION V – DEFINITIONS

- 1. "Advertisement" means a notice that is broadcast or published to the general public or specific market segments about your goods, products or services for the purpose of attracting customers or supporters. For the purposes of this definition:
 - a. Notices that are published include material placed on the Internet or on similar electronic means of communication; and
 - b. Regarding websites, only that part of a website that is about your goods, products or services for the purposes of attracting customers or supporters is considered an advertisement.



ADDENDUM NO. 5

TO: ALL BIDDERS

PROJECT: ITB WS 23-22
REPLACEMENT OF OKALOOSA ISLAND WATER BOOSTER STATION

OWNER: OKALOOSA COUNTY

DATE: MARCH 23, 2022

The bid opening date remains March 30, 2022, at 3:00 P.M. CST.

The following items are hereby incorporated into the project contract documents and specifications.

ITEM NO. 1 – DRAWING UPDATES

The following sheets have been changed and re-issued with this addendum:

- **Sheet E-200** – Revised generator references to natural gas (*Owner will still supply generator and ATS, Contractor will install*)
- **Sheet E-300** – Revised electric meter location to be on the building and added CT Cabinet
- **Sheet E-400** – Added detail for the Pad-Mount Transformer pad and grounding.

RECEIPT OF THIS ADDENDUM SHALL BE ACKNOWLEDGED BY WRITING THIS ADDENDUM NUMBER AND DATE IN THE SPACE PROVIDED ON DOCUMENT 00410 – ADDENDUM ACKNOWLEDGMENT – ATTACHMENT “A”.

REVISED DRAWING SHEETS

Sheets E-200, E-300, E-400

**ALL DRAWINGS REVISED WITH THIS ADDENDUM ARE
INCORPORATED INTO THE FINAL DRAWINGS
“ATTACHMENT C” INCLUDED IN THIS PROJECT MANUAL**



ADDENDUM NO. 4

TO: ALL BIDDERS

**PROJECT: ITB WS 23-22
REPLACEMENT OF OKALOOSA ISLAND WATER BOOSTER STATION**

OWNER: OKALOOSA COUNTY

DATE: MARCH 16, 2022

The bid opening date remains March 30, 2022, at 3:00 P.M. CST.

The following items are hereby incorporated into the project contract documents and specifications.

ITEM NO. 1 – DRAWING UPDATES

The following sheets have been changed and re-issued with this addendum:

- **Sheet C-01** – Adjusted sheet pile walls to match structural foundation plan
- **Sheet C-03** – Adjusted sheet pile walls to match structural foundation plan
- **Sheet C-04** – Adjusted sheet pile walls and notes to match structural foundation plan and structural sections
- **Sheet C-04A** – Adjusted note for sheet pile wall to match structural sections
- **Sheet C-04B** – Adjusted note for sheet pile wall to match structural sections
- **Sheet C-05** – Adjusted sheet pile walls to match structural foundation plan
- **Sheet C-07** – Adjusted sheet pile walls to match structural foundation plan
- **Sheet C-07A** – Adjusted sheet pile walls to match structural foundation plan
- **Sheet S-003** – Adjusted sections to show sheet pile walls and added notes pertaining to design/construction requirements for sheet pile walls.
- **Sheet S-101** – Adjusted foundation plan to show sheet pile walls.

ITEM NO. 2 – SHEET PILE WALLS

Sheet Pile Walls shall be designed, furnished, and installed by the Contractor and the Contractor’s delegated Sheet Pile Engineer. Sheet pile shall be steel sheet pile installed in the locations, and to the elevations shown and indicated on the plans. The shape, thickness, and embedment length of the piles below the bottom of the footings shall be determined by the delegated Engineer. The maximum load on wall footing is 2.5 kips per linear foot. The Contractor’s delegated Engineer shall prepare signed and sealed calculations to be submitted to and reviewed by the project structural Engineer prior to the installation of the piles. The following soil parameters shall be provided and utilized by the delegated Sheet Pile Engineer:

| TABLE 1 – EXISTING SOIL DESIGN PARAMETERS FOR BORING S-1 | | | | | | | | |
|--|----|-----------------------|--------------------------|----------------|-------------------------------------|-------------------------------------|-------------|--------------|
| Approximate Depth (feet) BEG* | | Average SPT ‘N’ Value | Friction Angle (degrees) | Cohesion (psf) | Total (Effective) Unit Weight (pcf) | Lateral Earth Pressure Coefficients | | |
| From | To | | | | | At Rest (Ko) | Active (Ka) | Passive (Kp) |
| 0 | 13 | 12 | 31 | 0 | 100 (45) | 0.32 | 3.12 | 0.48 |
| 13 | 25 | 30 | 35 | 0 | 100 (45) | 0.27 | 3.69 | 0.43 |

* BEG – Below Existing Grade.

- Backfill soil internal angle of friction = 30°
- Ko (Coefficient of earth pressure at rest) = 0.50
- Ka (Coefficient of active earth pressure) = 0.33
- Kp (Coefficient of passive earth pressure) = 3.00
- Unit weight of soil (Wet) = 110 pounds per cubic foot
- Unit weight of soil (Submerged) = 50 pounds per cubic foot

RECEIPT OF THIS ADDENDUM SHALL BE ACKNOWLEDGED BY WRITING THIS ADDENDUM NUMBER AND DATE IN THE SPACE PROVIDED ON DOCUMENT 00410 – ADDENDUM ACKNOWLEDGMENT – ATTACHMENT “A”.

REVISED DRAWING SHEETS

*Sheets C-01, C-03, C-04, C-04A, C-04B, C-05, C-07, C-07A,
S-003, S-101*

**ALL DRAWINGS REVISED WITH THIS ADDENDUM ARE
INCORPORATED INTO THE FINAL DRAWINGS
“ATTACHMENT C” INCLUDED IN THIS PROJECT MANUAL**



ADDENDUM NO. 3

TO: ALL BIDDERS

**PROJECT: ITB WS 23-22
REPLACEMENT OF OKALOOSA ISLAND WATER BOOSTER STATION**

OWNER: OKALOOSA COUNTY

DATE: MARCH 9, 2022

The bid opening date is hereby changed to March 30, 2022, at 3:00 P.M. CST.

The following items are hereby incorporated into the project contract documents and specifications. The bid opening date is hereby changed to March 30, 2022, at 3:00 P.M. CST.

ITEM NO. 1 – SECTION 00520 - AGREEMENT

Section 00520 Article 4 – Contract Times is hereby changed as follows:

4.02 Contract Time: Days

- A. The Work will be substantially completed within **365** calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **440** calendar days after the date when the Contract Times commence to run.

ITEM NO. 2 – SECTION 00810 – SPECIAL CONDITIONS

Section 00810, Special Conditions is hereby changed to add the following Article 2:

ARTICLE 2 – DEPOSITS AND WATER USAGE ON A HYDRANT METER

1. For any construction water utilized via a hydrant meter, the contractor shall set up an account with OCWS' Customer Service office and provide contact information.
2. The account shall be set up in the contractor's name with a deposit and service fee paid by the contractor. The deposit will be refunded when the account terminates if the meter has not been damaged or lost.
3. OCWS will be responsible for setting the hydrant meter, along with the monthly reading. If the hydrant meter needs to be relocated, the Contractor to coordinate this with OCWS Maintenance.
4. Water usage will not be charged to the contractor, provided that the above conditions are met.

ITEM NO. 3 – SECTION 263213 – ENGINE GENERATORS

Section 263213, Part 1, Item 1.1.A is hereby changed as follows:

- 1.1.A Provide a Level 1 standby power system to supply electrical power at 480Y/277 Volts, 60 Hertz, 3 Phase. The generator shall consist of a liquid-cooled spark-ignited engine, a synchronous AC alternator, and system controls with all necessary accessories for a complete operating system, including but not limited to the items as specified hereinafter."

NOTE- GENERATOR TO BE SUPPLIED BY OWNER AND INSTALLED BY CONTRACTOR

ITEM NO. 4 – DRAWING UPDATES

The following sheets have been changed and re-issued with this addendum:

- **Sheet C-01** – Modified to revise generator to 230kW natural gas. The Generator will still be supplied by the Owner and installed by the Contractor.
- **Sheet C-03** – Modified to include new Contractor installed slab for pad-mounted transformer, modified fittings for Owner installed piping based on revised depths, and revised generator to 230kW natural gas.
- **Sheet C-05** – Modified to show new pipe profiles with reduced pipe bury depth.
- **Sheet C-07** – Modified to include new Contractor installed slab for pad-mounted transformer.

- **Sheet C-07A** – Modified to include modified grading plan around new transformer slab.

ITEM NO. 5 – MANDATORY PRE-BID MEETING NOTES/SIGN-IN SHEET

A copy of the mandatory pre-bid meeting notes and sign-in sheet is attached.

ITEM NO. 6 – RESPONSES TO SUBMITTED QUESTIONS

Below are the questions received and the corresponding responses:

Question #1 – The contract time of 180 days is not sufficient. We cannot get DI pipe, valves, and pumps that soon. Pumps will be 30-36 weeks after release to ship, and pipe and valves will be 24-30 weeks after release to ship. Please change this to at least 365 days to Substantial Completion.

Response #1 – This addendum contains language to revise the contract time. The number of days to substantial completion is now 365 calendar days and the number of days to final completion is now 440 calendar days.

Question #2 – Bid date is noted as 3/16/22 in the ITB. Add#1 & #2 both state that the bid date is to remain 3/22/22. Please confirm the correct bid date.

Response #2 – The bid opening date has been changed to March 30, 2022, at 3:00 P.M. CST.

Question #3 – ADD#2 noted federal funding and MBE/WBE requirements. There was a chart for MBE/WBE goal % to be selected, but % was not noted. Please advise if certain percentages apply.

Response #3 – Although we are required to include this section in all contract documents, no Federal funding is anticipated on this project and there are no MBE/WBE or Davis-Bacon Act requirements.

Question #4 – Sheet piling is shown to be req'd on the plans but no size is shown. I also do not see a specification for sheet piling. Please provide spec or advise shape and size for this.

Response #4 – Sheet piling design and construction services will be the responsibility of the Contractor who is to employ the services of a specialty sheet pile design engineer. The design and construction shall be in accordance with a new specification that will be issued soon under a separate addendum.

Question #5 – Both Add#1 and #2 contain the bid plans. Have the plans changed with each addenda or are they just included without change

Response #5 – The plans in addendum #1 and #2 are identical. The bid website appeared to be having issues with the PDF file issued in addendum #1 so a flattened PDF file was created and issued with addendum #2, but did not contain any plan changes.

Question #6 – Will the owner or contractor be responsible for de-watering at the tie-ins to the manifold at the building?

Response #6 – The Contractor will be responsible for all dewatering for the Contractor installed items. This includes the manifold and tie-in location. The Owner will be responsible for dewatering for all of the pipelines and appurtenances shown in blue. Please note that drawing sheet C-05 has been modified to reduce the depth of the manifold by several feet which may minimize the need for dewatering.

Question #7 – Plans note the owner is installing the chain link fence, does this include the installation of the aluminum handrail?

Response #7 – The Owner will supply and install the perimeter chain-link fence and gates as noted. The Contractor will be required to provide and install the aluminum handrail.

Question #8 – Is the county installing the sheet piling? Per Sheet C-03 it states the owner is installing the sheet piling. If it is the intent for the contractor to install the sheet piling, what is the top elevation? Also, what is the sheet piling specification?

Response #8 – The Contractor is required to furnish and install the sheet piling. The note on C-03 indicates that the Owner will locate and protect the existing 16" force main during sheet piling operations. The top elevation of the sheet pile is to be set at the top elevation of the footer. For additional information regarding design/specifications, see the response to question #4 above.

Question #9 – To clarify, all new pipeline work notated in blue on the plans will be furnished and installed by the county?

Response #9 – Yes, all pipelines shown in blue will be furnished and installed by the Owner.

Question #10 – SPDs are not specified for panels "MP", "WT", and "A". Please specify what is required.

Response #10 – Provide a Surge Protective Device (SPD) for the Main Breaker, Panel MP, Panel A, and Panel WT. Use the attached specification describing the requirements for the SPD (SECTION 264313 - SURGE PROTECTION FOR LOW-VOLTAGE ELECTRICAL POWER CIRCUITS).

Question #11 – What pump manufacturer are approved? Is there a particular brand pump that is required? It did not specify a manufacture in the specifications.

Response #11 – SECTION 42 21 03.10 -VERTICAL CLOSE-COUPLED SPLIT CASE PUMPS, Part 1, Item 1.5.E states that “The pumps, variable frequency drives and controls shall be manufactured by Grundfos or equal.” The design, dimensions, layout, and pumping performance was based on the 30 HP Grundfos/PACO 8012-5/6 KPVS.

Question #12 – In section 0100 article 8.01 it states "The copy of Bid Bond must be included in electronic package and the original should be mailed or hand delivered to the office by the due date of the ITB." is this still needing to be done?

Response #12 – Yes, an electronic or scanned copy must be included in the bid package submitted online and the original must be sent via mail (or hand-delivered) to our office.

RECEIPT OF THIS ADDENDUM SHALL BE ACKNOWLEDGED BY WRITING THIS ADDENDUM NUMBER AND DATE IN THE SPACE PROVIDED ON DOCUMENT 00410 – ADDENDUM ACKNOWLEDGMENT – ATTACHMENT “A”.

REVISED DRAWING SHEETS

Sheets C-01, C-03, C-05, C-07, C-07A

**ALL DRAWINGS REVISED WITH THIS ADDENDUM ARE
INCORPORATED INTO THE FINAL DRAWINGS
“ATTACHMENT C” INCLUDED IN THIS PROJECT MANUAL**

**MANDATORY PRE-BID MEETING NOTES
AND SIGN-IN SHEET**

**Pre-Bid Meeting for
REPLACEMENT OF OKALOOSA ISLAND WATER
BOOSTER STATION
ITB WS 23-22**

February 24, 2022

9:00 AM

I. Welcome

II. Introductions

Owner Okaloosa County
Engineer Poly, Inc.

III. Notice to Respondents

A. 00002

1. Bid Time/Date: 3:00 PM, March 16, 2022
Bid Place: SUBMIT BIDS ONLINE VIA BID SITE

B. 00100

1. Article 3 – Qualifications – Must be certified to do business in Florida and have a Certificate of Good Standing for the State of Florida.
2. Article 7 – Questions - All questions are to be submitted to Purchasing online by 3:00 PM Central Time on March 2, 2022 (**VIA VENDOR REGISTRY**).
3. Article 31 – CONE OF SILENCE - Certification Form is included with Bid Package
4. BID DOCUMENTS – Must submit **all** listed documents or may be deemed non-responsive. Any questions? Please direct to Purchasing via online question submittal.

C. 00410 Bid Form With Attachments

1. Bid Schedule (00410-3)
2. Time of Completion – (**POTENTIAL BIDDERS WERE ASKED TO SEND IN THOUGHTS ON A REASONABLE NUMBER OF DAYS FOR SUBSTANTIAL/FINAL COMPLETION**).

D. 00520 Agreement

1. Liquidated Damages – The amount per calendar day is \$972.
2. Retainage – will be 5% of Work completed

3. Public Records – Contractor required to maintain public records in accordance with Chapter 119 of the Florida Statutes.
- E. 00800 Supplementary Conditions
1. Insurance Requirements – See pages 00800-3 & 4 for Workers Compensation, General Liability, Automobile Liability, and Pollution Insurance requirements. Insurance shall be maintained for two (2) years after the final payment.
- F. 01010 Summary of Work
1. Summary Review – Construction of the new water booster station including CMU building with ramp and retaining wall, three close-coupled vertical pumps, piping, valves, flowmeter, sodium hypochlorite disinfection system, controls, electrical including a generator set (generator, ATS and HVAC supplied by Owner, installed by Contractor) and site work, along with two control valve assemblies at the east and west Island elevated tanks,
- G. Contract Closeout
1. Closeout submittals – A detailed list of closeout submittal requirements are listed in 00800-10 Item 18.10.A.1-6

IV. General Items of Note

- A. Hydrant Meter - For any construction water utilized via an Okaloosa County-owned water line/hydrant meter, the Contractor shall set up an account with OCWS' Customer Service office and provide contact information. The account shall be set up in the Contractor's name with a deposit and service fee paid by the Contractor. The deposit will be refunded when the account terminates if the meter has not been damaged or lost. OCWS will be responsible for setting the hydrant meter, along with the monthly reading. If the hydrant meter needs to be relocated, the Contractor is to coordinate this with OCWS Maintenance. Water usage will not be charged to the contractor, provided that the above conditions are met.

V. Technical Drawings

- A. Each sheet will be reviewed in detail during the pre-bid meeting

VI. Closing Remarks

- A. Mr. Littrell, Director of OCWS, explained the Owner's views on Change Orders.**

VII. Site Visit

- A. A site visit was conducted to the project location on Okaloosa Island.**

VIII. Sign-In Sheet – Make sure you signed in on the sign-in sheet.

PRE BID ATTENDANCE LIST

for

REPLACEMENT OF
OKALOOSA ISLAND WATER BOOSTER PUMP STATION
ITB WS 23-22
OKALOOSA COUNTY, FLORIDA

| NAME & COMPANY REPRESENTING | ADDRESS CITY, STATE, & ZIP | PHONE NUMBER FAX NUMBER | EM ADDRESS |
|---|---|------------------------------|--|
| Michael Evans Poly, Inc. | PO Box 84 Shalimar FL 32579 | 850-609-1100 | mevans@poly.com |
| KRTIY KLLS JJP CONST | | 850-420-3929 | JRKLK15 |
| Timothy Forget Bill Smith Electric William Eric SilvCross Construction Cory Lewis | | 860 303 9270 | Tim@b.ri |
| Jeffrey Hyde Okaloosa County | Okaloosa County Purchasing | 850-635-2935 850-609-4121 | billp@salwa.com clawis@myokn.com |
| Venessa Hurst Talcon Group Zack Nesian Talcon | 156 Dupont Rd Hawarden FL 32333 156 Dupont Rd | 850-689-5960 | JHyde@myokn.com |
| Wade Fulford Poly Inc Mark Wise OCWS | PO Box 841 Shalimar FL 32579 | 850-519-0530 | vhurst@tal.com ZNESIAN@myokn.com |
| Christopher Jeffrey OCWS | | 850-499-2902 | |
| Jeff Kirtrell OCWS | | 850-609-1100 850-605-0297 | wfulford@poly.com markwise@poly.com |
| | | 850-978-1674 | copel@myokn.com |
| | | 850-651-7172 | j.kirtrell@myokn.com |
| | | | |
| | | | |

SECTION 264313
SURGE PROTECTION FOR LOW-
VOLTAGE ELECTRICAL POWER CIRCUITS

SECTION 264313 - SURGE PROTECTION FOR LOW-VOLTAGE ELECTRICAL POWER CIRCUITS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Type 1 surge protective devices.
 - 2. Type 2 surge protective devices.
 - 3. Enclosures.
 - 4. Conductors and cables.

1.2 DEFINITIONS

- A. Inominal: Nominal discharge current.
- B. MCOV: Maximum continuous operating voltage.
- C. Mode(s), also Modes of Protection: air of electrical connections where the VPR applies.
- D. MOV: Metal-oxide varistor; an electronic component with a significant non-ohmic current-voltage characteristic.
- E. NRTL: Nationally recognized testing laboratory.
- F. OCPD: Overcurrent protective device.
- G. SCCR: Short-circuit current rating.
- H. SPD: Surge protective device.
- I. Type 1 SPDs: Permanently connected SPDs intended for installation between the secondary of the service transformer and the line side of the service disconnect overcurrent device.
- J. Type 2 SPDs: Permanently connected SPDs intended for installation on the load side of the service disconnect overcurrent device, including SPDs located at the branch panel.
- K. VPR: Voltage protection rating.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include electrical characteristics, specialties, and accessories for SPDs.
 - 2. NRTL certification of compliance with UL 1449.
 - a. Tested values for VPRs.

- b. Inominal ratings.
- c. MCOV, type designations.
- d. OCPD requirements.
- e. Manufacturer's model number.
- f. System voltage.
- g. Modes of protection.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.
- B. Sample Warranty: For manufacturer's special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For SPDs to include in maintenance manuals.

1.6 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace SPDs that fail in materials or workmanship within five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 TYPE 1 SURGE PROTECTIVE DEVICES (SPDs)

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. APT, a division of Schneider Electric
 - 2. SSI, an ILSCO Company
 - 3. Siemens Energy & Automation, Inc.
 - 4. Eaton Corporation, Cutler-Hammer Products
 - 5. G.E., a division of ABB
- B. Source Limitations: Obtain devices from single source from single manufacturer.
- C. Standards:
 - 1. Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 1449, Type 1.
- D. Product Options:
 - 1. Include integral disconnect switch.
 - 2. Include internal thermal protection that disconnects the SPD before damaging internal suppressor components.
 - 3. Include indicator light display for protection status.
 - 4. Include audible alarm.

5. Include NEMA ICS 5, dry Form C contacts rated at 2 A and 24 V ac for remote monitoring of protection status.
6. Include surge counter.

E. Performance Criteria:

1. MCOV: Not less than 125 percent of nominal system voltage for 208Y/120 V and 120/240 V power systems, and not less than 115 percent of nominal system voltage for 480Y/277 V power systems.
2. Peak Surge Current Rating: Minimum single-pulse surge current withstand rating per phase must not be less than 200 kA. Peak surge current rating must be arithmetic sum of the ratings of individual MOVs in a given mode.
3. Protection modes and UL 1449 VPR for grounded wye circuits with 208Y/120 V, three-phase, four-wire circuits must not exceed the following:
 - a. Line to Neutral: 700 V for 208Y/120 V.
 - b. Line to Line: 1200 V for 208Y/120 V.
4. Protection modes and UL 1449 VPR for 240/120 V, single-phase, three-wire circuits must not exceed the following:
 - a. Line to Neutral: 700 V.
 - b. Line to Line: 1200 V.
5. SCCR: Not less than 200 kA.
6. Inominal Rating: 20 kA.

2.2 TYPE 2 SURGE PROTECTIVE DEVICES (SPDs)

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. APT, a division of Schneider Electric
2. SSI, an ILSCO Company
3. Siemens Energy & Automation, Inc.
4. Eaton Corporation, Cutler-Hammer Products
5. G.E., a division of ABB

B. Source Limitations: Obtain devices from single source from single manufacturer.

C. Standards:

1. Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 1449, Type 2.
2. Comply with UL 1283.

D. Product Options:

1. Include LED indicator lights for power and protection status.
2. Include internal thermal protection that disconnects the SPD before damaging internal suppressor components.
3. Include NEMA ICS 5, dry Form C contacts rated at 2 A and 24 V ac for remote monitoring of protection status.
4. Include surge counter.

E. Performance Criteria:

1. MCOV: Not less than 125 percent of nominal system voltage for 208Y/120 V and 120/240 V power systems, and not less than 115 percent of nominal system voltage for 480Y/277 V power systems.
2. Peak Surge Current Rating: Minimum single-pulse surge current withstand rating per phase must not be less than 100 kA. Peak surge current rating must be arithmetic sum of the ratings of individual MOVs in a given mode.
3. Protection modes and UL 1449 VPR for grounded wye circuits with 208Y/120 V, three-phase, four-wire circuits must not exceed the following:
 - a. Line to Neutral: 700 V for 208Y/120 V.
 - b. Line to Ground: 700 V for 208Y/120 V.
 - c. Neutral to Ground: 700 V for 208Y/120 V.
 - d. Line to Line: 1200 V for 208Y/120 V.
4. Protection modes and UL 1449 VPR for 240/120 V, single-phase, three-wire circuits must not exceed the following:
 - a. Line to Neutral: 700 V.
 - b. Line to Ground: 700 V.
 - c. Neutral to Ground: 700 V.
 - d. Line to Line: 1200 V.
5. SCCR: Equal or exceed 100 kA.
6. Inominal Rating: 20 kA.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1.
- B. Provide OCPD and disconnect for installation of SPD in accordance with UL 1449 and manufacturer's written instructions.
- C. Install leads between disconnects and SPDs short, straight, twisted, and in accordance with manufacturer's written instructions.
 1. Do not splice and extend SPD leads unless specifically permitted by manufacturer.
 2. Do not exceed manufacturer's recommended lead length.
 3. Do not bond neutral and ground.
- D. Use crimped connectors and splices only. Wire nuts are unacceptable.

3.2 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections with the assistance of a factory-authorized service representative:
 1. Compare equipment nameplate data for compliance with Drawings and the Specifications.
 2. Inspect anchorage, alignment, grounding, and clearances.

3. Verify that electrical wiring installation complies with manufacturer's written installation requirements.
- B. SPDs that do not pass tests and inspections will be considered defective.
- C. Prepare test and inspection reports.

3.3 STARTUP SERVICE

- A. Complete startup checks in accordance with manufacturer's written instructions.
- B. Do not perform insulation-resistance tests of the distribution wiring equipment with SPDs installed. Disconnect SPDs before conducting insulation-resistance tests; reconnect them immediately after the testing is over.
- C. Energize SPDs after power system has been energized, stabilized, and tested.

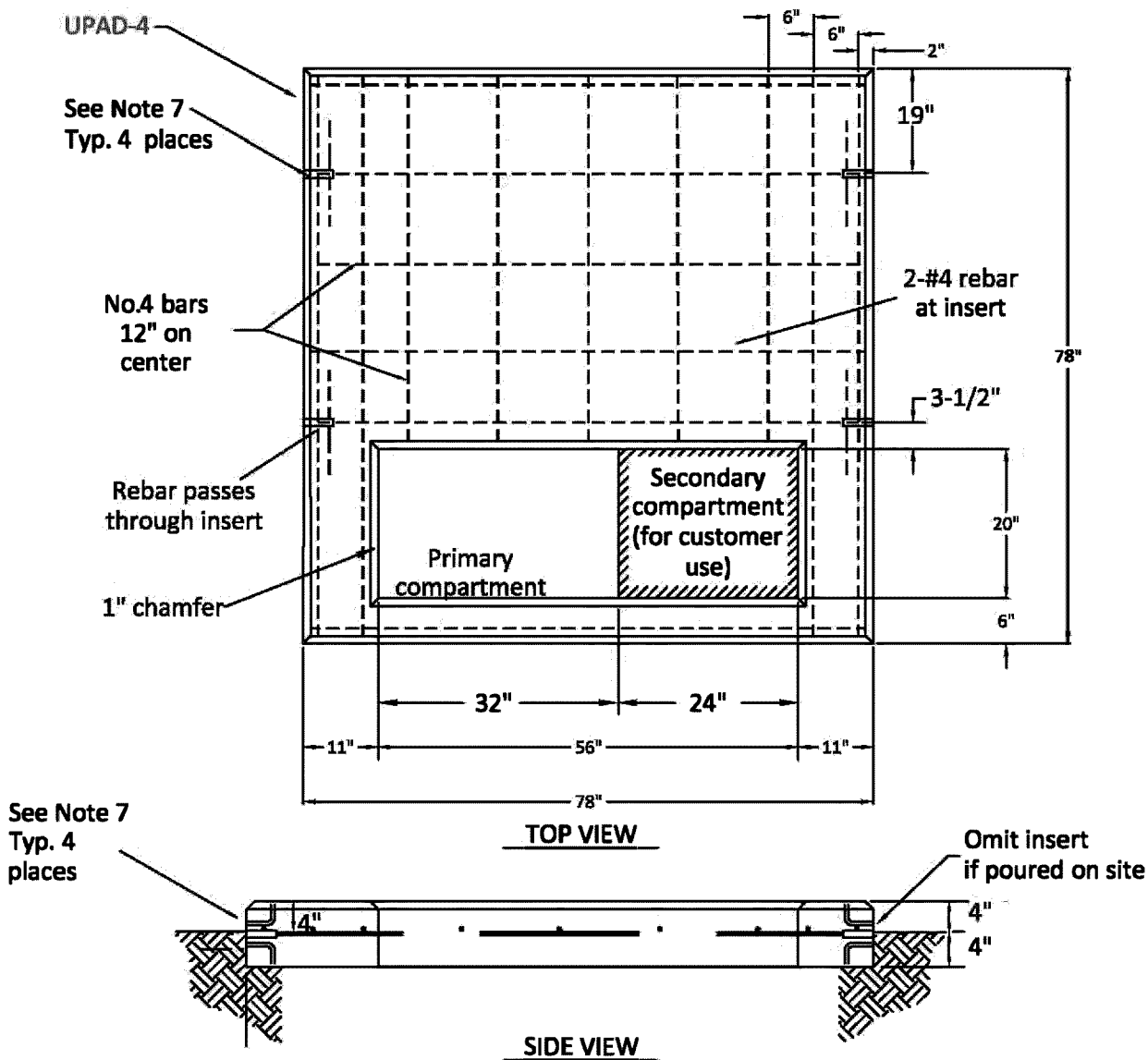
3.4 DEMONSTRATION

- A. Train Owner's maintenance personnel to operate and maintain SPDs.

END OF SECTION 264313

**PAD-MOUNTED
TRANSFORMER SLAB DETAIL**
"PRECAST CONCRETE 3-PHASE PAD"

Precast Concrete 3 - Phase Pad
45KVA - 300KVA
12 kV thru 25 kV



NOTES:

1. Service duct shall be located in the extreme right side of the secondary compartment.
2. Reinforce with No. 4 bars with a 12" x 12" grid, 4 in. below top of pad except as shown above.
3. Concrete shall have a minimum ultimate 28 day compressive strength of not less than 3,000 pounds, pad shall be cured not less than 72 hours.
4. Average weight of pad is 3700 lbs. concrete.
5. Mounting surface shall be level, smooth and uniform with minimal irregularities.
6. This pad will also accommodate a 500 KVA transformer.
7. Lifting insert for 1 in. diameter threaded bolt, 4" depth, Meadow Burke FX-14, 4 locations (omit if poured in place).
8. Maintain 2 in. of clear concrete between rebar and all outer surfaces.

SUBJECT UNDERGROUND DISTRIBUTION

DETAIL EQUIPMENT PADS AND VAULTS - PRE-CAST OR Poured IN PLACE PAD FOR 45 KVA THROUGH 300 KVA
 LOOP FEED PAD MOUNTED TRANSFORMERS, 12 KV THRU 25 KV

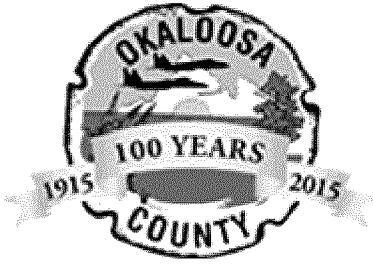
Date 02-26-99

REVISED 09-25-00, 01-26-02, 01-09-07, 04-09-10
 12-20-13, 07-31-14



A- SUH15001

SUH-15.001



ADDENDUM 2

February 22, 2022

ITB WS 23-22

Replacement of Okaloosa Island Water Booster Station

This addendum is being issued to provide update Appendix C and add the attached required Federal Clauses.

The bid opening date remains March 22, 2022 at 3:00 P.M. CST.

Exhibit “B”

This Exhibit is hereby incorporated by reference into the main *Procurement*.

FEDERAL PROVISION RELATED TO GRANT FUNDS THAT MAY BE USED TO FUND THE SERVICES AND GOODS UNDER THIS *SOLICATION*

This *solicitation* is or may become fully or partially Federally Grant funded. To the extent applicable, in accordance with Federal law, respondents shall comply with the clauses as enumerated below. *Proposer* shall adhere to all grant conditions as set forth in the requirements of grant no. Including, but not limited to, those set forth below, as well as those listed below, which are incorporated herein by reference:

- a. 2 CFR. 25.110
- b. 2 CFR Part 170 (including Appendix A), 180, 200 (including Appendixes), and 3000
- c. Executive Orders 12549 and 12689
- d. 41 CFR s. 60-1(a) and (d)
- e. Consolidated Appropriations Act, 2021, Public Law 116-260 related to salary limitations

These cited regulations are hereby incorporated and made part of this *Solicitation* as if fully set forth herein. As stated above, this list is not all inclusive, any other requirement of law applicable in accordance with the Federal, State or grant requirements are also applicable and hereby incorporated into this *Solicitation*. If Proposer cannot adhere to or objects to any of the applicable federal requirements, Proposer's proposal may be deemed by the County as unresponsive. The provisions in this exhibit are supplemental and in addition to all other provisions within the *Procurement*. In the event of any conflict between the terms and conditions of this Exhibit and the terms and conditions of the remainder of the [*Contract/Procurement*], the conflicting terms and conditions of this Exhibit shall prevail. However, in the event of any conflict between the terms and conditions of this Exhibit and the terms and conditions of any federal grant funding document provided specific to the funds being used to contract services or goods under this *Procurement* the conflicting terms and conditions of that document shall prevail.

Drug Free Workplace Requirements (Drug-Free Workplace Act of 1988 (41 U.S.C. § 701 et seq.), 2 CFR § 182): Applicability: As required in the Drug-free workplace requirements in accordance with Drug Free Workplace Act of 1988 (Pub L 100-690, Title V, Subtitle D). Requirement: to the extent applicable, *proposer* must comply with Federal Drug Free workplace requirements as Drug Free Workplace Act of 1988.

Conflict of Interest (2 CFR § 200.112): Applicability: Any federal grant funded Contract or Contract that may receive federal grant funds. Requirement: The *proposer* must disclose in writing any potential conflict of interest to the County or pass-through entity in accordance with applicable Federal policy. Further, the County is required to maintain conflict of interest policies as it relates to procured contracts. In accordance with the Okaloosa County Purchasing Manual section 41.05(8), a conflict of interest exists when and of the following occur: i. Because of other activities, relationships, or contracts, a *proposer* is unable, or potentially unable, to render impartial assistance or advice; ii. A *proposer's* objectivity in performing the contract work is or might be otherwise impaired; or iii. The *proposer* has an unfair competitive advantage.

Mandatory Disclosures (31 U.S.C. §§ 3799 – 3733): Applicability: All Contracts using federal grants funds, or which may use federal grant funds. Requirement: *proposer* acknowledges that 31 U.S.C. Chapter 38 (Administrative Remedies for False Claims and Statements) applies to the *proposer's* actions pertaining to this *solicitation*. The contractor must disclose in writing all violations of Federal criminal law involving fraud, bribery, or gratuity violations potentially affecting the Federal award.

Utilization of Minority and Women Firms (M/WBE) (2 CFR § 200.321): Applicability: All federally grant funded Contracts or Contracts which may use federal grant funds. Requirement: The *proposer* must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible, in accordance with 2CFR 200.321. If subcontracts are to be let, prime *proposer* will require compliance by all sub-contractors. Prior to contract award, the *proposer* shall document efforts to utilize M/WBE firms including what firms were solicited as suppliers and/or subcontractors as applicable and submit this information with their bid submittal. Information regarding certified M/WBE firms can be obtained from:

Florida Department of Management Services (Office of Supplier Diversity)
Florida Department of Transportation
Minority Business Development Center in most large cities and
Local Government M/DBE programs in many large counties and cities

Equal Employment Opportunity (As per 2 CFR Part 200, Appendix II(C); 41 CFR § 61-1.4; 41 CFR § 61-4.3; Executive Order 11246 as amended by Executive Order 11375):

Applicability: except as otherwise provided under 41 CFR Part 60, applies to all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3. Requirement: During the performance of this Contract, the *proposer* agrees as follows: (1) The *Proposer* will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The *Proposer* 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, sexual orientation, gender identify, 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 *Proposer* 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; (2) The *Proposer* will, in all solicitations or advertisements for employees placed by or on behalf of the *Proposer*, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin; (3) The *Proposer* will send to each labor union or representative of workers with which it has a collective bargaining Contract or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the *Proposer's* commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment; (4) The *Proposer* will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor; (5) The *Proposer* will furnish all information and reports required by Executive Order 11246 of September 24, 1965, 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 administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.; (6) In the event of the *Proposer's* noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole

or in part and the Proposer may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.; (7) *Proposer* will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) 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, so that such provisions will be binding upon each subcontractor or vendor. The *Proposer* will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event a *Proposer* becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the *Proposer* may request the United States to enter into such litigation to protect the interests of the United States.

Additional notice and requirement for federally assisted contracts or subcontracts in excess of \$10,000.00:

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246).

THE OFFEROR'S OR BIDDER'S ATTENTION IS CALLED TO THE "EQUAL OPPORTUNITY CLAUSE" AND THE "STANDARD FEDERAL EQUAL EMPLOYMENT SPECIFICATIONS" SET FORTH HEREIN. THE GOALS AND TIMETABLES FOR MINORITY AND FEMALE PARTICIPATION, EXPRESSED IN PERCENTAGE TERMS FOR THE CONTRACTOR'S AGGREGATE WORKFORCE IN EACH TRADE ON ALL CONSTRUCTION WORK IN THE COVERED AREA, ARE AS FOLLOWS:

| TIME-TABLES | GOALS FOR MINORITY PARTICIPATION FOR EACH TRADE | GOALS FOR FEMALE PARTICIPATION IN EACH TRADE |
|--------------------|--|---|
| | <i>INSERT GOALS FOR EACH YEAR</i> | <i>INSERT GOALS FOR EACH YEAR.</i> |

THESE GOALS ARE APPLICABLE TO ALL THE CONTRACTOR'S CONSTRUCTION WORK (WHETHER OR NOT IT IS FEDERAL OR FEDERALLY ASSISTED) PERFORMED IN THE COVERED AREA. IF THE CONTRACTOR PERFORMS CONSTRUCTION WORK IN A GEOGRAPHICAL AREA LOCATED OUTSIDE OF THE COVERED AREA, IT SHALL APPLY THE GOALS ESTABLISHED FOR SUCH GEOGRAPHICAL AREA WHERE THE WORK IS ACTUALLY PERFORMED. WITH REGARD TO THIS SECOND AREA, THE CONTRACTOR ALSO IS SUBJECT TO THE GOALS FOR BOTH ITS FEDERALLY INVOLVED AND NONFEDERALLY INVOLVED CONSTRUCTION. THE CONTRACTOR'S COMPLIANCE WITH THE EXECUTIVE ORDER AND THE REGULATIONS IN 41 CFR PART 60-4 SHALL BE BASED ON ITS IMPLEMENTATION OF THE EQUAL OPPORTUNITY CLAUSE, SPECIFIC AFFIRMATIVE ACTION OBLIGATIONS REQUIRED BY THE SPECIFICATIONS SET FORTH IN 41 CFR 60-4.3(A), AND ITS EFFORTS TO MEET THE GOALS. THE HOURS OF MINORITY AND FEMALE EMPLOYMENT AND TRAINING MUST BE SUBSTANTIALLY UNIFORM THROUGHOUT THE LENGTH OF THE CONTRACT, AND IN EACH TRADE, AND THE CONTRACTOR SHALL MAKE A GOOD FAITH EFFORT TO EMPLOY MINORITIES AND WOMEN EVENLY ON EACH OF ITS PROJECTS. THE TRANSFER OF MINORITY OR FEMALE EMPLOYEES OR TRAINEES FROM CONTRACTOR TO CONTRACTOR OR FROM PROJECT TO PROJECT FOR THE SOLE PURPOSE OF MEETING THE CONTRACTOR'S GOALS SHALL BE A VIOLATION OF THE CONTRACT, THE EXECUTIVE ORDER AND THE REGULATIONS IN 41 CFR PART 60-4. COMPLIANCE WITH THE GOALS WILL BE MEASURED AGAINST THE TOTAL WORK HOURS PERFORMED.

THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE DIRECTOR OF THE OFFICE OF FEDERAL CONTRACT COMPLIANCE PROGRAMS WITHIN 10 WORKING DAYS OF AWARD OF ANY CONSTRUCTION SUBCONTRACT IN EXCESS OF \$10,000 AT ANY TIER FOR CONSTRUCTION WORK UNDER THE CONTRACT RESULTING FROM THIS SOLICITATION. THE NOTIFICATION SHALL LIST THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE SUBCONTRACTOR; EMPLOYER IDENTIFICATION NUMBER OF THE SUBCONTRACTOR; ESTIMATED DOLLAR AMOUNT OF THE SUBCONTRACT; ESTIMATED STARTING AND COMPLETION DATES OF THE SUBCONTRACT; AND THE GEOGRAPHICAL AREA IN WHICH THE SUBCONTRACT IS TO BE PERFORMED.

AS USED IN THIS NOTICE, AND IN THE CONTRACT RESULTING FROM THIS SOLICITATION, THE "COVERED AREA" IS (*INSERT DESCRIPTION OF THE GEOGRAPHICAL AREAS WHERE THE CONTRACT IS TO BE PERFORMED GIVING THE STATE, COUNTY AND CITY, IF ANY*).

Davis-Bacon Act (40 U.S.C. §§ 3141-3144 and 3146-3148, as supplemented by 29 CFR Part 5):

Applicability: When required by Federal Program legislation, grant funding, and all prime construction contracts in excess of \$2,000 awarded by non-Federal entities, including Okaloosa County. Requirement: If applicable to this *solicitation*, the *proposer* agrees to comply with all provisions of the Davis Bacon Act as amended (40 U.S.C. 3141-3148). *propose* are required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. If the grant award contains Davis Bacon provisions, the County will place a copy of the current prevailing wage determination issued by the Department of Labor in the solicitation document. The decision to award a contract shall be conditioned upon the acceptance of the wage determination.

Copeland Anti Kick Back Act (40 U.S.C. § 3145 as supplemented by 29 CFR Part 3):

Applicability: When required by Federal Program legislation, grant funding, and all prime construction contracts in excess of \$2,000 awarded by non-Federal entities, including Okaloosa County. Requirement: If applicable to this *Solicitation*, *proposer* shall comply with all the requirements of 18 U.S.C. § 874, 40 U.S.C. § 3145, 29 CFR Part 3 which are incorporated by reference to this *solicitation*. *proposer* are prohibited from inducing by any means any person employed in the construction, completion or repair of public work to give up any part of the compensation to which he or she is otherwise entitled.

Contract Work Hours and Safety Standards Act (40 U.S.C. 3701–3708 as supplemented by 29 CFR Part 5):

Applicability: All contracts awarded in excess of \$100,000 that involve the employment of mechanics or laborers. Requirement: All contracts awarded in excess of \$100,000 that involve the employment of mechanics or laborers must be in compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor is required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions, which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

Clean Air Act (42 U.S.C. 7401–7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251–1387, as amended):

Applicability: Contracts and subgrants of amounts in excess of \$150,000.00. Requirement: *proposer* agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401–7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251–1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

Debarment and Suspension (2 CFR part 180, Executive Orders 12549 and 12689):

Applicability: All contracts with federal grant funding or possibility of federal grant funds being used. Requirement: *proposer* certifies that it and its principals, if applicable, are not presently debarred or suspended by any Federal department or agency from participating in this transaction. *proposer* now agrees to verify, to the extent applicable that for each lower tier subcontractor that

exceeds \$25,000 as a “covered transaction” under the Services to be provided is not presently disbarred or otherwise disqualified from participating in the federally assisted services. The *proposer* agrees to accomplish this verification by: (1) Checking the System for Award Management at website: <http://www.sam.gov>; (2) Collecting a certification statement similar to the Certification of Offeror /Bidder Regarding Debarment, herein; (3) Inserting a clause or condition in the covered transaction with the lower tier contract.

Byrd Anti-Lobbying Amendment (31 U.S.C. 1352): Applicability: Applicable to any individual/entity that applies or bids/procures an award in excess of \$100,000. Requirement: *proposer* must file the required certification, attached to the procurement. 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 agency, 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 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award. The contractor shall certify compliance.

Rights to Inventions Made Under a Contract or Agreement (37 CFR Part 401): Applicability: If the Federal award meets the definition of “funding agreement” under 37 CFR § 401.2 additional Standard patent rights clauses in accordance with 37 CFR § 401.14 shall apply. Requirement: Please contact the County for further information related to the applicable standard patent rights clauses.

Procurement of Recovered Materials (2 CFR 200.323 and 40 CFR Part 247): Applicability: All contractors of Okaloosa County when federal funds may be or are being used under the Contract. Requirement: *proposer* must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

Access to Records and Reports: Applicability: All Contracts that received or may receive federal grant funding. Requirement: *Proposer* will make available to the County’s granting agency, the granting agency’s Office of Inspector General, the Government Accountability Office, the Comptroller General of the United States, Okaloosa County, Okaloosa County Clerk of Court’s Inspector General, or any of their duly authorized representatives any books, documents, papers or other records, including electronic records, of the contractor that are pertinent to the County’s grant award, in order to make audits, investigations, examinations, excerpts, transcripts, and copies of such documents. The right also includes timely and reasonable access to the contractor’s personnel during normal business hours for the purpose of interview and discussion related to such documents. This right of access shall continue as long as records are retained.

Record Retention (2 CFR § 200.33): Applicability: All Contracts that received or may receive federal grant funding. Requirement: *proposer* will retain of all required records pertinent to this

contract for a period of three years, beginning on a date as described in 2 C.F.R. §200.333 and retained in compliance with 2 C.F.R. §200.333.

Federal Changes: *proposer* shall comply with all applicable Federal agency regulations, policies, procedures and directives, including without limitation those listed directly or by reference, as they may be amended or promulgated from time to time during the term of *any awarded contract*.

Termination for Default (Breach or Cause): Applicability: All Contracts that may receive federal funds or that are federally funded above the micro-purchase amount. Requirement: If Contractor does not deliver supplies in accordance with the contract delivery schedule, or, if the contract is for services, the Contractor fails to perform in the manner called for in the contract, or if the Contractor fails to comply with any other provisions of the contract, the County may terminate the contract for default. Termination shall be effected by serving a notice of termination on the contractor setting forth the manner in which the Contractor is in default. The contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner of performance set forth in the contract.

Termination for Convenience: Applicability: All Contracts that may receive federal funds or that are federally funded above the micro-purchase amount. Requirement: *Any Awarded Contract* may be terminated by Okaloosa County in whole or in part at any time, upon ten (10) days written notice. If the Contract is terminated before performance is completed, the *Contractor* shall be paid only for that work satisfactorily performed for which costs can be substantiated.

Safeguarding Personal Identifiable Information (2 CFR § 200.82): Applicability: All Contracts receiving, or which may receive federal grant funding. Requirement: *proposer* will take reasonable measures to safeguard protected personally identifiable information and other information designated as sensitive by the awarding agency or is considered sensitive consistent with applicable Federal, state and/or local laws regarding privacy and obligations of confidentiality.

Prohibition On Utilization Of Cost Plus A Percentage Of Cost Contracts (2 CFR Part 200): Applicability: All Contracts receiving or which may receive federal grant funding. Requirement: The County will not award contracts containing Federal funding on a cost-plus percentage of cost basis.

Energy Policy and Conservation Act (43 U.S.C. § 6201 and 2 CFR Part 200 Appendix II (H)): Applicability: For any contracts except micro-purchases (\$3000 or less, except for construction contracts over \$2000). Requirement: *proposer* shall comply with mandatory standards and policies relating to energy efficiency, stating in the state energy conservation plan issued in compliance with the Energy Policy and Conservation act. (Pub. L. 94-163, 89 Stat. 871) [53 FR 8078, 8087, Mar. 11, 1988, as amended at 60 FR 19639, 19645, Apr. 19, 1995].

Trafficking Victims Protection Act (2 CFR Part 175): Applicability: All federally grant funded contracts or contracts which may become federally grant funded. Requirement: *Proposer* will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits *Proposer* from (1) engaging in severe forms of trafficking in persons during the period of time that *resulting contract* is in effect; (2) procuring a commercial sex act during the period of time that *resulting contract* is in effect; or (3) using forced labor in the performance of the contracted services under *a resulting contract*.

may be unilaterally terminated immediately by County for *Proposer's* violating this provision, without penalty.

Domestic Preference For Procurements (2 CFR § 200.322): Applicability: All Contracts using federal grant funds or which may use federal grant funds. Requirement: As appropriate and to the extent consistent with law, to the greatest extent practicable when using federal funds for the services provided in *a resulting contract*, shall provide a preference for the purchase, acquisition, or use of goods and products or materials produced in the United States.

Buy America (Build America, Buy America Act (Public Law 117-58, 29 U.S.C. § 50101, Executive Order 14005): Applicability: Applies to purchases of iron, steel, manufactured products and construction materials permanently incorporated into infrastructure projects, where federal grant funding agency requires it or if the grant funds which may come from any federal agency, but most commonly: the U.S. Environmental Protection Agency (EPA), the U.S. Federal Transit Administration (FTA), the US Federal Highway Administration (FHWA), the U.S. Federal Railroad Administration (FRA), Amtrack and the U.S. Federal Aviation Administration (FAA). Requirement: All iron, steel, manufactured products and construction materials used under a federally grant funded project must be produced in the United States. Additional requirements may apply depending on the Federal Granting Agency provisions, please check with Okaloosa County for further details. Proposers shall be required to submit a completed Buy America Certificate with this procurement, an incomplete certificate may deem the proposers submittal non-responsive.

Prohibition On Certain Telecommunications And Video Surveillance Services Or Equipment (2 CFR § 200.216): Applicability: All Contracts using federal grant funds or which may use federal grant funds. Requirement: *Proposer* and any subcontractors are prohibited to obligate or spend grant funds to: (1) procure or obtain, (2) extend or renew a contract to procure or obtain; or (3) enter into a contract to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Pub. L. 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities). i. For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities). ii. Telecommunications or video surveillance services provided by such entities or using such equipment. iii. Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise, connected to the government of a covered foreign country.

Enhanced Whistleblower Protections (41 U.S.C. § 4712): Applicability: National Defense Authorization Act of 2013 extending whistleblower protections to *Proposer* employees may apply to the Federal grant award dollars involved with *a resulting contract*. Requirement: See 42 U.S. Code § 4712 for further requirements. Requirement: An employee of *Proposer* and/or its subcontractors may not be discharged, demoted, or otherwise discriminated against as a reprisal for disclosing to a person or body described in 42 U.S.C. § 4712(a)(2) information that the employee reasonably believes is evidence of gross mismanagement of a Federal contract or grant, a gross

waste of Federal funds, an abuse of authority relating to a Federal contract or grant, a substantial and specific danger to public health or safety, or a violation of law, rule, or regulation related to a Federal contract (including the competition for or negotiation of a contract) or grant.

Federal Funding Accountability and Transparency Act (FFATA) (2 CFR § 200.300; 2 CFR Part 170): Applicability: All Contracts that may receive federal grant funding or are funded with federal grant funding. Requirement: In accordance with FFATA, the *Proposer* shall, upon request, provide Okaloosa County the names and total compensation of the five most highly compensated officers of the entity, if the entity in the preceding fiscal year received 80 percent or more of its annual gross revenues in federal awards, received \$25,000,000 or more in annual gross revenues from federal awards, and if the public does not have access to information about the compensation of the senior executives of the entity through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 or section 6104 of the Internal Revenue Code of 1986.

Federal Awardee Performance and Integrity Information System (FAPIIS)(The Duncan Hunter National Defense Authorization Act of 2009 (Public Law 110-417 and 2 CFR Part 200 Appendix XII): Applicability: All Contracts that may receive federal grant funding or are funded with federal grant funding. Requirement: The *Proposer* shall update the information in the Federal Awardee Performance and Integrity Information System (FAPIIS) on a semi-annual basis, throughout the life of this contract, by posting the required information in the System for Award Management via <https://www.sam.gov>.

Never Contract With The Enemy (2 CFR Part 183): Applicability: only to grant and cooperative agreements in excess of \$50,000 performed outside of the United States, Including U.S. territories and are in support of a contingency operation in which members of the Armed Forces are actively engaged in hostilities. Requirement: *proposer* must exercise due diligence to ensure that none of the funds, including supplies and services, received are provided directly or indirectly (including through subawards or contracts) to a person or entity who is actively opposing the United States or coalition forces involved in a contingency operation in which members of the Armed Forces are actively engaged in hostilities, which must be completed through 2 CFR 180.300 prior to issuing a subcontract.

Federal Agency Seals, Logos and Flags: Applicability: All Contracts that may receive federal grant funding or are funded with federal grant funding. Requirement: The *proposer* shall not use any Federal Agency seal(s), logos, crests, or reproductions of flags or likenesses of any federal agency officials without specific federal agency pre-approval.

No Obligation by Federal Government: Applicability: All Contracts that may receive federal grant funding or are funded with federal grant funding. Requirement: The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the non-Federal entity, contractor, or any other party pertaining to any matter resulting from *a resulting contract*.

The _____ on behalf of _____ the *proposer* is authorized to sign below and confirm the *proposer* is fully able to comply with these requirements, federal terms and conditions and has on made any inquiries and further examination of the law and requirements as is necessary to comply.

DATE: _____

SIGNATURE: _____

COMPANY: _____

NAME: _____

ADDRESS: _____

TITLE: _____

E-MAIL: _____

PHONE NO.: _____

Buy America Certificates

If steel, iron, or manufactured products (as defined in 49 CFR §§ 661.3 and 661.5 of this part) are being procured, the appropriate certificate as set forth below shall be completed and submitted by each bidder or offeror in accordance with the requirement contained in 49 CFR § 661.13(b) of this part.

Certificate of Compliance with Buy America Requirements

The bidder or offeror hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j)(1), and the applicable regulations in 49 CFR part 661.

DATE
SIGNATURE
COMPANY
NAME
TITLE

Certificate of Non-Compliance with Buy America Requirements

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but it may qualify for an exception to the requirement pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 CFR 661.7.

DATE
SIGNATURE
COMPANY
NAME
TITLE

APPENDIX C

ENGINEERING PLANS

**ALL DRAWINGS REVISED WITH THIS ADDENDUM ARE
INCORPORATED INTO THE FINAL DRAWINGS “ATTACHMENT C”
INCLUDED IN THIS PROJECT MANUAL**



ADDENDUM 1

February 16, 2022

ITB WS 23-22

Replacement of Okaloosa Island Water Booster Station

This addendum is being issued to provide update Appendix A-C

The bid opening date remains March 22, 2022 at 3:00 P.M. CST.

**ALL SPECIFICATIONS, REPORTS, AND DRAWINGS RE-ISSUED
WITH THIS ADDENDUM ARE INCORPORATED INTO THE FINAL
ATTACHMENTS A, B AND C INCLUDED IN THIS PROJECT
MANUAL. THEY WERE RE-ISSUED BY ADDENDUM 1 DUE TO
TECHNICAL ISSUES WITH THE ONLINE BID SITE.**



INVITATION TO BID (ITB) & RESPONDENT'S ACKNOWLEDGEMENT

ITB TITLE:

Replacement of Okaloosa Island Water Booster Station

ITB NUMBER:

ITB WS 23-22

ISSUE DATE:

February 14, 2022

MANDATORY PRE-BID MEETING:

February 24, 2022 9:00 A.M. cst

LAST DAY FOR QUESTIONS:

March 2, 2022 3:00 P.M. cst

ITB OPENING DATE & TIME:

March 16, 2022 3:00 P.M. cst

Okaloosa County, Florida solicits your company to submit a bid on the above referenced goods or services. All terms, specifications and conditions set forth in this ITB are incorporated into your response. A bid will not be accepted unless all conditions have been met. All bids must have an authorized signature in the space provided below. All bids must be submitted electronically by the time and date listed above. Bids may not be withdrawn for a period of ninety (90) days after the bid opening unless otherwise specified.

RESPONDENT ACKNOWLEDGEMENT FORM BELOW MUST BE COMPLETED, SIGNED, AND RETURNED AS PART OF YOUR BID. BIDS WILL NOT BE ACCEPTED WITHOUT THIS FORM, SIGNED BY AN AUTHORIZED AGENT OF THE RESPONDENT.

COMPANY NAME J & P Construction Co., Inc. dba Jamison Construction Co.

MAILING ADDRESS 2550 39th Street

CITY, STATE, ZIP Tuscaloosa, AL 35405

FEDERAL EMPLOYER'S IDENTIFICATION NUMBER (FEIN): 63-0479050t

TELEPHONE NUMBER: 205-345-6631

EXT: _____

FAX: 205-345-6652

EMAIL: batkinson@jandpconstruction.com

I CERTIFY THAT THIS BID IS MADE WITHOUT PRIOR UNDERSTANDING, AGREEMENT, OR CONNECTION WITH ANY OTHER RESPONDENT SUBMITTING A BID FOR THE SAME MATERIALS, SUPPLIES, EQUIPMENT OR SERVICES, AND IS IN ALL RESPECTS FAIR AND WITHOUT COLLUSION OR FRAUD. I AGREE TO ABIDE BY ALL TERMS AND CONDITIONS OF THIS BID AND CERTIFY THAT I AM AUTHORIZED TO SIGN THIS BID FOR THE RESPONDENT.

AUTHORIZED SIGNATURE: *Barry Atkinson*
PRINTED NAME

TYPED OR

Barry Atkinson

TITLE: President of Operations

DATE

3/30/22

DOCUMENT 00010 – TABLE OF CONTENTS

DIVISION 0 – CONTRACT AND BIDDING DOCUMENTS

| | |
|-------|---|
| 00020 | ADVERTISEMENT FOR BIDS |
| 00100 | INSTRUCTIONS TO BIDDERS |
| 00410 | BID FORM WITH ATTACHMENTS |
| 00430 | BID BOND |
| 00510 | NOTICE OF INTENT |
| 00520 | DRAFT AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT |
| 00610 | PERFORMANCE BOND |
| 00620 | PAYMENT BOND |
| 00700 | GENERAL CONDITIONS |
| 00800 | SUPPLEMENTARY CONDITIONS |

DIVISION 1 – GENERAL REQUIREMENTS

| | |
|-------|------------------------|
| 01010 | SUMMARY OF WORK |
| 01040 | PROJECT COORDINATION |
| 01350 | WARRANTIES AND MANUALS |
| 01500 | TEMPORARY FACILITIES |
| 01700 | PROJECT CLOSE-OUT |
| 01750 | RECORD DOCUMENTS |

TECHNICAL SPECIFICATIONS

Appendix A – Technical Specifications as prepared by Poly, Inc. bearing the title, Replacement of Okaloosa Island Water Booster Station, ITB WS 23-22 – Technical Specifications, dated January 2022, 241 pages.

GEOTECHNICAL REPORT

Appendix B – Geotechnical Report as Prepared By NOVA Engineering and Environmental, LLC

ENGINEERING PLANS

Appendix C – Engineering plans as prepared by Poly, Inc. bearing the title, Replacement of Okaloosa Island Water Booster Station, ITB WS 23-22, dated January 2022, 31 pages.

CIVIL TECHNICAL SPECIFICATIONS

| | |
|-------------|---|
| 01 33 00 | SUBMITTALS |
| 01 35 24 | SAFETY |
| 01 41 26.02 | FDEP STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY |
| 01 57 13.02 | TEMPORARY EROSION CONTROL FOR FLORIDA |
| 01 61 00 | GENERAL MATERIALS STIPULATIONS |
| 01 74 23 | CLEANUP |
| 01 78 23.01 | OPERATION AND MAINTENANCE DATA |
| 31 00 00 | EARTHWORK |
| 32 16 23.01 | CONCRETE SIDEWALKS |
| 32 31 13 | CHAIN LINK FENCING |
| 32 92 23 | SOLID SOD GRASSING (CENTIPEDE) |
| 33 05 51 | DUCTILE IRON PIPING & DUCTILE IRON & CAST IRON FITTINGS |
| 40 05 51 | VALVES |
| 40 71 13.13 | ELECTROMAGNETIC FLOW MEASURING SYSTEM |
| 40 75 21 | CHLORINE RESIDUAL ANALYZER |
| 40 76 26 | CHLORINE GAS DETECTORS |
| 41 22 23 | HOISTS |
| 42 21 03.10 | VERTICAL CLOSE-COUPLED SPLIT CASE PUMPS |
| 46 31 11.03 | CALCIUM HYPOCHLORITE TABLET CHLORINATION EQUIPMENT |

STRUCTURAL TECHNICAL SPECIFICATIONS

| | |
|----------|----------------------------|
| 03 30 00 | BUILDING CONCRETE WORK |
| 04 20 00 | UNIT MASONRY |
| 05 12 00 | STRUCTURAL STEEL |
| 06 19 20 | PREFABRICATED WOOD TRUSSES |

ARCHITECTURAL TECHNICAL SPECIFICATIONS

| | |
|-------------|--|
| 05 52 13 | PIPE AND TUBE RAILINGS |
| 06 10 00 | ROUGH CARPENTRY |
| 07 21 00 | THERMAL INSULATION |
| 07 41 13.16 | STANDING-SEAM METAL ROOF PANELS |
| 07 46 33 | PLASTIC SOFFIT |
| 07 92 00 | JOINT SEALANTS |
| 08 11 16 | ALUMINUM DOORS AND FRAMES |
| 08 33 23 | OVERHEAD COILING DOORS |
| 08 71 00.01 | FINISH HARDWARE |
| 09 96 00 | PAINTING AND COATINGS FOR BUILDING |
| 09 96 53 | ELASTOMERIC COATINGS FOR EXTERIOR BUILDING WALLS |
| 10 73 13 | PRE-ENGINEERED CANOPIES |

ELECTRICAL TECHNICAL SPECIFICATIONS

| | |
|----------|--|
| 26 05 00 | ELECTRICAL GENERAL REQUIREMENTS |
| 26 05 10 | ELECTRICAL METHODS AND BASIC MATERIALS |
| 26 05 33 | RACEWAY SYSTEMS |
| 26 27 26 | WIRE, CABLE, AND DEVICES |
| 26 32 13 | ENGINE GENERATORS |
| 26 36 00 | AUTOMATIC TRANSFER SWITCH |
| 26 40 00 | SERVICE AND DISTRIBUTION |
| 26 43 13 | SURGE PROTECTION FOR LOW-VOLTAGE ELECTRICAL POWER CIRCUITS |

DOCUMENT 00020 – ADVERTISEMENT FOR BIDS

**OKALOOSA BOARD OF COUNTY COMMISSIONERS
CRESTVIEW, FLORIDA
ITB WS 23-22 REPLACEMENT OF OKALOOSA ISLAND BOOSTER PUMP STATION**

Notice is hereby given that the Board of County Commissioners of Okaloosa County, FL, will accept bids until 3:00 p.m. (CST) March 16, 2022, for the Replacement of Okaloosa Island Booster Pump Station. The Project consists of construction of a new water booster station including CMU building with ramp and retaining wall, three close-coupled vertical pumps, piping, valves, flowmeter, sodium hypochlorite disinfection system, controls, electrical including a generator set (generator, ATS and HVAC supplied by Owner, installed by Contractor) and sitework, along with two control valve assemblies at the east and west Island elevated tanks. The work is further defined as shown on the Plans and as described by the Contract Documents.

Interested respondents desiring consideration shall submit their response online at Vendor Registry through the link provided below:

<https://vrapp.vendorregistry.com/Bids/View/BidsList?BuyerId=21d474a1-e536-4f4d-9f2c-77c3b1e3c683>

A mandatory pre-bid conference will be held at 9:00 AM local time on March 1, 2022 at the Okaloosa County Water and Sewer 3rd Floor Conference Room, 1804 Lewis Turner Blvd, Fort Walton Beach, FL.

Unless otherwise stipulated in the bid/bid description, all responses must be submitted using Vendor Registry only. No other means of submission of responses will be accepted. Responses will be accepted by Vendor Registry until **3:00 p.m. (CST) March 16, 2022**, at which time all bids that are timely submitted will be opened and reviewed.

The County reserves the right to award the bid to the lowest responsive respondent and to waive any irregularity or technicality in bids received. Okaloosa County shall be the sole judge of the bid and the resulting Agreement that is in its best interest and its decision shall be final.

For solicitation information, please contact:

DeRita Mason, Sr. Contracts and Leases Coordinator

dmason@myokaloosa.com , 850-689-5960

Jeffrey Hyde, Purchasing Manager

Date

OKALOOSA COUNTY
BOARD OF COUNTY COMMISSIONERS
MEL PONDER, CHAIRMAN

END OF DOCUMENT 00020 - ADVERTISEMENT FOR BIDS

DOCUMENT 00100 – INSTRUCTIONS TO BIDDERS

ARTICLE 1 – DEFINED TERMS

Terms used in these Instructions to BIDDERS will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof.

- 1.01 Issuing Office – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.
- 1.02 BIDDER – The individual or entity who submits a Bid directly to OWNER.
- 1.03 Successful BIDDER – The lowest, responsible BIDDER submitting a responsive bid to whom OWNER (on the basis of OWNER’s evaluation as hereinafter provided) makes an award.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement or Invitation to Bid may be obtained from the ENGINEER.
- 2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither OWNER nor ENGINEER assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 OWNER and ENGINEER, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license or grant for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.01 To demonstrate qualifications to perform the Work, each BIDDER must be prepared to submit within five days of OWNER’s request written evidence such as financial data, previous experience, present commitments and other such data as may be called for below. The successful low BIDDER will be required to acquire a county business license before the contract will be awarded.
- 3.02 Certified to do business in the state of Florida.
 - A. BIDDER must be certified to conduct business in the state of Florida through Florida’s Secretary of State’s office, department of corporations.
<https://dos.myflorida.com/sunbiz/forms/corporations/>. Bidder shall be licensed in accordance with the requirements of Chapter 489 of the Florida Statutes.
- 3.03 CERTIFICATE OF GOOD STANDING FOR STATE OF FLORIDA
 - A. Florida Statute 607.1501 requires that all vendors who wish to do business in the State of Florida be licensed to do business through the Department of State of Florida and be in good standing with the State of Florida. As such, to do business with Okaloosa County a vendor must provide a Certificate of Good Standing with their bid/proposal package to the County. For more information on doing business in the State of Florida, please refer to the Florida Department of State. The website to register is <https://dos.myflorida.com/sunbiz/manage-business/certification/>.

ARTICLE 4 – PRE-BID CONFERENCE

- 4.01 A mandatory pre-bid conference will be held at 9:00 AM local time on March 1, 2022 at the Okaloosa County Water and Sewer 3rd Floor Conference Room, 1804 Lewis Turner Blvd, Fort Walton Beach, FL. BIDDERS are required to attend and participate in the conference.

- 4.02 ENGINEER will transmit to all prospective BIDDERS of record such Addenda as ENGINEER considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 5 – EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA AND SITE

5.03 Subsurface and Physical Conditions

- A. Reference is made to the Supplementary Conditions for the identification of:
1. Those reports of explorations and tests of subsurface conditions at or contiguous to the Site, if any, that ENGINEER has used in preparing the Bidding Documents.
 2. Those drawings of physical conditions in or relating to existing surface and subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Bidding Documents.
- B. Copies of reports and drawings referenced in Paragraph 5.01.A will be made available by OWNER to any BIDDER on request. These reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which BIDDER is entitled to rely as provided in Paragraph 5.03 of the General Conditions has been identified and established in Paragraph 5.03 of the Supplementary Conditions. BIDDER is responsible for any interpretation or conclusion BIDDER draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

5.04 Underground Facilities

- A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or adjacent or contiguous to the Site is based upon information and data furnished to OWNER and ENGINEER by OWNERS of such Underground Facilities, including OWNER, or others. ENGINEER assumes no responsibility for the accuracy or completeness of the information furnished by said OWNERS.

5.05 Hazardous Environmental Condition

- A. The Supplementary Conditions identify those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that ENGINEER has used in preparing the Bid Documents.
- B. Copies of reports and drawings referenced in Paragraph 5.03.A will be made available by OWNER to any BIDDER on request. These reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which BIDDER is entitled to rely as provided in Paragraph 5.06 of the General Conditions has been identified and established in Paragraph 5.06 of the Supplementary Conditions. BIDDER is responsible for any interpretation or conclusion BIDDER draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

- 5.06 Provisions concerning responsibilities for the adequacy of data furnished to prospective BIDDERS with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated conditions appear in Paragraphs 5.03, 5.04 and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective BIDDERS with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

- 5.07 On request, OWNER will provide BIDDER access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as BIDDER deems necessary for submission of Bid. BIDDER shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests and studies.

- 5.08 Reference is made to Article 8 of the General Conditions for the identification of the general nature of other work that is to be performed at the Site by OWNER or others (such as utilities and other prime contractors) that relates to the Work for which a Bid is to be submitted. On request, OWNER will provide to each BIDDER for examination access to or copies of Contract Documents (other than portions thereof related to price) for each other work.
- 5.09 It is the responsibility of each BIDDER before submitting a Bid to:
- A. examine and carefully study the Bidding Documents, including any Addenda and the other related data identified in the Bidding Documents;
 - B. visit the Site and become familiar with and satisfy BIDDER as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
 - C. become familiar with and satisfy BIDDER as to all federal, state and local Laws and Regulations that may affect cost, progress, or performance of the Work;
 - D. carefully study all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in Paragraph 5.03 of the General Conditions, and carefully study all reports and drawings of Hazardous Environmental Conditions, if any, at the Site which have been identified in the Supplementary Conditions as provided in Paragraph 5.06 of the General Conditions.
 - E. obtain and carefully study (or assume responsibility for doing so) all examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by BIDDER, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;
 - F. agree at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;
 - G. become aware of the general nature of the work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents;
 - H. correlate the information known to BIDDER, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, tests, studies, and data with the Bidding Documents;
 - I. promptly give Purchasing written notice of all conflicts, errors, ambiguities, or discrepancies that BIDDER discovers in the Bidding Documents and confirm that the written resolution thereof by ENGINEER is acceptable to BIDDER; and
 - J. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.
- 5.10 The submission of a Bid will constitute an incontrovertible representation by BIDDER that BIDDER has complied with every requirement of this Article 5, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that BIDDER has given Purchasing written notice of all conflicts, errors, ambiguities, and discrepancies that BIDDER has discovered in the Bidding Documents and the written resolutions thereof by Purchasing are acceptable to BIDDER, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 6 – SITE AND OTHER AREAS

- 6.01 The site is identified in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by OWNER unless otherwise provided in the Bidding Documents.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Purchasing via Vendor Registry prior to last day for questions. The last day for questions will be 3:00 PM local time on March 2, 2022 and shall be submitted via Vendor Registry. Interpretations or clarifications considered necessary by Purchasing in response to such questions will be issued by Addenda via Vendor Registry and delivered to all parties recorded by ENGINEER as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. **Oral and other interpretations or clarifications will be without legal effect.**
- 7.02 Addenda may be issued to clarify, correct or change the Bidding Documents as deemed advisable by OWNER or ENGINEER.

Note: For BIDDER's convenience, this form of **Addendum Acknowledgement is enclosed as Attachment "A"** with Section 00410 "Bid Form with Attachments" and is made a part of the Bid Package.

ARTICLE 8 – BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to OWNER in an amount of 5% of BIDDER's maximum Bid price and in the form of a cashier's check or a Bid Bond on the form attached issued by a surety meeting the requirements of Paragraphs 6.01 and 6.02 of the General Conditions. The copy of Bid Bond must be included in electronic package and the original should be mailed or hand delivered to the office by the due date of the ITB.
- 8.02 The Bid security of the Successful BIDDER will be retained until such BIDDER has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful BIDDER fails to execute and deliver the Contract Documents and furnish the required contract security within 10 days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that BIDDER will be forfeited. The Bid security of other BIDDERS whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earlier of ten (10) days after the effective date of the Agreement or sixty (60) days after the bid opening whereupon Bid security furnished by such BIDDER will be returned.
- 8.03 Bid security of other BIDDERS that OWNER believes do not have a reasonable chance of receiving the award will be released within ten days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be (a) Substantially Completed, and (b) also completed and ready for final payment, are set forth in Article 4 of the Agreement.

ARTICLE 10 – LIQUIDATED DAMAGES

- 10.01 Provisions for liquidated damages, if any, are set forth in Article 4 of the Agreement.

ARTICLE 11 – SUBSTITUTE AND “OR-EQUAL” ITEMS

11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or “or-equal” items. Whenever it is specified or described in the Bidding Documents that a substitute or “or-equal” item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the Effective Date of the Agreement. The procedure for submission of any such application by CONTRACTOR and consideration by ENGINEER is set forth in the General Conditions and may be supplement in the General Requirements.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

12.01 If OWNER requests the identity of certain Subcontractors, Suppliers, individuals or entities to be submitted to OWNER in advance of the Effective Date of the Agreement as provided for in Paragraph 7.06 of the General Conditions, the apparent Successful BIDDER, and any other BIDDER so requested, shall within seven (7) days after receipt of a written request from the OWNER or the ENGINEER, submit to OWNER a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual or entity if requested by OWNER. If OWNER or ENGINEER, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, OWNER may, before the Notice of Award is given, request apparent Successful BIDDER to submit a substitute, in which case apparent Successful BIDDER shall submit an acceptable substitute, BIDDER’s Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and OWNER may consider such price adjustment in evaluating Bids and making the Contract award.

12.02 If apparent Successful BIDDER declines to make any such substitution, OWNER may award the Contract to the next lowest BIDDER that proposes to use acceptable Subcontractors, Suppliers, individuals or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any BIDDER. Any Subcontractor, Supplier, individual, or entity so listed and against which OWNER or ENGINEER makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to subsequent revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 7.06 of the General Conditions.

12.03 CONTRACTOR shall not be required to employ any Subcontractor, Supplier, individual or entity against who CONTRACTOR has reasonable objection.

Note: For BIDDER’s convenience, this form of **Schedule of Subcontractors is enclosed as Attachment “B”** with Section 00410 “Bid Form with Attachments”. Attachment “B” is not required to be submitted as part of the Bid Package.

ARTICLE 13 – PREPARATION OF BID

13.01 The Bid Form is included with the Bidding Documents. **The BIDDER shall submit an electronic copy via Vendor Registry**

13.02 All blanks on the Bid Form shall be completed in ink or type written and the Bid Form signed in ink. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein, or the words “No Bid”, “No Change”, or “Not Applicable” entered. Bids having erasures or corrections must be initialed in ink by the BIDDER. If a correction is necessary, draw a single line through the entered figure and enter the corrected figure above it and initial the correction. Any illegible entries, pencil bids or corrections not initialed may not be accepted.

13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer who has legal authority to sign. The corporate seal shall be affixed and attested

- by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.
- 13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature). The official address of the partnership shall be shown below the signature.
- 13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown below the signature.
- 13.06 A Bid by an individual shall show the BIDDER's name and official address.
- 13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture must be shown below the signature.
- 13.08 All names shall be typed or printed in ink below the signatures.
- 13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on Attachment "A" with Section 00410 "Bid Form with Attachments".
- 13.10 The address and telephone number for communications regarding the Bid shall be shown.
- 13.11 If the BIDDER is an out-of-state corporation, the Bid shall contain evidence of BIDDER's authority and qualification to do business as an out-of-state corporation in the State of Florida. BIDDER's state contractor license number for the State of Florida shall also be shown on the Bid Form. Contractor shall be licensed in accordance with the requirements of Chapter 489 of the Florida Statutes.

ARTICLE 14 – BASIS OF BID, EVALUATION OF BIDS

- 14.01 Lump Sum Basis Bidders must submit a Bid on a Lump Sum basis for each item of Work listed in the Bid Form.

ARTICLE 15 – SUBMITTAL OF BID

- 15.01 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to Bid and shall be submitted electronically via Vendor Registry.

ARTICLE 16 – IF A MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.
- 16.02 Once bids are open, the bid submittal may not be withdrawn for sixty (60) days, unless within 24 hours after Bids are opened the BIDDER files a duly signed written notice with OWNER and promptly thereafter demonstrates to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of its Bid, that BIDDER may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that BIDDER will be disqualified from (1) further bidding on the Work, and (2) doing any work on the Contract, either as a subcontractor or any other capacity.

ARTICLE 17 – OPENING OF BIDS

- 17.01 Bid opening shall be public, on the date and time specified on the Bid form. It is the BIDDER's responsibility to assure that his bid is entered electronically at the proper time and place. Bids will be opened at the time and place indicated in the advertisement or invitation to Bid and, unless obviously non-responsive, read aloud publicly. A tabulation of the amounts of Bids will be made available to BIDDERS after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of sixty (60) days after the day of the bid opening, but the OWNER may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – AWARD OF CONTRACT

19.01 Right to Waive and Reject:

- A. The County, in its absolute discretion, may reject any Bid or a BIDDER that has failed, in the opinion of the County, to complete or perform and Okaloosa County contracted project in a timely fashion or has failed in any other way, in the opinion of the Board, to perform a prior contract in a satisfactory manner, and has directed the Okaloosa County Purchasing Director to emphasize this condition to potential proposers.
- B. There is no obligation on the part of the County to award the Bid to the lowest BIDDER, and the County reserves the right to award the Bid to the BIDDER submitting the lowest most responsible and responsive Bid with a resulting negotiated Agreement which is most advantageous and in the best interest of Okaloosa County and to reject any and all Bids or to waive any irregularity or technicality in Bids received. Okaloosa County shall be the sole judge of the Bid and the resulting negotiated Agreement that is in the best interest and its decision shall be final.
- C. The Board of County Commissioners reserves the right to waive any informalities or reject any and all Bids, in whole or part, to utilize any applicable state contracts in lieu of or in addition to this Bid and to accept the Bid that in its judgement will best serve the interest of the County.
- D. The Board of County Commissioners specifically reserves the right to reject any conditional Bids and will normally reject those which made it impossible to determine the true amount of the Bid. Each item must be Bid separately, and no attempt is to be made to tie any item or items to any other item or items.

19.02 Disqualification of BIDDERS:

Any of the following reasons may be considered as sufficient for the disqualification of a BIDDER and the rejection of his Bid or Bids:

- A. More than one Bid for the same work from an individual, firm or corporation under the same or different name.
- B. Evidence that the BIDDER has a financial interest in the firm of another BIDDER for the same work.
- C. Evidence of collusion among BIDDERS. Participants in such collusion will receive no recognition as BIDDERS for any future work of the County until such participant shall have reinstated as a qualified BIDDER.
- D. Uncompleted work which in the judgement of the County might hinder or prevent the prompt completion of additional work if awarded.
- E. Failure to pay or satisfactorily settle all bills due for labor and material on former contracts in force at the time of advertisement for Bids.
- F. Default under previous contract.
- G. The Board of County Commissioners, in its absolute discretion, may reject any Bid or a BIDDER that has failed, in the opinion of the Board, to complete or perform and Okaloosa County contracted project in a timely fashion or has failed in any other way, in the opinion of the Board, to perform a prior contract in a satisfactory manner, and has directed the Okaloosa County Purchasing Director to emphasize this condition to potential proposers.
- H. Listing of the BIDDER by any Local, State or Federal Government on its barred/suspended vendor list.

- I. Bids will not be considered from BIDDERS who are currently involved in official financial reorganization or bankruptcy proceedings.

ARTICLE 20 – SIGNING OF AGREEMENT

- 20.01 When OWNER issues a Notice of Award to the Successful BIDDER, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful BIDDER shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER. Within ten days thereafter, OWNER shall deliver one fully signed counterpart to Successful BIDDER with a complete set of the Drawings with appropriate identification.

ARTICLE 21 – PUBLIC ENTITY CRIME INFORMATION

- 21.01 A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to the public entity, may not be awarded or perform work as contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, Florida Statutes, for CATEGORY TWO for the period of 36 months from the date of being placed on the convicted vendor list.

ARTICLE 22 – CONFLICT OF INTEREST

- 22.01 The award hereunder is subject to the provision of Chapter 112, Florida Statutes. All BIDDERS must disclose with their bid proposal the name of any officer, director or agent who is also a public officer or an employee of the Okaloosa County Board of County Commissioners, or any of its agencies. Further, all BIDDERS must disclose with their bid proposal the name of any County officer or employee who owns, directly or indirectly an interest of five percent (5%) or more in the firm or any of its branches.
- 22.02 The Contractor, prior to or at the time of submission of the bid proposal, must file a statement with the Clerk of Circuit Court of Okaloosa County, or other designated official in the case of another OWNER, if he is an officer or employee of the County, disclosing his or spouse's or child's interest and the nature of the intended business.

Note: For BIDDER's convenience, this form of **Conflict of Interest Disclosure is enclosed as Attachment "C"** with Section 00410 "Bid Form" and is made a part of the Bid Package.

ARTICLE 23 – RECYCLED CONTENT INFORMATION

- 23.01 In support of the Florida Waste Management Law, BIDDERS are encouraged to supply with their bid any information available regarding recycled material content in the projects bid. The County is particularly interested in the type of recycled material used (such as paper, plastic, glass, metal, etc.) and the percentage of recycled material contained in the product. The County also requests information regarding any known or potential material content in the product that may be extracted and recycled after the product has served its intended purpose.

Note: For BIDDER's convenience, this form of **Recycled Content is enclosed as Attachment "D"** with Section 00410 "Bid Form with Attachments" and is made a part of the Bid Package.

ARTICLE 24 – OMITTED

ARTICLE 25 – OMITTED

ARTICLE 26 – IDENTICAL TIE PROPOSALS

26.01 In cases of identical procurement responses, the award shall be determined either by lot or on the basis of factors deemed to serve the best interest of the County. In the case of the latter, there must be adequate documentation to support such a decision.

ARTICLE 27 – DRUG-FREE WORKPLACE PROGRAM

27.01 Bids will only be received from BIDDERS who can certify to having in place a drug-free workplace program. To have a Drug-Free Workplace program, a business shall, at a minimum, meet the requirements of Florida Statutes, Section 287.087.

Note: For BIDDER's convenience, this form of **Drug-Free Workplace Program Certification is enclosed as Attachment "E"** within Section 00410 "Bid Form with Attachments" and is made a part of the Bid Package.

ARTICLE 28 – INDEMNIFICATION AND HOLD HARMLESS

28.01 Each BIDDER must submit with his bid an executed sworn certification that he will comply with the Hold Harmless in accordance with the provisions of Florida Statutes, Section 725.06.

28.02 BIDDER shall indemnify hold harmless the OWNER and the design Engineer, its officers and employees from liabilities, damages, losses, and costs including but not limited to reasonable attorney fees, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the BIDDER and other persons employed or utilized by the BIDDER in the performance of these services.

Note: For BIDDER's convenience, this **Indemnification and Hold Harmless is enclosed as Attachment "F"** with Section 00410 "Bid Form Attachments" and is made a part of the Bid Package.

ARTICLE 29 – DISCRIMINATION

29.01 An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid on a contract to provide goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not award or perform work as a contractor, supplier, subcontractor, or consultant under contract with any public entity, and may not transact business with any public entity.

29.02 BIDDER will not discriminate against any employee or an applicant for employment because of race, color, religion, gender, sexual orientation, national origin, age, familial status or handicap.

ARTICLE 30 – CONTRACT SECURITY AND INSURANCE

30.01 Each BIDDER along with his insurance agent/carrier shall review the insurance requirements for this project and each BIDDER shall submit with his bid an executed sworn certification that insurance policies currently in effect meet the requirements or that a quotation for additional policies or policy modifications was obtained to meet the requirements of this project.

30.02 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth OWNER's requirements as to performance and payment Bonds and insurance.

Note: For BIDDER's convenience, this **Insurance Compliance Certification is enclosed as Attachment "G"** with Section 00410 "Bid Form with Attachments" and is made a part of the Bid Package.

ARTICLE 31 – **CONE OF SILENCE CLAUSE**

31.01 The Okaloosa County Board of County Commissioners has established a solicitation silence policy (Cone of Silence Clause) that prohibits oral and written communication regarding all formal solicitations for goods and services (Invitation to Bid, Request for Proposals, Invitation to Quote, Invitation to Negotiate, and Request for Qualifications) issued by the Board through the County Purchasing Department. The period commences from the time of advertisement until CONTRACT award. Each BIDDER shall review and sign the enclosed form indicating that the BIDDER agrees to abide by the County’s “Cone of Silence Clause” and understands that a violation of this policy shall result in disqualification of their bid.

Note: For BIDDER’s convenience, this **Cone of Silence is enclosed as Attachment “H”** with Section 00410 “Bid Form with Attachments” and is made a part of the Bid Package.

ARTICLE 32 – **PROTECTION OF RESIDENT WORKERS**

32.01 The Okaloosa County Board of County Commissioners actively supports the Immigration & Nationality Act (INA) which includes provisions addressing employment eligibility, employment verification, and nondiscrimination. Under the INA, employers may hire only persons who may legally work in the United States, (i.e., citizens and nationals of the U.S.) and aliens authorized to work in the U.S. the employer must verify the identity and employment eligibility of anyone to be hired, which includes completing the Employment Eligibility Verification. The contractor shall establish appropriate procedures and controls so no services or products under the contract documents will be performed or manufactured by any worker who is not legally eligible to perform such services or employment.

32.02 Okaloosa County reserves the right to request documentation showing compliance with the requirement.

32.03 BIDDERS doing construction business with Okaloosa County are required to use the Federal Government Department of Homeland Security’s website and use the E-Verify Employment Eligibility Verifications System to confirm eligibility of all new and existing employees hired by the CONTRACTOR during the term of the Contract and shall expressly require subcontractors performing work or providing services pursuant to the Contract to likewise utilize the E-Verify system during the Contract term.

Note: For BIDDER’s convenience, this **Federal E-Verify Compliance Certification is enclosed as Attachment “I”** with Section 00410 “Bid Form with Attachments” and is made a part of the Bid Package.

ARTICLE 33 – **CHILD LABOR**

33.01 BIDDER certifies no knowledge of forced nor indentured child labor from any person under the age of 18 was used in the supply of any end product that was mined, produced or manufactured in a corresponding country as defined in 48 CFR 52.222-18.

Note: For BIDDER’s convenience, this **Certification Regarding Child Labor is enclosed as Attachment “J”** with Section 00410 “Bid Form with Attachments” and is made a part of the Bid Package.

ARTICLE 34 – **NON-COLLUSION STATEMENT**

34.01 BIDDER certifies that it has entered into no Agreement to commit a fraudulent, deceitful, unlawful or wrongful act, or any act which may result in an unfair advantage over other BIDDERS. See Florida Statute 838.22.

Note: For BIDDER’s convenience, this **Non-Collusion Statement is enclosed as Attachment “K”** with Section 00410 “Bid Form with Attachment” and is made a part of the Bid Package.

ARTICLE 35 – OMITTED

ARTICLE 36 – REVIEW OF PROCUREMENT DOCUMENTS

36.01 Per Florida Statute 119.071(1)(b)2. sealed bids, proposals, or replies received by an agency pursuant to a competitive solicitation are exempt from s. 119.07(1) (Inspection and copying of public records) and s. 24(a), Art. I of the State Constitution until such time as the agency provides notice of an intended decision or until 30 days after opening the bids, proposals, or final replies, whichever is earlier.

ARTICLE 37 – COMPLIANCE WITH FLORIDA STATUTE 119.071

37.01 The BIDDER shall comply with all the provisions of section 119.071, Florida Statutes relating to the public records which requires, among other things, that the BIDDER: (a) Keep and maintain public records; (b) Provide the public with access to public records on the same terms and conditions that the public agency would provide the records; (c) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law; and (d) Meet all requirements for retaining public records and transfer, at no cost, to the public agency all public records in possession of the BIDDER upon termination of the contract.

ARTICLE 38 – CERTIFICATE OF GOOD STANDING FOR STATE OF FLORIDA

38.01 Florida Statute 607.1501 requires that all vendors who wish to do business in the State of Florida be licensed to do business through the Department of State of Florida and be in good standing with the State of Florida. As such, to do business with Okaloosa County a vendor must provide a Certificate of Good Standing with their bid/proposal package to the County. For more information on doing business in the State of Florida, please refer to the Florida Department of State. The website to register is <https://dos.myflorida.com/sunbiz>

ARTICLE 39 – HIERARCHY OF CONTRACT DOCUMENTS

In the event of conflicts, inconsistencies, discrepancies or ambiguities between the Contract Document arise, unless otherwise provided, the controlling instrument shall be determined by the descending order of the Contract Documents as follows:

1. Modifications issued after the execution of the Agreement
2. Agreement between Owner & Contractor for Construction Contract
3. Addenda issued after the Bid Specifications were advertised to potential Bidders
4. Supplementary Conditions
5. EJCDC General Conditions, 2013 Edition
6. Technical Specifications
7. Construction Drawings
8. Computed dimensions govern over scaled dimensions

ARTICLE 40 – APPLICABLE LAWS & REGULATIONS

40.01 All applicable Federal and State laws, County and municipal ordinances, orders, rules and regulations of all authorities having jurisdiction over the project shall apply to the bid throughout, and they will be deemed to be included in the contract the same as though they were written in full therein.

ARTICLE 41 – SYSTEM FOR AWARD MANAGEMENT (SAM)

- 41.01 The BIDDER shall ensure registration with the Federal Government’s System for Award Management (SAM) database prior to award, during performance and through final payment of the CONTRACT. All mandatory information must be entered to include the Core, Assertions, Representations and Certifications, and Points of Contact sections.
- 41.02 Information on registration for and use of the SAM database can be obtained via the internet at the U.S. General Services Administration site: <https://www.sam.gov/>. Processing time for new registration normally takes 48 hours, BIDDER should apply for registration immediately upon receipt of this ITB.
- 41.03 If the BIDDER does not register in the SAM database in a timely manner, the OWNER may proceed to award to the next otherwise successful registered BIDDER.
- 41.04 The BIDDER is required to provide their SAM information as part of **Article 9 - Bid Submittal** in Section 00410 “Bid Form with Attachments” and is made a part of the Bid Package.
- 41.05 See this Section, Exhibit A, “System for Award Management (Oct 2016)” for additional information.

ARTICLE 42 – OTHER STATEMENTS, FORMS AND DOCUMENTATION

- 42.01 Company Data – **Included as Attachment “L”** with Section 00410 “Bid Form with Attachments” and is made a part of the Bid Package.
- 42.02 List of References – **Included as Attachment “M”** with Section 00410 “Bid Form with Attachments” and is made a part of this Bid Package.
- 42.03 Vendors on Scrutinized Companies Lists – **Included as Attachment “N”** with Section 00410 “Bid Form with Attachments” and is made a part of this Bid Package.
- 42.04 Certification Regarding Lobbying Activities on Federal Aid Contracts (FDOT Form #375-030-33) **included as Attachment “O”** with Section 00410 “Bid Form with Attachments” and is made a part of the Bid Package.

Exhibit A

SYSTEM FOR AWARD MANAGEMENT (OCT 2016)

(a) Definitions. As used in this provision.

“Electronic Funds Transfer (EFT) indicator” means a four-character suffix to the unique entity identifier. The suffix is assigned at the discretion of the commercial, nonprofit, or Government entity to establish additional System for Award Management records for identifying alternative EFT accounts (see subpart 32.11) for the same entity.

“Registered in the System for Award Management (SAM) database” means that—

- (1) The Offeror has entered all mandatory information, including the unique entity identifier and the EFT indicator, if applicable, the Commercial and Government Entity (CAGE) code, as well as data required by the Federal Funding Accountability and Transparency Act of 2006 (see subpart 4.14) into the SAM database;
- (2) The offeror has completed the Core, Assertions, and Representations and Certifications, and Points of Contact sections of the registration in the SAM database;
- (3) The Government has validated all mandatory data fields, to include validation of the Taxpayer Identification Number (TIN) with the Internal Revenue Service (IRS). The offeror will be required to provide consent for TIN validation to the Government as a part of the SAM registration process; and
- (4) The Government has marked the record “Active”.

“Unique entity identifier” means a number or other identifier used to identify a specific commercial, nonprofit, or Government entity. See www.sam.gov for the designated entity for establishing unique entity identifiers.

- (b)
 - (1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the SAM database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.
 - (2) The Offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation “Unique Entity Identifier” followed by the unique entity identifier that identifies the Offeror’s name and address exactly as stated in the offer. The Offeror also shall enter its

EFT indicator, if applicable. The unique entity identifier will be used by the Contracting Officer to verify that the Offeror is registered in the SAM database.

- (c) If the Offeror does not have a unique entity identifier, it should contact the entity designated at www.sam.gov for establishment of the unique entity identifier directly to obtain one. The Offeror should be prepared to provide the following information:
- (1) Company legal business name.
 - (2) Tradestyle, doing business, or other name by which your entity is commonly recognized.
 - (3) Company Physical Street Address, City, State, and Zip Code.
 - (4) Company Mailing Address, City, State and Zip Code (if separate from physical).
 - (5) Company telephone number.
 - (6) Date the company was started.
 - (7) Number of employees at your location.
 - (8) Chief executive officer/key manager.
 - (9) Line of business (industry).
 - (10) Company Headquarters name and address (reporting relationship within your entity).
- (d) If the Offeror does not become registered in the SAM database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.
- (e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.
- (f) Offerors may obtain information on registration at <https://www.acquisition.gov> .

fferors SAM information:

Entity Name: J&P Construction Co., Inc. D/B/A Jamison Construction Company

Entity Address: 2550 39th Street, Tuscaloosa, AL 35405

Duns Number: 041026584

CAGE Code: 0JWZ8

END OF DOCUMENT 00100 – INSTRUCTIONS TO BIDDERS

Exhibit "B"

This Exhibit is hereby incorporated by reference into the main *Procurement*.

FEDERAL PROVISION RELATED TO GRANT FUNDS THAT MAY BE USED TO FUND THE SERVICES AND GOODS UNDER THIS SOLICITATION

This *solicitation* is or may become fully or partially Federally Grant funded. To the extent applicable, in accordance with Federal law, respondents shall comply with the clauses as enumerated below. *Proposer* shall adhere to all grant conditions as set forth in the requirements of grant no. [insert grant numbers] which have been provided to *Proposer*, along with any and all other applicable Federal Laws. Including, but not limited to, those set forth below, as well as those listed below, which are incorporated herein by reference:

- a. 2 CFR. 25.110
- b. 2 CFR Part 170 (including Appendix A), 180, 200 (including Appendixes), and 3000
- c. Executive Orders 12549 and 12689
- d. 41 CFR s. 60-1(a) and (d)
- e. Consolidated Appropriations Act, 2021, Public Law 116-260 related to salary limitations

These cited regulations are hereby incorporated and made part of this *Solicitation* as if fully set forth herein. As stated above, this list is not all inclusive, any other requirement of law applicable in accordance with the Federal, State or grant requirements are also applicable and hereby incorporated into this *Solicitation*. If *Proposer* cannot adhere to or objects to any of the applicable federal requirements, *Proposer's* proposal may be deemed by the County as unresponsive. The provisions in this exhibit are supplemental and in addition to all other provisions within the *Procurement*. In the event of any conflict between the terms and conditions of this Exhibit and the terms and conditions of the remainder of the [Contract/Procurement], the conflicting terms and conditions of this Exhibit shall prevail. However, in the event of any conflict between the terms and conditions of this Exhibit and the terms and conditions of any federal grant funding document provided specific to the funds being used to contract services or goods under this *Procurement* the conflicting terms and conditions of that document shall prevail.

Drug Free Workplace Requirements (Drug-Free Workplace Act of 1988 (41 U.S.C. § 701 et seq.), 2 CFR § 182): Applicability: As required in the Drug-free workplace requirements in accordance with Drug Free Workplace Act of 1988 (Pub 1 100-690, Title V, Subtitle D). Requirement: to the extent applicable, *proposer* must comply with Federal Drug Free workplace requirements as Drug Free Workplace Act of 1988.

Conflict of Interest (2 CFR § 200.112): Applicability: Any federal grant funded Contract or Contract that may receive federal grant funds. Requirement: The *proposer* must disclose in writing any potential conflict of interest to the County or pass-through entity in accordance with applicable Federal policy. Further, the County is required to maintain conflict of interest policies as it relates to procured contracts. In accordance with the Okaloosa County Purchasing Manual section 41.05(8), a conflict of interest exists when and of the following occur: i. Because of other activities, relationships, or contracts, a *proposer* is unable, or potentially unable, to render impartial assistance or advice; ii. A *proposer's*

objectivity in performing the contract work is or might be otherwise impaired; or iii. The *proposer* has an unfair competitive advantage.

Mandatory Disclosures (31 U.S.C. §§ 3799 – 3733): Applicability: All Contracts using federal grants funds, or which may use federal grant funds. Requirement: *proposer* acknowledges that 31 U.S.C. Chapter 38 (Administrative Remedies for False Claims and Statements) applies to the *proposer's* actions pertaining to this *solicitation*. The contractor must disclose in writing all violations of Federal criminal law involving fraud, bribery, or gratuity violations potentially affecting the Federal award.

Utilization of Minority and Women Firms (M/WBE) (2 CFR § 200.321): Applicability: All federally grant funded Contracts or Contracts which may use federal grant funds. Requirement: The *proposer* must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible, in accordance with 2CFR 200.321. If subcontracts are to be let, prime *proposer* will require compliance by all sub-contractors. Prior to contract award, the *proposer* shall document efforts to utilize M/WBE firms including what firms were solicited as suppliers and/or subcontractors as applicable and submit this information with their bid submittal. Information regarding certified M/WBE firms can be obtained from:

Florida Department of Management Services (Office of Supplier Diversity)
Florida Department of Transportation
Minority Business Development Center in most large cities and
Local Government M/DBE programs in many large counties and cities

Equal Employment Opportunity (As per 2 CFR Part 200, Appendix II(C); 41 CFR § 61-1.4; 41 CFR § 61-4.3; Executive Order 11246 as amended by Executive Order 11375): Applicability: except as otherwise provided under 41 CFR Part 60, applies to all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3. Requirement: During the performance of this Contract, the *proposer* agrees as follows: (1) The *Proposer* will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The *Proposer* 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, sexual orientation, gender identify, 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 *Proposer* 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; (2) The *Proposer* will, in all solicitations or advertisements for employees placed by or on behalf of the *Proposer*, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin; (3) The *Proposer* will send to each labor union or representative of workers with which it has a collective bargaining Contract or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the *Proposer's* commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment; (4) The *Proposer* will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor; (5) The *Proposer* will furnish all information and reports required by Executive Order 11246 of September 24, 1965, 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 administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.; (6) In the

event of the *Proposer's* noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Proposer may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.; (7) *Proposer* will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) 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, so that such provisions will be binding upon each subcontractor or vendor. The *Proposer* will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event a *Proposer* becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the *Proposer* may request the United States to enter into such litigation to protect the interests of the United States.

Additional notice and requirement for federally assisted contracts or subcontracts in excess of \$10,000.00:

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246).

THE OFFEROR'S OR BIDDER'S ATTENTION IS CALLED TO THE "EQUAL OPPORTUNITY CLAUSE" AND THE "STANDARD FEDERAL EQUAL EMPLOYMENT SPECIFICATIONS" SET FORTH HEREIN. THE GOALS AND TIMETABLES FOR MINORITY AND FEMALE PARTICIPATION, EXPRESSED IN PERCENTAGE TERMS FOR THE CONTRACTOR'S AGGREGATE WORKFORCE IN EACH TRADE ON ALL CONSTRUCTION WORK IN THE COVERED AREA, ARE AS FOLLOWS:

| TIME-TABLES | GOALS FOR MINORITY PARTICIPATION FOR EACH TRADE | GOALS FOR FEMALE PARTICIPATION IN EACH TRADE |
|-------------|---|--|
| | INSERT GOALS FOR EACH YEAR | INSERT GOALS FOR EACH YEAR. |

THESE GOALS ARE APPLICABLE TO ALL THE CONTRACTOR'S CONSTRUCTION WORK (WHETHER OR NOT IT IS FEDERAL OR FEDERALLY ASSISTED) PERFORMED IN THE COVERED AREA. IF THE CONTRACTOR PERFORMS CONSTRUCTION WORK IN A GEOGRAPHICAL AREA LOCATED OUTSIDE OF THE COVERED AREA, IT SHALL APPLY THE GOALS ESTABLISHED FOR SUCH GEOGRAPHICAL AREA WHERE THE WORK IS ACTUALLY PERFORMED. WITH REGARD TO THIS SECOND AREA, THE CONTRACTOR ALSO IS SUBJECT TO THE GOALS FOR BOTH ITS FEDERALLY INVOLVED AND NONFEDERALLY INVOLVED CONSTRUCTION. THE CONTRACTOR'S COMPLIANCE WITH THE EXECUTIVE ORDER AND THE REGULATIONS IN 41 CFR PART 60-4 SHALL BE BASED ON ITS IMPLEMENTATION OF THE EQUAL OPPORTUNITY CLAUSE, SPECIFIC AFFIRMATIVE ACTION OBLIGATIONS REQUIRED BY THE SPECIFICATIONS SET FORTH IN 41 CFR 60-4.3(A), AND ITS EFFORTS TO MEET THE GOALS. THE HOURS OF MINORITY AND FEMALE EMPLOYMENT AND TRAINING MUST BE SUBSTANTIALLY UNIFORM THROUGHOUT THE LENGTH OF THE CONTRACT, AND IN EACH TRADE, AND THE CONTRACTOR SHALL MAKE A GOOD FAITH EFFORT TO EMPLOY MINORITIES AND WOMEN EVENLY ON EACH OF ITS PROJECTS. THE TRANSFER OF MINORITY OR FEMALE EMPLOYEES OR TRAINEES FROM CONTRACTOR TO CONTRACTOR OR FROM PROJECT TO PROJECT FOR THE SOLE PURPOSE OF MEETING THE CONTRACTOR'S GOALS SHALL BE A VIOLATION OF THE CONTRACT, THE EXECUTIVE ORDER AND THE REGULATIONS IN 41 CFR PART 60-4. COMPLIANCE WITH THE GOALS WILL BE MEASURED AGAINST THE TOTAL WORK HOURS PERFORMED.

THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE DIRECTOR OF THE OFFICE OF FEDERAL CONTRACT COMPLIANCE PROGRAMS WITHIN 10 WORKING DAYS OF AWARD OF ANY CONSTRUCTION SUBCONTRACT IN EXCESS OF \$10,000 AT ANY TIER FOR CONSTRUCTION WORK UNDER THE CONTRACT RESULTING FROM THIS SOLICITATION. THE NOTIFICATION SHALL LIST THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE SUBCONTRACTOR; EMPLOYER IDENTIFICATION NUMBER OF THE SUBCONTRACTOR; ESTIMATED DOLLAR AMOUNT OF THE SUBCONTRACT; ESTIMATED STARTING AND COMPLETION DATES OF THE SUBCONTRACT; AND THE GEOGRAPHICAL AREA IN WHICH THE SUBCONTRACT IS TO BE PERFORMED.

AS USED IN THIS NOTICE, AND IN THE CONTRACT RESULTING FROM THIS SOLICITATION, THE "COVERED AREA" IS (INSERT DESCRIPTION OF THE GEOGRAPHICAL AREAS WHERE THE CONTRACT IS TO BE PERFORMED GIVING THE STATE, COUNTY AND CITY, IF ANY).

Davis-Bacon Act (40 U.S.C. §§ 3141-3144 and 3146-3148, as supplemented by 29 CFR Part 5):

Applicability: When required by Federal Program legislation, grant funding, and all prime construction contracts in excess of \$2,000 awarded by non-Federal entities, including Okaloosa County. Requirement: If applicable to this *solicitation*, the *proposer* agrees to comply with all provisions of the Davis Bacon Act as amended (40 U.S.C. 3141-3148). *propose* are required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. If the grant award contains Davis Bacon provisions, the County will place a copy of the current prevailing wage determination issued by the Department of Labor in the solicitation document. The decision to award a contract shall be conditioned upon the acceptance of the wage determination.

Copeland Anti Kick Back Act (40 U.S.C. § 3145 as supplemented by 29 CFR Part 3):

Applicability: When required by Federal Program legislation, grant funding, and all prime construction contracts in excess of \$2,000 awarded by non-Federal entities, including Okaloosa County. Requirement: If applicable to this *Solicitation*, *proposer* shall comply with all the requirements of 18 U.S.C. § 874, 40 U.S.C. § 3145, 29 CFR Part 3 which are incorporated by reference to this *solicitation*. *proposer* are prohibited from inducing by any means any person employed in the construction, completion or repair of public work to give up any part of the compensation to which he or she is otherwise entitled.

Contract Work Hours and Safety Standards Act (40 U.S.C. 3701–3708 as supplemented by 29 CFR Part 5):

Applicability: All contracts awarded in excess of \$100,000 that involve the employment of mechanics or laborers. Requirement: All contracts awarded in excess of \$100,000 that involve the employment of mechanics or laborers must be in compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor is required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions, which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

Clean Air Act (42 U.S.C. 7401–7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251–1387, as amended):

Applicability: Contracts and subgrants of amounts in excess of \$150,000.00. Requirement: *proposer* agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401–7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251–1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

Debarment and Suspension (2 CFR part 180, Executive Orders 12549 and 12689):

Applicability: All contracts with federal grant funding or possibility of federal grant funds being used. Requirement: *proposer* certifies that it and its principals, if applicable, are not presently debarred or suspended by any Federal department or agency from participating in this transaction. *Proposer* now agrees to verify, to the extent applicable that for each lower tier subcontractor that exceeds \$25,000 as a "covered

transaction” under the Services to be provided is not presently disbarred or otherwise disqualified from participating in the federally assisted services. The *proposer* agrees to accomplish this verification by: (1) Checking the System for Award Management at website: <http://www.sam.gov>; (2) Collecting a certification statement similar to the Certification of Offeror /Bidder Regarding Debarment, herein; (3) Inserting a clause or condition in the covered transaction with the lower tier contract.

Byrd Anti-Lobbying Amendment (31 U.S.C. 1352): Applicability: Applicable to any individual/entity that applies or bids/procures an award in excess of \$100,000. Requirement: *proposer* must file the required certification, attached to the procurement. 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 agency, 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 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award. The contractor shall certify compliance.

Rights to Inventions Made Under a Contract or Agreement (37 CFR Part 401): Applicability: If the Federal award meets the definition of “funding agreement” under 37 CFR § 401.2 additional Standard patent rights clauses in accordance with 37 CFR § 401.14 shall apply. Requirement: Please contact the County for further information related to the applicable standard patent rights clauses.

Procurement of Recovered Materials (2 CRF 200.323 and 40 CFR Part 247): Applicability: All contractors of Okaloosa County when federal funds may be or are being used under the Contract. Requirement: *proposer* must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

Access to Records and Reports: Applicability: All Contracts that received or may receive federal grant funding. Requirement: *Proposer* will make available to the County’s granting agency, the granting agency’s Office of Inspector General, the Government Accountability Office, the Comptroller General of the United States, Okaloosa County, Okaloosa County Clerk of Court’s Inspector General, or any of their duly authorized representatives any books, documents, papers or other records, including electronic records, of the contractor that are pertinent to the County’s grant award, in order to make audits, investigations, examinations, excerpts, transcripts, and copies of such documents. The right also includes timely and reasonable access to the contractor’s personnel during normal business hours for the purpose of interview and discussion related to such documents. This right of access shall continue as long as records are retained.

Record Retention (2 CFR § 200.33): Applicability: All Contracts that received or may receive federal grant funding. Requirement: *proposer* will retain of all required records pertinent to this contract for a period of three years, beginning on a date as described in 2 C.F.R. §200.333 and retained in compliance with 2 C.F.R. §200.333.

Federal Changes: *proposer* shall comply with all applicable Federal agency regulations, policies, procedures and directives, including without limitation those listed directly or by reference, as they may be amended or promulgated from time to time during the term of *any awarded contract*.

Termination for Default (Breach or Cause): Applicability: All Contracts that may receive federal funds or that are federally funded above the micro-purchase amount. Requirement: If Contractor does not deliver supplies in accordance with the contract delivery schedule, or, if the contract is for services, the Contractor fails to perform in the manner called for in the contract, or if the Contractor fails to comply with any other provisions of the contract, the County may terminate the contract for default. Termination shall be effected by serving a notice of termination on the contractor setting forth the manner in which the Contractor is in default. The contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner of performance set forth in the contract.

Termination for Convenience: Applicability: All Contracts that may receive federal funds or that are federally funded above the micro-purchase amount. Requirement: *Any Awarded Contract* may be terminated by Okaloosa County in whole or in part at any time, upon ten (10) days written notice. If the Contract is terminated before performance is completed, the *Contractor* shall be paid only for that work satisfactorily performed for which costs can be substantiated.

Safeguarding Personal Identifiable Information (2 CFR § 200.82): Applicability: All Contracts receiving, or which may receive federal grant funding. Requirement: *proposer* will take reasonable measures to safeguard protected personally identifiable information and other information designated as sensitive by the awarding agency or is considered sensitive consistent with applicable Federal, state and/or local laws regarding privacy and obligations of confidentiality.

Prohibition On Utilization Of Cost Plus A Percentage Of Cost Contracts (2 CFR Part 200): Applicability: All Contracts receiving or which may receive federal grant funding. Requirement: The County will not award contracts containing Federal funding on a cost-plus percentage of cost basis.

Energy Policy and Conservation Act (43 U.S.C. § 6201 and 2 CFR Part 200 Appendix II (H)): Applicability: For any contracts except micro-purchases (\$3000 or less, except for construction contracts over \$2000). Requirement: *proposer* shall comply with mandatory standards and policies relating to energy efficiency, stating in the state energy conservation plan issued in compliance with the Energy Policy and Conservation act. (Pub. L. 94-163, 89 Stat. 871) [53 FR 8078, 8087, Mar. 11, 1988, as amended at 60 FR 19639, 19645, Apr. 19, 1995].

Trafficking Victims Protection Act (2 CFR Part 175): Applicability: All federally grant funded contracts or contracts which may become federally grant funded. Requirement: *Proposer* will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits *Proposer* from (1) engaging in severe forms of trafficking in persons during the period of time that *resulting contract* is in effect; (2) procuring a commercial sex act during the period of time that *resulting contract* is in effect; or (3) using forced labor in the performance of the contracted services under a *resulting contract*. *a resulting contract* may be unilaterally terminated immediately by County for *Proposer's* violating this provision, without penalty.

Domestic Preference For Procurements (2 CFR § 200.322): Applicability: All Contracts using federal grant funds or which may use federal grant funds. Requirement: As appropriate and to the extent consistent with law, to the greatest extent practicable when using federal funds for the services provided in *a resulting contract*, shall provide a preference for the purchase, acquisition, or use of goods and products or materials produced in the United States.

Buy America (Build America, Buy America Act (Public Law 117-58, 29 U.S.C. § 50101, Executive Order 14005): Applicability: Applies to purchases of iron, steel, manufactured products and construction materials permanently incorporated into infrastructure projects, where federal grant funding agency requires it or if the grant funds which may come from any federal agency, but most commonly: the U.S. Environmental Protection Agency (EPA), the U.S. Federal Transit Administration (FTA), the US Federal Highway Administration (FHWA), the U.S. Federal Railroad Administration (FRA), Amtrack and the U.S. Federal Aviation Administration (FAA). Requirement: All iron, steel, manufactured products and construction materials used under a federally grant funded project must be produced in the United States. Additional requirements may apply depending on the Federal Granting Agency provisions, please check with Okaloosa County for further details. Proposers shall be required to submit a completed Buy America Certificate with this procurement, an incomplete certificate may deem the proposers submittal non-responsive.

Prohibition On Certain Telecommunications And Video Surveillance Services Or Equipment (2 CFR § 200.216): Applicability: All Contracts using federal grant funds or which may use federal grant funds. Requirement: *Proposer* and any subcontractors are prohibited to obligate or spend grant funds to: (1) procure or obtain, (2) extend or renew a contract to procure or obtain; or (3) enter into a contract to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Pub. L. 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities). i. For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities). ii. Telecommunications or video surveillance services provided by such entities or using such equipment. iii. Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise, connected to the government of a covered foreign country.

Enhanced Whistleblower Protections (41 U.S.C. § 4712): Applicability: National Defense Authorization Act of 2013 extending whistleblower protections to *Proposer* employees may apply to the Federal grant award dollars involved with *a resulting contract*. Requirement: See 42 U.S. Code § 4712 for further requirements. Requirement: An employee of *Proposer* and/or its subcontractors may not be discharged, demoted, or otherwise discriminated against as a reprisal for disclosing to a person or body described in 42 U.S.C. § 4712(a)(2) information that the employee reasonably believes is evidence of gross mismanagement of a Federal contract or grant, a gross waste of Federal funds, an abuse of authority relating to a Federal contract or grant, a substantial and specific danger to public health or safety, or a violation of law, rule, or regulation related to a Federal contract (including the competition for or negotiation of a contract) or grant.

Federal Funding Accountability and Transparency Act (FFATA) (2 CFR § 200.300; 2 CFR Part 170): Applicability: All Contracts that may receive federal grant funding or are funded with federal grant funding. Requirement: In accordance with FFATA, the *Proposer* shall, upon request, provide Okaloosa County the names and total compensation of the five most highly compensated officers of the entity, if the entity in the preceding fiscal year received 80 percent or more of its annual gross revenues in federal awards, received \$25,000,000 or more in annual gross revenues from federal awards, and if the public does not have access to information about the compensation of the senior executives of the entity through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 or section 6104 of the Internal Revenue Code of 1986.

Federal Awardee Performance and Integrity Information System (FAPIIS)(The Duncan Hunter National Defense Authorization Act of 2009 (Public Law 110-417 and 2 CFR Part 200 Appendix XII): Applicability: All Contracts that may receive federal grant funding or are funded with federal grant funding. Requirement: The *Proposer* shall update the information in the Federal Awardee Performance and Integrity Information System (FAPIIS) on a semi-annual basis, throughout the life of this contract, by posting the required information in the System for Award Management via <https://www.sam.gov>.

Never Contract With The Enemy (2 CFR Part 183): Applicability: only to grant and cooperative agreements in excess of \$50,000 performed outside of the United States, including U.S. territories and are in support of a contingency operation in which members of the Armed Forces are actively engaged in hostilities. Requirement: *proposer* must exercise due diligence to ensure that none of the funds, including supplies and services, received are provided directly or indirectly (including through subawards or contracts) to a person or entity who is actively opposing the United States or coalition forces involved in a contingency operation in which members of the Armed Forces are actively engaged in hostilities, which must be completed through 2 CFR 180.300 prior to issuing a subcontract.

Federal Agency Seals, Logos and Flags: Applicability: All Contracts that may receive federal grant funding or are funded with federal grant funding. Requirement: The *proposer* shall not use any Federal Agency seal(s), logos, crests, or reproductions of flags or likenesses of any federal agency officials without specific federal agency pre-approval.

No Obligation by Federal Government: Applicability: All Contracts that may receive federal grant funding or are funded with federal grant funding. Requirement: The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the non-Federal entity, contractor, or any other party pertaining to any matter resulting from *a resulting contract*.

The Barry Atkinson on behalf of J & P Construction Co., Inc. dba Jamison Construction Co. the *proposer* is authorized to sign below and confirm the *proposer* is fully able to comply with these requirements, federal terms and conditions and has on made any inquiries and further examination of the law and requirements as is necessary to comply.

DATE: 4/26/22

SIGNATURE: Barry Atkinson Digitally signed by Barry Atkinson
Date: 2022.04.26 14:12:01 -05'00'

COMPANY: J & P Construction Co., Inc.
dba Jamison Construction Co.

NAME: Barry Atkinson

ADDRESS: 2550 39th Street
Tuscaloosa, AL 35405

TITLE: President of Operations

E-MAIL: batkinson@jandpconstruction.com

PHONE NO.: 205-345-6631

Buy America Certificates

If steel, iron, or manufactured products (as defined in 49 CFR §§ 661.3 and 661.5 of this part) are being procured, the appropriate certificate as set forth below shall be completed and submitted by each bidder or offeror in accordance with the requirement contained in 49 CFR § 661.13(b) of this part.

Certificate of Compliance with Buy America Requirements

The bidder or offeror hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j)(1), and the applicable regulations in 49 CFR part 661.

| | | |
|-----------|---|---|
| DATE | 4/26/22 | |
| SIGNATURE | Barry Atkinson | Digitally signed by Barry Atkinson Date: 2022.04.26 14:12:37 -05'00' |
| COMPANY | J & P Construction Co., Inc. dba Jamison Construction Co. | |
| NAME | Barry Atkinson | |
| TITLE | President of Operations | |

Certificate of Non-Compliance with Buy America Requirements

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but it may qualify for an exception to the requirement pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 CFR 661.7.

DATE
SIGNATURE
COMPANY
NAME
TITLE



INVITATION TO BID (ITB) & RESPONDENT'S ACKNOWLEDGEMENT

ITB TITLE:

Replacement of Okaloosa Island Water Booster Station

ITB NUMBER:

ITB WS 23-22

ISSUE DATE:

February 14, 2022

MANDATORY PRE-BID MEETING:

February 24, 2022 9:00 A.M. cst

LAST DAY FOR QUESTIONS:

March 2, 2022 3:00 P.M. cst

ITB OPENING DATE & TIME:

March 16, 2022 3:00 P.M. cst

Okaloosa County, Florida solicits your company to submit a bid on the above referenced goods or services. All terms, specifications and conditions set forth in this ITB are incorporated into your response. A bid will not be accepted unless all conditions have been met. All bids must have an authorized signature in the space provided below. All bids must be submitted electronically by the time and date listed above. Bids may not be withdrawn for a period of ninety (90) days after the bid opening unless otherwise specified.

RESPONDENT ACKNOWLEDGEMENT FORM BELOW MUST BE COMPLETED, SIGNED, AND RETURNED AS PART OF YOUR BID. BIDS WILL NOT BE ACCEPTED WITHOUT THIS FORM, SIGNED BY AN AUTHORIZED AGENT OF THE RESPONDENT.

COMPANY NAME J & P Construction Co., Inc. dba Jamison Construction Co.

MAILING ADDRESS 2550 39th Street

CITY, STATE, ZIP Tuscaloosa, AL 35405

FEDERAL EMPLOYER'S IDENTIFICATION NUMBER (FEIN): 63-0479050t

TELEPHONE NUMBER: 205-345-6631 EXT: _____ FAX: 205-345-6652

EMAIL: batkinson@jandpconstruction.com

I CERTIFY THAT THIS BID IS MADE WITHOUT PRIOR UNDERSTANDING, AGREEMENT, OR CONNECTION WITH ANY OTHER RESPONDENT SUBMITTING A BID FOR THE SAME MATERIALS, SUPPLIES, EQUIPMENT OR SERVICES, AND IS IN ALL RESPECTS FAIR AND WITHOUT COLLUSION OR FRAUD. I AGREE TO ABIDE BY ALL TERMS AND CONDITIONS OF THIS BID AND CERTIFY THAT I AM AUTHORIZED TO SIGN THIS BID FOR THE RESPONDENT.

AUTHORIZED SIGNATURE: *Barry Atkinson*
PRINTED NAME

TYPED OR Barry Atkinson

TITLE: President of Operations

DATE 3/30/22

POST OFFICE DRAWER 3147
TUSCALOOSA, ALABAMA 35403



TELEPHONE 205 / 345-6631
FAX 205 / 345-6652

ITB WS 23-22

**BID DOCUMENTS
BID ENCLOSED**

**STATE OF FLORIDA
LICENSE NO. CGC-060077
EXPIRES: AUGUST 31, 2022**

Bid From: J & P Construction Co., Inc.
D/B/A Jamison Construction Company
2550 39th Street
Tuscaloosa, Alabama 35405

Bid To: Board of County Commissioners of Okaloosa
County, FL

Bid For: Replacement of Okaloosa Island Water Booster
Station

Bid Opening: Wednesday, March 30, 2022 at 3:00 p.m.

DOCUMENT 00410 – BID FORM WITH ATTACHMENTS

ARTICLE 1 – BID RECIPIENT

- 1.01 This Bid is submitted to: Okaloosa County, a political subdivision of the State of Florida.
- 1.02 The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

- 2.01 BIDDER accepts all of the terms and conditions of the Instructions to BIDDERS, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that BIDDER may agree to in writing upon request of OWNER.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

- 3.01 In submitting this Bid, BIDDER represents that:
 - A. BIDDER has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the Addenda as defined in Attachment “A”.
 - B. BIDDER has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. BIDDER is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. BIDDER has carefully studied all: (1) reports, if any, of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
 - E. BIDDER has considered the information known to BIDDER itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by BIDDER; and (3) BIDDER’s safety precautions and programs.
 - F. BIDDER agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
 - G. BIDDER is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.

- H. BIDDER has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that BIDDER has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to BIDDER.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by BIDDER that BIDDER has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER’S CERTIFICATION

4.01 BIDDER certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. BIDDER has not directly or indirectly induced or solicited any other BIDDER to submit a false or sham Bid;
- C. BIDDER has not solicited or induced any individual or entity to refrain from bidding; and
- D. BIDDER has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. “corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of OWNER, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive OWNER of the benefits of free and open competition;
 - 3. “collusive practice” means a scheme or arrangement between two or more BIDDERS, with or without the knowledge of OWNER, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 - 4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

- 5.01 BIDDER acknowledges that the Lump Sum Price includes an amount considered by BIDDER to be adequate to cover CONTRACTOR’s overhead and profit BIDDER will complete the Work in accordance with the Contract Documents for the following price(s):

| ITEM NO. | ITEM DESCRIPTION | UNIT | TOTAL PRICE |
|----------|---|----------|-----------------------|
| 1 | Construction of the new water booster station including building with ramp and retaining wall, pumps, piping, valves, flowmeter, disinfection system, controls, electrical with generator set (generator, ATS and HVAC supplied by Owner and installed by Contractor) and sitework, all complete, tested, adjusted and ready for continuous operation | LUMP SUM | <u>\$2,025,000.00</u> |
| 2 | Construction of new sub-grade solenoid controlled valve assembly at the El Matador Elevated Tank including concrete vault with lid, complete valve assembly, sump pump with discharge area, electrical, SCADA conduit, demo/removal of existing valve assembly, and sitework, all complete, tested, adjusted and ready for continuous operation. | LUMP SUM | <u>\$ 40,000.00</u> |
| 3 | Construction of new above-grade solenoid controlled valve assembly at the East Island Elevated Tank including complete valve assembly, SCADA conduit, demo/removal of existing valve assembly, concrete slab, and sitework, all complete, tested, adjusted and ready for continuous operation. | LUMP SUM | <u>\$ 30,000.00</u> |

| BID SUMMARY | |
|---------------------|-----------------------|
| Total Amount of Bid | <u>\$2,095,000.00</u> |

ARTICLE 6 – TIME OF COMPLETION

- 6.01 BIDDER agrees that the Work will be substantially complete within 180 calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 255 calendar days after the date when the Contract Times commence to run.
- 6.02 BIDDER accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security as discussed in Article 7 of the Instructions to BIDDERS;
 - B. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
 - C. Contractor's License Number or Evidence of BIDDER's ability to obtain a State Contractor's License and a covenant by BIDDER to obtain said license within the time for acceptance of Bids; and
 - D. Attachments
 - A. Addendum Acknowledgement
 - B. Schedule of Subcontractors, not required to be submitted with the Bid Package
 - C. Conflict of Interest Disclosure
 - D. Recycled Content
 - E. Drug-Free Workplace Program Certification
 - F. Indemnification and Hold Harmless
 - G. Insurance Compliance Certification
 - H. Cone of Silence Clause
 - I. Federal E-Verify Compliance Certification
 - J. Certification Regarding Child Labor
 - K. Anti-Collusion Statement
 - L. Company Data
 - M. List of References
 - N. Vendors on Scrutinized Companies Lists
 - O. Certification Regarding Lobbying
 - P. Debarment & Suspension

ARTICLE 8 – DEFINED TERMS

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

ARTICLE 9 – GRANT DIRECTIVES

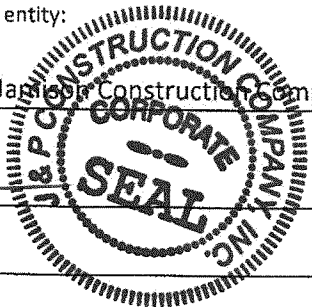
- 9.01 Contractor Purchased Equipment for State or Local Ownership
- A. The Contractor shall not purchase any equipment for state or local ownership.
- 9.02 Local / State Hiring Preference
- A. No local / state hiring preferences shall be used.
- 9.03 Public Agencies in Competition with the Private Sector
- A. No public agency shall be permitted to bid in competition or to enter into subcontract with private contractors.
- 9.04 Publicly Owned Equipment
- A. Publicly owned equipment shall not compete with privately owned equipment on this contract.

ARTICLE 10 – BID SUBMITTAL

Bidder: Indicate correct name of bidding entity:

J&P Construction Co., Inc. D/B/A Jandp Construction Company

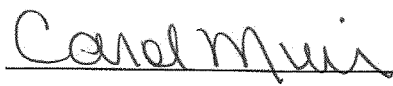
By:
Signature:



Printed name: Robert Meriwether

(If BIDDER is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:
Signature:



Printed name: Carol Muir

Title: Secretary-Treasurer

Submittal Date: March 30, 2022

Address for giving notices:

2550 39th St.

Tuscaloosa, AL 35405

Telephone Number: 205-345-6631

Fax Number: 205-345-6652

Contact Name: Robert Meriwether

Contact Phone Number: 205-345-6631

Contact Email Address: rmeriwether@jandpconstruction.com

Federal ID or SS Number: 63-0479050

Bidder's License No.: CGC060077

DUNS Number: 041026584

CAGE Code: OJWZ8

DOCUMENT 00410 – ADDENDUM ACKNOWLEDGEMENT – ATTACHMENT “A”

Acknowledgement is hereby made of the following addenda (identified by number) received since issuance of solicitation:

| ADDENDUM NUMBER | DATE |
|-----------------|-------------------|
| 1 | February 16, 2022 |
| 2 | February 22, 2022 |
| 3 | March 9, 2022 |
| 4 | March 16, 2022 |
| 5 | March 23, 2022 |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

NOTE: Prior to submitting the response to this solicitation, it is the responsibility of the BIDDER to confirm if any addenda have been issued. If such addenda have been issued, acknowledge receipt by noting number(s) and date(s) above.

DOCUMENT 00410 – SCHEDULE OF SUBCONTRACTORS – ATTACHMENT “B”

Attachment “B” is not required to be submitted as part of the Bid Package as defined in the Instructions to Bidders.

The following is a complete list of all subcontractors utilized for this project (if applicable):

- | | | |
|----|--|--|
| 1. | <u>Bill Smith Electric, Inc.</u> Company Name <u>P.O. Box 1057</u> Address <u>Gonzalez, FL 32560</u> City, State, Zip | <u>Electrical</u> Type of Work <u>850-968-6500</u> Telephone Number <u></u> Federal ID Number |
| 2. | <u></u> Company Name <u></u> Address <u></u> City, State, Zip | <u></u> Type of Work <u></u> Telephone Number <u></u> Federal ID Number |
| 3. | <u></u> Company Name <u></u> Address <u></u> City, State, Zip | <u></u> Type of Work <u></u> Telephone Number <u></u> Federal ID Number |
| 4. | <u></u> Company Name <u></u> Address <u></u> City, State, Zip | <u></u> Type of Work <u></u> Telephone Number <u></u> Federal ID Number |

Authorized Signature: _____

DOCUMENT 00410 – CONFLICT OF INTEREST DISCLOSURE – ATTACHMENT "C"

For purposes of determining any possible conflict of interest, all BIDDERS, must disclose if any Okaloosa Board of County commissioner, employee(s), elected official(s) or if any of its agencies is also an owner, corporate officer, agency, employee, etc., of their business.

Indicate either "YES" (a county employee, elected official or agency is also associated with your business) or "NO". If yes, give person(s) name(s) and position(s) with your business.

YES: _____ NO: X

| NAME | POSITION |
|-------|----------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |


March 30, 2022
Date

J&P Construction Co., Inc.
D/B/A Jamison Construction Company
Firm Name

2550 39th St. Tuscaloosa, AL 35405
Address

P.O. Box 3147 Tuscaloosa, AL 35403
Address

205-345-6631
Office Number


By (Signature)

Robert Meriwether
By (Printed)

Vice President
Title

rmeriwether@jandpconstruction.com
Email

205-799-9838
Cell Number

DOCUMENT 00410 – RECYCLED CONTENT – ATTACHMENT “D”

1. Material: Rebar

Is the above material: Virgin Recycled If recycled, what percentage _____ %

Describe: _____

Is the material packaged/shipped in packaging containing recycled content? Yes No

If yes, specify packaging: _____

Is the material recyclable after it has reached the end of its intended use? Yes No

If yes, explain: _____

2. Material: Concrete

Is the above material: Virgin Recycled If recycled, what percentage _____ %

Describe: _____

Is the material packaged/shipped in packaging containing recycled content? Yes No

If yes, specify packaging: _____

Is the material recyclable after it has reached the end of its intended use? Yes No

If yes, explain: _____

3. Material: D. L. Pipe

Is the above material: Virgin Recycled If recycled, what percentage _____ %

Describe: _____

Is the material packaged/shipped in packaging containing recycled content? Yes No

If yes, specify packaging: _____

Is the material recyclable after it has reached the end of its intended use? Yes No

If yes, explain: _____

DOCUMENT 00410 – DRUG-FREE WORKPLACE PROGRAM CERTIFICATION – ATTACHMENT “E”

THE BELOW SIGNED BIDDER CERTIFIES that it has implemented a drug-free workplace program. In order to have a drug free workplace program, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business’s policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under quote a copy of the statement specified in subsection 1.
4. In the statement specified in subsection 1, notify the employees that, as a condition of working on the commodities or contractual services that are under quote, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893, Florida Statutes, or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in, drug abuse assistance or rehabilitation program if such is available in employee’s community, by any employee who is convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.

March 30, 2022
Date

J&P Construction Co., Inc.
D/B/A Jamison Construction Company
Firm Name

2550 39th St. Tuscaloosa, AL 35405
Address

P.O. Box 3147 Tuscaloosa, AL 35403
Address

205-345-6631
Office Number


By (Signature)

Robert Meriwether
By (Printed)

Vice President
Title

rmeriwether@jandpconstruction.com
Email

205-799-9838
Cell Number

DOCUMENT 00410 – INDEMNIFICATION AND HOLD HARMLESS – ATTACHMENT “F”

To the fullest extent permitted by law, CONTRACTOR shall indemnify and hold harmless the OWNER, The Design Engineer and the officers and employees of each from liabilities, damages, losses and costs including but not limited to reasonable attorney fees, to the extent caused by the negligence, recklessness or intentional wrongful conduct of the CONTRACTOR and other persons employed or utilized by the CONTRACTOR in the performance of this Agreement.

March 30, 2022
Date


J&P Construction Co., Inc.
D/B/A Jamison Construction Company
Firm Name

2550 39th St. Tuscaloosa, AL 35405
Address

P.O. Box 3147 Tuscaloosa, AL 34503
Address

205-345-6631
Office Number

205-345-6652
Fax Number


By (Signature)

Robert Meriwether
By (Printed)

Vice President
Title

rmeriwether@jandpconstruction.com
Email

205-799-9838
Cell Number

205-799-9838
After-Hour Number(s)

DOCUMENT 00410 – INSURANCE COMPLIANCE CERTIFICATION – ATTACHMENT “G”

This form is to be completed and signed by you certifying that your policy either meets the insurance requirements as specified in Bid No. ITB WS 03-22, or that the insurance company has reviewed the bid requirements and certifies that you were quoted any price increase due to required coverage.

I certify that the insurance requirements have been reviewed.

March 30, 2022

Date

J&P Construction Co., Inc.

D/B/A Jamison Construction Company

Firm Name

2550 39th St. Tuscaloosa, AL 35405

Address

P.O. Box 3147 Tuscaloosa, AL 35403

Address

205-345-6631

Office Number



By (Signature)

Robert Meriwether

By (Printed)

Vice President

Title

rmeriwether@jandpconstruction.com

Email

205-799-9838

Cell Number

DOCUMENT 00410 – CONE OF SILENCE CLAUSE – ATTACHMENT “H”

The Board of County Commissioners has established a solicitation silence policy (**Cone of Silence**) that prohibits oral and written communication regarding all formal solicitations for goods and services (ITB, RFP, ITQ, ITN, and RFQ) or other competitive solicitation between the bidder (or its agents or representatives) or other entity with the potential for a financial interest in the award (or their respective agents or representatives) regarding such competitive solicitation, and any County Commissioner or County employee, selection committee member or other persons authorized to act on behalf of the Board including the County’s Architect, Engineer or their subconsultants, or anyone designated to provide a recommendation to award a particular contract, other than the Purchasing Department Staff.

The period commences from the time of advertisement until contract award.

Any information thought to affect the committee or staff recommendation submitted after bids are due, should be directed to the Purchasing Manager or an appointed representative. It shall be the Purchasing Manager’s decision whether to consider this information in the decision process.

Any violation of this policy shall be grounds to disqualify the bidder from consideration during the selection process.

All bidders must agree to comply with this policy by signing the following statement and including it with their submittal.

I, Robert Meriwether, representing J&P Construction Co., Inc. D/B/A Jamison Construction Company
Robert Meriwether Signature Company Name

On this 30 day of March, 2022 hereby agree to abide by the County’s “Cone of Silence Clause” and understand violation of this policy shall result in disqualification of my proposal/submittal.

DOCUMENT 00410 – FEDERAL E-VERIFY COMPLIANCE CERTIFICATION – ATTACHMENT "I"

In accordance with Okaloosa County Policy and Executive Order Number 11-116 from the office of the Governor of the State of Florida, BIDDER hereby certifies that the U.S. Department of Homeland Security's E-Verify system will be used to verify the employment eligibility of all new employees hired by the BIDDER during the contract term, and shall expressly require any subcontractors performing work or providing services pursuant to the contract to likewise utilize the U.S. Department of Homeland Securities E-Verify system to verify the employment of all new employees hired by the subcontractor during the contract term; and shall provide documentation of such verification to the COUNTY upon request.

As the person authorized to sign this statement, I certify that this company complies/will comply fully with the above requirements.

| | |
|--|--|
| <u>March 30, 2022</u> Date |  By (Signature) |
| <u>J&P Construction Co., Inc.</u> D/B/A Jamison Construction Company Firm Name | <u>Robert Meriwether</u> By (Printed) |
| <u>2550 39th St. Tuscaloosa, AL 35405</u> Address | <u>Vice President</u> Title |
| <u>P.O. Box 3147 Tuscaloosa, AL 35403</u> Address | <u>rmeriwether@jandpconstruction.com</u> Email |
| <u>205-345-6631</u> Office Number | <u>205-799-9838</u> Cell Number |

DOCUMENT 00410 – CERTIFICATION REGARDING CHILD LABOR – ATTACHMENT “J”

In accordance with solicitation provision 45 CFR 22.15, BIDDER hereby certifies the review of the “List of Products Requiring Contractor Certification or Indentured Child Labor” as published by the Department of Labor in accordance with Executive Order 13126 of June 12, 1999 if any end products are used within this Contract as required by the Prohibition of Acquisition of Products Produced by Forced or Indentured Child Labor, 48 CFR 52.222-18. The list identifies products by their country of origin that the Departments of Labor, Treasury and State have a reasonable basis to believe might have been mined, produced or manufactured by forced or indentured child labor. (www.dol.gov/ilab/) see (22.1505(a))

The BIDDER certifies that they have made a good faith effort to determine whether forced or indentured child labor was used to mine, produce, or manufacture as listed for that end product. On the basis of those efforts, the BIDDER certifies that it is not aware of any such use of child labor. Specifically, any electrical equipment is not allowed from China per ORCA Certification 52.222-18.

As the person authorized to sign this statement, I certify that this company complies/will comply fully with the above requirements.

March 30, 2022
Date
J&P Construction Co., Inc.
D/B/A Jamison Construction Company
Firm Name
2550 39th ST. Tuscaloosa, AL 35405
Address
P.O. Box 3147 Tuscaloosa, AL 35403
Address
205-345-6631
Office Number


By (Signature)
Robert Meriwether
By (Printed)
Vice President
Title
rmeriwether@jandpconstruction.com
Email
205-799-9838
Cell Number

DOCUMENT 00410 – ANTI-COLLUSION STATEMENT – ATTACHMENT “K”

The below signed BIDDER has not divulged to, discussed or compared his bid with other BIDDERS and has not colluded with any other BIDDER or parties to bid whatever. (Note: No premiums, rebates or gratuities permitted either with, prior to, or after any delivery of materials.) Any such violation will result in the cancellation and/or return of material (as applicable) and the removal from bid list(s).

March 30, 2022
Date
J&P Construction Co., Inc.
D/B/A Jamison Construction Company
Firm Name

2550 39th St. Tuscaloosa, AL 35405
Address

P.O. Box 3147 Tuscaloosa, AL 35403
Address

205-345-6631
Office Number


By (Signature)
Robert Meriwether
By (Printed)
Vice President
Title
rmeriwether@jandpconstruction.com
Email
205-799-9838
Cell Number

DOCUMENT 00410 – COMPANY DATA – ATTACHMENT “L”

Bidder's Company Name: J&P Construction Co., Inc. D/B/A Jamison Construction Company

Physical Address: 2550 39th St.

Tuscaloosa, AL 35405

Contact Person (printed): Robert Meriwether

Phone Number: 205-345-6631

Fax Number: 205-345-6652

Cell Number: 205-799-9838

Email: rmeriwether@jandpconstruction.com

Federal ID or SS Number: 63-0479050

Bidder's License Number: CGC060077

Emergency After-Hours,
Weekend or Holiday Contact
with Number: Robert Meriwether 205-799-9838

DOCUMENT 00410 – LIST OF REFERENCES – ATTACHMENT “M”

- | | | |
|----|-------------------------------------|----------------------------|
| 1. | <u>Destin Water Users, Inc.</u> | <u>Monica Wallis</u> |
| | Company Name | Contact Person |
| | <u>218 Main St.</u> | <u>850-337-3945</u> |
| | Address | Telephone Number |
| | <u>Destin, FL 32541</u> | <u>mwallis@dwuinc.com</u> |
| | City, State, Zip | Email |
| 2. | <u>South Walton Utility Co.</u> | <u>Alicia Keeter</u> |
| | Company Name | Contact Person |
| | <u>369 Miramar Beach Dr.</u> | <u>850-837-2988</u> |
| | Address | Telephone Number |
| | <u>Miramar Beach, Florida 32550</u> | <u>aak@swuci.org</u> |
| | City, State, Zip | Email |
| 3. | <u>C & B Piping</u> | <u>Alan Foote</u> |
| | Company Name | Contact Person |
| | <u>P.O. BOX 942</u> | <u>205-699-0455</u> |
| | Address | Telephone Number |
| | <u>LEEDS, AL 35094</u> | <u>afoote@cbpiping.com</u> |
| | City, State, Zip | Email |

DOCUMENT 00410 – VENDORS ON SCRUTINIZED COMPANIES LISTS – ATTACHMENT “N”

By executing this Certificate J&P Construction Co., Inc.
D/B/A Jamison Construction Company, the bid proposer, certifies that it is not: (1) listed on the Scrutinized Companies that Boycott Israel List, created pursuant to section 215.4725, Florida Statutes, (2) engaged in a boycott of Israel, (3) listed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to section 215.473, Florida Statutes, or (4) engaged in business operations in Cuba or Syria. Pursuant to section 287.135(5), Florida Statutes, the County may disqualify the bid proper immediately or immediately terminate any agreement entered into for cause if the bid proposer is found to have submitted a false certification as to the above or if the Contractor is placed on the Scrutinized Companies that Boycott Israel List, is engaged in a boycott of Israel, has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or has been engaged in business operations in Cuba or Syria, during the term of the Agreement. If the County determines that the bid proposer has submitted a false certification, the County will provide written notice to the bid proposer. Unless the bid proposer demonstrates in writing, within 90 calendar days of receipt of the notice, that the County’s determination of false certification was made in error, the County shall bring a civil action against the bid proposer. If the County’s determination is upheld, a civil penalty shall apply, and the bid proposer will be ineligible to bid on any Agreement with a Florida agency or local governmental entity for three years after the date of County’s determination of false certification by bid proposer.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.

DATE: March 30, 2022

SIGNATURE: 

COMPANY: J&P Construction Co., Inc.
D/B/A Jamison Construction Company

NAME: Robert Meriwether
(Typed or Printed)

ADDRESS: 2550 39th St.
Tuscaloosa, AL 35405

TITLE: Vice President

E-MAIL: rmeriwether@jandpconstruction.com

PHONE NO.: 205-345-6631

DOCUMENT 00410 – CERTIFICATION REGARDING LOBBYING – ATTACHMENT “O”

31 U.S.C. 1352, 49 CFR 19, 49 CFR PART 20
APPENDIX A, 49 CFR PART 20

Certification for Contracts, Grants, Loans and Cooperative Agreements *(to be submitted with each bid or offer exceeding \$100,000)*

The undersigned CONTRACTOR certifies, to the best of his/her knowledge and belief, that:


1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an 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 Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to 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 undersigned shall complete and submit Standard Form–LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions [as amended by “government wide Guidance for New Restrictions on Lobbying,” 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, et seq.)]
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

[Note: Pursuant to 31 U.S.C. 1352(c)(1)-(2)A, any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.]

The Contractor, J&P Construction Co., Inc. D/B/A Jamison Construction Company, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, et seq., apply to this certification and disclosure, if any.

March 30, 2022
Date


By (Signature) Robert Meriwether

J&P Construction Co., Inc. D/B/A Jamison Construction Company
Firm Name

Vice President
Title

DOCUMENT 00410 – DEBARMENT & SUSPENSION – ATTACHMENT “P”

GOVERNMENT DEBARMENT & SUSPENSION

Instructions

1. By signing and submitting this form, the prospective lower tier participant is providing the certification set out in accordance with these instructions.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person(s) to which this response is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Orders 12549, at Subpart C of OMB 2 C.F.R. Part 180 and 3000.332. You may contact the department or agency to which this response is being submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this form that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this form that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the System for Award Management (SAM) database.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under paragraph (5) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

**Certification Regarding Debarment, Suspension,
Ineligibility and Voluntary Exclusion
Lower Tier Covered Transactions**

The following statement is made in accordance with the Privacy Act of 1974 (5 U.S.C. § 552(a), as amended). This certification is required by the regulations implementing Executive Orders 12549, Debarment and Suspension, and OMB 2 C.F.R. Part 180, Participants' responsibilities. The regulations were amended and published on August 31, 2005, in 70 Fed. Reg. 51865-51880.

1. The prospective lower tier participant certifies, by submission of this response, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal or State department or agency;
2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this response.

Printed Name and Title of Authorized Representative

Robert Meriwether Vice President


Signature

March 30, 2022
Date

END OF DOCUMENT 00410 – BID FORM WITH ATTACHMENTS

DOCUMENT 00430 – BID BOND

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

BIDDER (Name and Address):

J & P Construction Company, Inc. d/b/a Jamison Construction Company
P.O. Drawer 3147
Tuscaloosa, AL 35403

SURETY (Name, and Address of Principal Place of Business):

Western Surety Company
151 N. Franklin Street
Chicago, IL 60606

OWNER (Name and Address):

Okaloosa Board of County Commissioners
1250 N. Eglin Parkway
Shalimar, FL 32579

BID

Bid Due Date:

March 30, 2022

Description (Project Name— Include Location):

Replacement of Okaloosa Island Booster Pump Station, ITB WS 23-22
Okaloosa Island, FL

BOND

Bond Number:

FA19-56

Date:

March 30, 2022

Penal sum: 5% of bidder's maximum Bid price

5%

(Words)

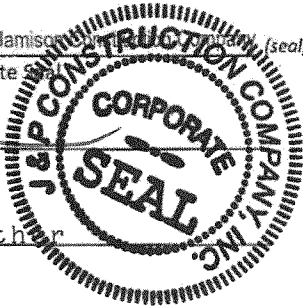
(Figures)

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

BIDDER

J & P Construction Company, Inc. d/b/a Jamison Construction Company, Inc. (seal)
Contractor's Name and Corporate Seal

By: 
Signature



Robert Meriwether
Print Name

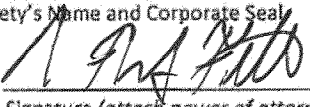
Vice President
Title

Attest: 
Signature

Secretary-Treasurer
Title

SURETY

Western Surety Company (seal)
Surety's Name and Corporate Seal

By: 
Signature (attach power of attorney)

R. Forrest Fitts
Print Name

Attorney-in-Fact
Title

Attest: 
Signature

Bond/CSR
Title

Note: Addresses are to be used for giving any required notice.

Provide execution by additional parties, such as joint venturers, if necessary.

DOCUMENT 00510 – NOTICE OF INTENT

**Board of County Commissioners
Purchasing Department**

Date of Issuance:

**OKALOOSA COUNTY PURCHASING DEPARTMENT
NOTICE OF INTENT TO AWARD
ITB WS 23-22**

The Okaloosa County Purchasing Department would like to thank all businesses which submitted responses to our **Replacement of Okaloosa Island Water Booster Station**.

After in-depth examination of all bid documents in accordance with the County's Purchasing Manual, the County announces its intent to award the Contract to the following:

Bidder: J&P Construction Co., Inc. D/B/A Jamison Construction Company
Bidder's Address: 2550 39th Street, Tuscaloosa, AL 35405

This Notice of Intent does NOT constitute the formation of a Contract between Okaloosa County and the apparent successful bidder. The County reserves the right to enter into negotiations with the successful Bidder in order to finalize Contract terms and conditions. No agreement is entered into between the County and any parties until a Contract is approved and fully executed.

Any person/entity desiring to file a procurement protest must meet all the standards and criteria in accordance with Section 31 of the Okaloosa County Purchasing Manual. Failure to file a protest within the time prescribed in Section 31.2 of the Okaloosa County Purchasing Manual, shall constitute a waiver of protest proceedings.

Sincerely,

Jeff Hyde
Purchasing Manager

Copy: Engineer

END OF DOCUMENT 00510 – NOTICE OF INTENT

DOCUMENT 00520 – DRAFT AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT
– BIDDERS – DO NOT SIGN THE DRAFT AGREEMENT

THIS AGREEMENT is by and between Okaloosa County, a political subdivision of the State of Florida, by and through its Board of County Commissioners, situated at 1250 N. Eglin Parkway, Shalimar, Florida (“OWNER”) and J&P Construction Co., Inc. D/B/A Jamison Construction Company of 2550 39th Street, Tuscaloosa, Alabama 35405 (address), certified to do business in the state of Florida (“CONTRACTOR”).

OWNER and CONTRACTOR hereby agree as follows:

ARTICLE 1 – WORK

1.01 CONTRACTOR shall complete all WORK as specified or indicated in the Contract Documents. The WORK is generally described as follows: **Replacement of Okaloosa Island Water Booster Station**

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: Construct the new water booster station including CMU building with ramp and retaining wall, three close-coupled vertical pumps, piping, valves, flowmeter, sodium hypochlorite disinfection system, controls, electrical including a generator set (generator, ATS and HVAC supplied by Owner, installed by Contractor) and sitework, along with two control valve assemblies at the east and west Island elevated tanks and other WORK as shown on the construction drawings and described in the specifications.

ARTICLE 3 – ENGINEER

3.01 The part of the Project that pertains to the WORK has been designed by Poly, Inc. (Design Engineer). The OWNER has retained the Design Engineer (“ENGINEER”) 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 the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 Time of the Essence

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

4.02 Contract Times: Days

A. The Work will be substantially completed within **180** calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **255** calendar days after the date when the Contract Times commence to run.

4.03 Liquidated Damages

A. Section 337.18(2) of the Florida Statutes, requires the OWNER adopt regulations for the determination of default and provisions that the Contractor pay liquidated damages (daily charge per calendar day) for any failure of the Contractor to complete the Contract work within the Contract Time.

B. CONTRACTOR and OWNER recognize that time is of the essence as stated in Paragraph 4.01 above and that OWNER will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense,

- and difficulties involved in proving in a legal proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay. Contractor specifically acknowledges that the liquidated damages is not a penalty and waives any right to argue such at a later time.
1. Substantial Completion: CONTRACTOR shall pay OWNER \$972.00 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
 2. Completion of Remaining Work: After Substantial Completion, if CONTRACTOR shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, CONTRACTOR shall pay OWNER \$972.00 for each day that expires after such time until the Work is completed and ready for final payment.
 3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

ARTICLE 5 – CONTRACT PRICE

- 5.01 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents the amounts equal to the sum of the amounts determined pursuant to Paragraph 5.01.A below:
- A. For all Work, at the prices stated in CONTRACTOR’s Bid, attached hereto as an exhibit.

As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by ENGINEER as provided in Paragraph 10.06 of the General Conditions. Unit prices have been computed as proved in Paragraph 13.03 of the General Conditions.

Contract Amount of Two Million, Ninety-Five Thousand Dollars and Zero cent (\$2,095,000.00)

ARTICLE 6 – PAYMENT PROCEDURES

- 6.01 Submittal and Processing of Payments
- A. CONTRACTOR shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.
- 6.02 Progress Payments; Retainage
- A. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR’s Applications for Payment in accordance with § 218.70-218.79 F.S. (Local Government Prompt Payment Act) during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established in Paragraph 2.03 of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
 1. Progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as OWNER may withhold, including but not limited to liquidated damages, in accordance with the Contract:
 - a. 95 percent of Work completed (with the balance being retainage)
 - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

6.03 Final Payment

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST

- 7.01 All amounts not paid when due shall bear interest at the rate of 1% percent per month in accordance with § 218.735 F.S. (Local Government Prompt Payment Act).

ARTICLE 8 – CONTRACTOR’S REPRESENTATIONS

- 8.01 In order to induce OWNER to enter into this Contract, CONTRACTOR makes the following representations:

- A. CONTRACTOR has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
- B. CONTRACTOR has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. CONTRACTOR is familiar with and is satisfied as to all Federal, State and Local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. CONTRACTOR has carefully studied all, if any: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
- E. CONTRACTOR has considered the information known to CONTRACTOR itself; information commonly known to CONTRACTORS doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports, if any, and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR; and (3) CONTRACTOR’s safety precautions and programs.
- F. Based on the information and observations referred to in the preceding paragraph, CONTRACTOR agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
- G. CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- J. CONTRACTOR’s entry into this Contract constitutes an incontrovertible representation by CONTRACTOR that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 Contents

- A. The Contract Documents consist of the following:
 - 1. Bid Form with Attachments (pages 00410-1 to 00410-20, inclusive).
 - 2. This Agreement (pages 00520-1 to 00520-11, inclusive).
 - 3. Performance bond (pages 00610-1 to 00610-3, inclusive).
 - 4. Payment bond (pages 00620-1 to 00620-3, inclusive).
 - 5. EJCDC General Conditions (pages 00700-1 to 00700-62, inclusive).
 - 6. Supplementary Conditions (pages 00800-1 to 00800-10, inclusive).
 - 7. Summary of Work (page 01010-1, inclusive).
 - 8. Project Coordination (pages 01040-1 to 01040-3, inclusive).
 - 9. Warranties and Manuals (page 01350-1, inclusive).
 - 10. Temporary Facilities (pages 01500-1 to 01500-4, inclusive).
 - 11. Project Closeout (pages 01700-1 to 01700-3, inclusive).
 - 12. Record Documents (pages 01750-1 to 01750-3, inclusive).
 - 13. Drawings consisting of 31 sheets with each sheet bearing the following general title: Replacement of Okaloosa Island Water Booster Station, (incorporated by reference).
 - 14. Appendix A - Technical Specifications as prepared by Poly, Inc. bearing the title, Replacement of Okaloosa Island Water Booster Station – Technical Specifications, January 2022 consisting of 241 pages.
 - 15. Addenda (numbers 1 to 5, inclusive).
 - 16. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Contractor’s Application for Payment
 - d. Change Orders.
 - e. Field Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 Terms

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

10.02 Assignment of Contract

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto 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 Documents.

10.03 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.

10.04 Severability

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

10.05 CONTRACTOR's Certifications

- A. CONTRACTOR certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of OWNER, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive OWNER of the benefits of free and open competition;
 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of OWNER, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

10.06 Independent CONTRACTORS

- A. CONTRACTOR enters into the Contract as, and shall continue to be, an independent CONTRACTOR. All services shall be performed only by CONTRACTOR and CONTRACTOR's employees. Under no circumstances shall CONTRACTOR or any of CONTRACTOR's employees look to the OWNER as his/her employer, or as partner, agent or principal. Neither CONTRACTOR, nor any of CONTRACTOR's employees, shall be entitled to any benefits accorded to the OWNER's employees, including without limitation worker's compensation, disability insurance, vacation or sick pay. CONTRACTOR shall be responsible for providing, at CONTRACTOR's expense, and in CONTRACTOR's name, unemployment, disability, worker's compensation and other insurance as well as licenses and permits usual and necessary for conducting the services to be provided under this Contract.

10.07 Audit Provision

- A. The OWNER and/or its designee shall have the right from time to time at its sole expense to audit the compliance by the CONTRACTOR with the terms, conditions, obligations, limitations, restrictions and requirements of this Agreement and such right shall extend for a period of three (3) years after termination of this Agreement.

10.08 Public Records

- A. CONTRACTOR shall adhere to the Public Records law of Florida.
- B. Specifically, CONTRACTOR must:
 1. Keep and maintain public records require by the OWNER to perform the service.
 2. Upon request from the OWNER's custodian of public records, provide the OWNER with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in chapter 119 Florida Statutes or as otherwise provided by law.

3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the Agreement term and following completion of the Agreement if the CONTRACTOR does not transfer the records to the OWNER.
 4. Upon completion of the Agreement, transfer, at no cost, to the OWNER all public records in possession of the CONTRACTOR or keep and maintain public records required by the OWNER to perform the service. If the CONTRACTOR transfers all public records to the OWNER upon completion of the Contract, the CONTRACTOR shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the CONTRACTOR keeps and maintains public records upon completion of the Contract, the CONTRACTOR shall meet all applicable requirements for retaining the public records. All records stored electronically must be provided to the OWNER, upon the request from the OWNER's custodian of public records, in a format that is compatible with the information technology system of the OWNER.
- C. **IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT OKALOOSA COUNTY RISK MANAGEMENT DEPARTMENT 302 N. WILSON ST., CRESTVIEW, FL 32536 PHONE (850) 689-5977 riskinfo@co.okaloosa.fl.us.**

10.09 Third Party Beneficiaries

- A. It is specifically agreed between the parties executing this Agreement that it is not intended by any of the provisions of any part of the Agreement to create in the public or any member thereof, a third party beneficiary under this Agreement, or to authorize anyone not a part to this Agreement to maintain a suit for personal injuries or property damage pursuant to the terms or provision of this Agreement.

10.10 Other Provisions

- A. OWNER stipulates that if the General Conditions that are made a part of this Contract are based on EJCDC® C-700, Standard General Conditions for the Construction Contract, published by the ENGINEERS Joint Contract Documents Committee®, and if OWNER is the party that has furnished said General Conditions, then OWNER has plainly shown all modifications to the standard wording of such published document to the CONTRACTOR, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.
- B. The individual signing this Agreement on behalf of CONTRACTOR represents and warrants that he or she is duly authorized and has legal capacity to execute and deliver this Agreement. The CONTRACTOR represent and warrants to the OWNER that the execution and delivery of the Agreement and the performance of CONTRACTOR's obligations hereunder have been duly authorized and that the Agreement is a valid and legal agreement binding on the CONTRACTOR and enforceable in accordance with its terms.
- C. The waiver by a party of any breach or default in performance shall not be deemed to constitute a waiver of any other or succeeding breach or default. The failure of the OWNER to enforce any of the provisions hereof shall not be construed to be a waiver of the right of the OWNER thereafter to enforce such provisions.
- D. All notices required by this Agreement shall be in writing to the representatives listed below:

AUTHORIZED REPRESENTATIVES:

OWNER:

Chairman – Board of County Commissioners

Address

1250 N. Eglin Parkway

Shalimar, FL 32579

Phone

850-651-7105

CONTRACTOR:

J&P Construction Co., Inc.

D/B/A Jamison Construction Company

Address

2550 39th Street

Tuscaloosa, AL 35405

Phone

205-345-6631

10.11 Equal Opportunity Employment

A. During the performance of this CONTRACT, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor 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 contractor 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.
2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.
3. The contractor 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 advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, 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 administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
7. The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) 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, so that such provisions will be binding

upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

10.12 Federal Fair Labor Standards Act (Federal Minimum Wage)

- A. All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part time workers.
- B. The CONTRACTOR has full responsibility to monitor compliance to the referenced statute or regulation. The CONTRACTOR must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

10.13 Occupational Safety and Health Act of 1970

- A. All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. CONTRACTOR must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The CONTRACTOR retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (20 CFR Part 1910). CONTRACTOR must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

10.14 E-Verify

- A. Enrollment and verification requirements.
 - 1. If the CONTRACTOR is not enrolled as a Federal Contractor in E-Verify at time of contract award, the CONTRACTOR shall-
 - a. Enroll. Enroll as a Federal Contractor in the E-Verify Program within thirty (30) calendar days of Contract award;
 - b. Verify all new employees. Within ninety (90) calendar days of enrollment in the E-Verify program, begin to use E-Verify to initiate verification of employment eligibility of all new hires of the CONTRACTOR, who are working in the United States, whether or not assigned to the Contract, within three (3) business days after the date of hire (but see paragraph (3.) of this section); and,
 - c. Verify employees assigned to the Contract. For each employee assigned to the Contract, initiate verification within ninety (90) calendar days after date of enrollment or within thirty (30) calendar days of the employee's assignment to the Contract, whichever date is later (but see paragraph (4.) of this section.)
 - 2. If the CONTRACTOR is enrolled as a Federal Contractor in E-Verify at time of Contract award, the CONTRACTOR shall use E-Verify to initiate verification of employment eligibility of
 - a. All new employees.
 - 1) Enrolled ninety (90) calendar days or more. The CONTRACTOR shall initiate verification of all new hires of the CONTRACTOR, who are working in the United States, whether or not assigned to the Contract, within three (3) business days after the date of hire (but see paragraph (3.) of this section); or
 - b. Enrolled less than ninety (90) calendar days. Within ninety (90) calendar days after enrollment as a Federal Contractor in E-Verify, the CONTRACTOR shall initiate verification of all new hires of the CONTRACTOR, who are working in the United States, whether or not assigned to the contract, within three (3) business days after the date of hire (but see paragraph (3.) of this section); or

- 1) Employees assigned to the Contract. For each employee assigned to the Contract, the CONTRACTOR shall initiate verification within ninety (90) calendar days after date of Contract award or within thirty (30) days after assignment to the Contract, whichever date is later (but see paragraph (4.) of this section.)
3. If the CONTRACTOR is an institution of higher education (as defined at 20 U.S.C. 1001(a)); a State of local government or the government of a Federally recognized Indian tribe, or a surety performing under a takeover agreement entered into with a Federal agency pursuant to a performance bond, the CONTRACTOR may choose to verify only employees assigned to the Contract, whether existing employees or new hires. The CONTRACTOR shall follow the applicable verification requirements of (1.) or (2.), respectively, except that any requirement for verification of new employees applies only to new employees assigned to the Contract.
4. Option to verify employment eligibility of all employees. The CONTRACTOR may elect to verify all existing employees hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), rather than just those employees assigned to the Contract. The CONTRACTOR shall initiate verification for each existing employee working in the United States who was hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), within one hundred eighty (180) calendar days of-
 - a. Enrollment in the E-Verify program; or
 - b. Notification to E-Verify Operations of the CONTRACTOR's decision to exercise this option, using the Contract information provided in the E-Verify program Memorandum of Understanding (MOU)
5. The CONTRACTOR shall comply, for the period of performance of this Contract, with the requirements of the E-Verify program MOU.
 - a. The Department of Homeland Security (DHS) or the Social Security Administration (SSA) may terminate the CONTRACTOR's MOU and deny access to the E-Verify system in accordance with the terms of the MOU. In such case, the CONTRACTOR, will be referred to a suspension or debarment official.
 - b. During the period between termination of the MOU and a decision by the suspension or debarment official whether to suspend or debar, the CONTRACTOR is excused from its obligations under paragraph (b) of this clause. If the suspension or debarment official determines not to suspend or debar the CONTRACTOR, then the CONTRACTOR must reenroll in E-Verify.
 - c. Web site. Information on registration for and use of the E-Verify program can be obtained via the Internet at the Department of Homeland Security Web site: <http://www.dhs.gov/E-Verify>.
 - d. Individuals previously verified. The CONTRACTOR is not required by this clause to perform additional employment verification using E-Verify for any employee-
 - 1) Whose employment eligibility was previously verified by the CONTRACTOR through the E-Verify program;
 - 2) Who has been granted and holds an active U.S. Government security clearance for access to confidential, secret, or top secret information in accordance with the National Industrial Security Program Operating Manual; or
 - 3) Who has undergone a completed background investigation and been issued credentials pursuant to Homeland Security Presidential Directive (HSPD)-12. Policy for a Common Identification Standard for Federal Employees and Contractors.
6. Subcontracts. The CONTRACTOR shall include the requirements of this clause, including this paragraph € (appropriately modified for identification of the parties in each subcontract that -
 - a. Is for

-
- 1) Commercial and noncommercial services (except for commercial services that are part of the purchase of a COTS item (or an item that would be a COTS item, but for minor modifications), performed by the COTS provider, and are normally provided for that COTS item); or
 - 2) Construction;
- b. Has a value of more than \$3,500; and
 - c. Includes work performed in the United States.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement.

This Agreement will be effective on _____ (which is the Effective Date of the Contract).

OWNER:
BOARD OF COUNTY COMMISSIONERS
OKALOOSA COUNTY, FLORIDA

Mel Ponder, Chairman

Attest:

JD Peacock II, Clerk of Courts

Address for giving notices:

1250 N. Eglin Parkway

Shalimar, FL 32579

CONTRACTOR:
J&P Construction Co., Inc.
D/B/A/ Jamison Construction Company

By: _____

Title: Robert Meriweather , Vice President
(If CONTRACTOR is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Title: _____

Address for giving notices:

2552 39th Street

Tuscaloosa, AL 35403

License No.: _____

END OF DOCUMENT 00520 – DRAFT AGREEMENT BETWEEN OWNER & CONTRACTOR
FOR CONSTRUCTION CONTRACT

DOCUMENT 00610 – PERFORMANCE BOND

CONTRACTOR (name and address):

J&P Construction Co., Inc.

D/B/A Jamison Construction Company

2550 39th Street

Tuscaloosa, AL 35403

SURETY (name and address of principal place of business):

OWNER (name and address):

Okaloosa Board of County Commissioners

1250 N. Eglin Parkway

Shalimar, FL 32579

CONSTRUCTION CONTRACT

Effective Date of the Agreement: _____

Amount: Two Million, Ninety-Five Thousand Dollars and Zero Cent (\$2,095,000.00)

Description (name and location): **Replacement of Okaloosa Island Water Booster Station**

BOND

Bond Number: _____

Date (not earlier than the Effective Date of the Agreement of the Construction Contract): _____

Amount: Two Million, Ninety-Five Thousand Dollars and Zero Cent (\$2,095,000.00)

Modifications to this Bond Form: None See Paragraph 16

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

CONTRACTOR AS PRINCIPAL

SURETY

(seal)
Contractor's Name and Corporate Seal

(seal)
Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall 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 shall not be reduced or set off on account of any such unrelated obligations. No right of action shall 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 may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall 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 shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall 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 shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall 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 shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

END OF DOCUMENT 00610 – PERFORMANCE BOND

DOCUMENT 00620 – PAYMENT BOND

CONTRACTOR (name and address):

J&P Construction Co., Inc.

D/B/A Jamison Construction Company

2550 39th Street

Tuscaloosa, AL 35403

SURETY (name and address of principal place of business):

OWNER (name and address):

Okaloosa Board of County Commissioners

1250 N. Eglin Parkway

Shalimar, FL 32579

CONSTRUCTION CONTRACT

Effective Date of the Agreement: _____

Amount: Two Million, Ninety-Five Thousand Dollars and Zero Cent (\$2,095,000.00)

Description (name and location): **Replacement of Okaloosa Island Water Booster Station**

BOND

Bond Number: _____

Date (not earlier than the Effective Date of the Agreement of the Construction Contract): _____

Amount: Two Million, Ninety-Five Thousand Dollars and Zero Cent (\$2,095,000.00)

Modifications to this Bond Form: None See Paragraph 16

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

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (seal)

Surety's Name and Corporate Seal (seal)

By: _____
Signature

By: _____
Signature

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

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

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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 satisfy 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 shall 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 shall be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall 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 shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall 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:

1. The name of the Claimant;
2. The name of the person for whom the labor was done, or materials or equipment furnished;
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;
4. A brief description of the labor, materials, or equipment furnished;
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;
6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
7. The total amount of previous payments received by the Claimant; and
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 shall be 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 shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows:

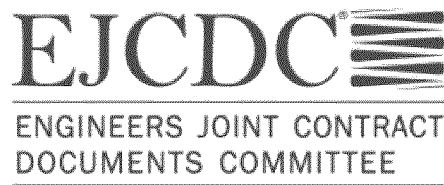
END OF DOCUMENT 00620 – PAYMENT BOND

DOCUMENT 00700 – GENERAL CONDITIONS

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

**STANDARD GENERAL CONDITIONS
OF THE CONSTRUCTION CONTRACT**

Prepared by



Issued and Published Jointly by



These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

Copyright © 2013:

National Society of Professional Engineers
1420 King Street, Alexandria, VA 22314-2794
(703) 684-2882
www.nspe.org

American Council of Engineering Companies
1015 15th Street N.W., Washington, DC 20005
(202) 347-7474
www.acec.org

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400
(800) 548-2723
www.asce.org

The copyright for this document is owned jointly by the three sponsoring organizations listed above. The National Society of Professional Engineers is the Copyright Administrator for the EJCDC documents; please direct all inquiries regarding EJCDC copyrights to NSPE.

NOTE: EJCDC publications may be purchased at www.ejcdc.org, or from any of the sponsoring organizations above.

TABLE OF CONTENTS

| | Page |
|---|-------------|
| <u>Article 1 – Definitions and Terminology</u> | vii |
| <u>1.01 Defined Terms</u> | vii |
| <u>1.02 Terminology</u> | x |
| <u>Article 2 – Preliminary Matters</u> | xi |
| <u>2.01 Delivery of Bonds and Evidence of Insurance</u> | xi |
| <u>2.02 Copies of Documents</u> | xi |
| <u>2.03 Before Starting Construction</u> | xi |
| <u>2.04 Preconstruction Conference; Designation of Authorized Representatives</u> | xii |
| <u>2.05 Initial Acceptance of Schedules</u> | xii |
| <u>2.06 Electronic Transmittals</u> | xii |
| <u>Article 3 – Documents: Intent, Requirements, Reuse</u> | xii2 |
| <u>3.01 Intent</u> | xii |
| <u>3.02 Reference Standards</u> | xiii |
| <u>3.03 Reporting and Resolving Discrepancies</u> | xiii |
| <u>3.04 Requirements of the Contract Documents</u> | xiv |
| <u>3.05 Reuse of Documents</u> | xiv |
| <u>Article 4 – Commencement and Progress of the Work</u> | xiv4 |
| <u>4.01 Commencement of Contract Times; Notice to Proceed</u> | xiv |
| <u>4.02 Starting the Work</u> | xiv |
| <u>4.03 Reference Points</u> | xiv |
| <u>4.04 Progress Schedule</u> | xv |
| <u>4.05 Delays in Contractor’s Progress</u> | xv |
| <u>Article 5 – Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions</u> .. | xvi6 |
| <u>5.01 Availability of Lands</u> | xvi |
| <u>5.02 Use of Site and Other Areas</u> | xvi |
| <u>5.03 Subsurface and Physical Conditions</u> | xvii |
| <u>5.04 Differing Subsurface or Physical Conditions</u> | xvii7 |
| <u>5.05 Underground Facilities</u> | xviii |
| <u>5.06 Hazardous Environmental Conditions at Site</u> | xx |
| <u>Article 6 – Bonds and Insurance</u> | xxi |
| <u>6.01 Performance, Payment, and Other Bonds</u> | xxi |
| <u>6.02 Insurance—General Provisions</u> | xxii |
| <u>6.03 Contractor’s Insurance</u> | xxiii |

| | | |
|--|---|---------|
| 6.04 | <u>Owner’s Liability Insurance</u> | xxv |
| 6.05 | <u>Property Insurance</u> | xxv5 |
| 6.06 | <u>Waiver of Rights</u> | xxvi |
| 6.07 | <u>Receipt and Application of Property Insurance Proceeds</u> | xxvii |
| <u>Article 7 – Contractor’s Responsibilities</u> | | xxviii |
| 7.01 | <u>Supervision and Superintendence</u> | xxviii |
| 7.02 | <u>Labor; Working Hours</u> | xxviii8 |
| 7.03 | <u>Services, Materials, and Equipment</u> | xxviii8 |
| 7.04 | <u>“Or Equals”</u> | xxviii8 |
| 7.05 | <u>Substitutes</u> | 29 |
| 7.06 | <u>Concerning Subcontractors, Suppliers, and Others</u> | xxx0 |
| 7.07 | <u>Patent Fees and Royalties</u> | xxx1 |
| 7.08 | <u>Permits</u> | xxxii2 |
| 7.09 | <u>Taxes</u> | xxxii2 |
| 7.10 | <u>Laws and Regulations</u> | xxxii |
| 7.11 | <u>Record Documents</u> | xxxiii |
| 7.12 | <u>Safety and Protection</u> | xxxiii |
| 7.13 | <u>Safety Representative</u> | xxxiv |
| 7.14 | <u>Hazard Communication Programs</u> | xxxiv |
| 7.15 | <u>Emergencies</u> | xxxiv |
| 7.16 | <u>Shop Drawings, Samples, and Other Submittals</u> | xxxiv |
| 7.17 | <u>Contractor’s General Warranty and Guarantee</u> | xxxvi |
| 7.18 | <u>Indemnification</u> | xxxvi |
| 7.19 | <u>Delegation of Professional Design Services</u> | xxxvii |
| <u>Article 8 – Other Work at the Site</u> | | xxxvii |
| 8.01 | <u>Other Work</u> | xxxvii |
| 8.02 | <u>Coordination</u> | xxxviii |
| 8.03 | <u>Legal Relationships</u> | xxxviii |
| <u>Article 9 – Owner’s Responsibilities</u> | | 39 |
| 9.01 | <u>Communications to Contractor</u> | xxxix |
| 9.02 | <u>Replacement of Engineer</u> | 39 |
| 9.03 | <u>Furnish Data</u> | 39 |
| 9.04 | <u>Pay When Due</u> | 39 |
| 9.05 | <u>Lands and Easements; Reports, Tests, and Drawings</u> | 39 |
| 9.06 | <u>Insurance</u> | 39 |
| 9.07 | <u>Change Orders</u> | 39 |

| | | |
|--|--|-------|
| <u>9.08</u> | <u>Inspections, Tests, and Approvals</u> | 39 |
| <u>9.09</u> | <u>Limitations on Owner’s Responsibilities</u> | 39 |
| <u>9.10</u> | <u>Undisclosed Hazardous Environmental Condition</u> | 40 |
| <u>9.11</u> | <u>Evidence of Financial Arrangements</u> | 40 |
| <u>9.12</u> | <u>Safety Programs</u> | 40 |
| <u>Article 10 – Engineer’s Status During Construction</u> | | 40 |
| <u>10.01</u> | <u>Owner’s Representative</u> | xl |
| <u>10.02</u> | <u>Visits to Site</u> | 40 |
| <u>10.03</u> | <u>Project Representative</u> | 40 |
| <u>10.04</u> | <u>Rejecting Defective Work</u> | 40 |
| <u>10.05</u> | <u>Shop Drawings, Change Orders and Payments</u> | 41 |
| <u>10.06</u> | <u>Determinations for Unit Price Work</u> | xli |
| <u>10.07</u> | <u>Decisions on Requirements of Contract Documents and Acceptability of Work</u> | xli |
| <u>10.08</u> | <u>Limitations on Engineer’s Authority and Responsibilities</u> | xli |
| <u>10.09</u> | <u>Compliance with Safety Program</u> | xli |
| <u>Article 11 – Amending the Contract Documents; Changes in the Work</u> | | xli |
| <u>11.01</u> | <u>Amending and Supplementing Contract Documents</u> | xli |
| <u>11.02</u> | <u>Owner-Authorized Changes in the Work</u> | xlii |
| <u>11.03</u> | <u>Unauthorized Changes in the Work</u> | xlii |
| <u>11.04</u> | <u>Change of Contract Price</u> | xliii |
| <u>11.05</u> | <u>Change of Contract Times</u> | xliii |
| <u>11.06</u> | <u>Change Proposals</u> | xliv |
| <u>11.07</u> | <u>Execution of Change Orders</u> | 44 |
| <u>11.08</u> | <u>Notification to Surety</u> | 45 |
| <u>Article 12 – Claims</u> | | 45 |
| <u>12.01</u> | <u>Claims</u> | 45 |
| <u>Article 13 – Cost of the Work; Allowances; Unit Price Work</u> | | xlvi |
| <u>13.01</u> | <u>Cost of the Work</u> | 46 |
| <u>13.02</u> | <u>Allowances</u> | 48 |
| <u>13.03</u> | <u>Unit Price Work</u> | 48 |
| <u>Article 14 – Tests and Inspections; Correction, Removal or Acceptance of Defective Work</u> | | 49 |
| <u>14.01</u> | <u>Access to Work</u> | 49 |
| <u>14.02</u> | <u>Tests, Inspections, and Approvals</u> | 49 |
| <u>14.03</u> | <u>Defective Work</u> | l |
| <u>14.04</u> | <u>Acceptance of Defective Work</u> | l |
| <u>14.05</u> | <u>Uncovering Work</u> | l |

| | | |
|---|--|------|
| <u>14.06</u> | <u>Owner May Stop the Work</u> | li |
| <u>14.07</u> | <u>Owner May Correct Defective Work</u> | li |
| <u>Article 15 – Payments to Contractor; Set-Offs; Completion; Correction Period</u> | | li |
| <u>15.01</u> | <u>Progress Payments</u> | li |
| <u>15.02</u> | <u>Contractor’s Warranty of Title</u> | liv |
| <u>15.03</u> | <u>Substantial Completion</u> | liv |
| <u>15.04</u> | <u>Partial Use or Occupancy</u> | lv |
| <u>15.05</u> | <u>Final Inspection</u> | lv |
| <u>15.06</u> | <u>Final Payment</u> | 55 |
| <u>15.07</u> | <u>Waiver of Claims</u> | lvi |
| <u>15.08</u> | <u>Correction Period</u> | lvii |
| <u>Article 16 – Suspension of Work and Termination</u> | | lvii |
| <u>16.01</u> | <u>Owner May Suspend Work</u> | lvii |
| <u>16.02</u> | <u>Owner May Terminate for Cause</u> | lvii |
| <u>16.03</u> | <u>Owner May Terminate For Convenience</u> | 58 |
| <u>16.04</u> | <u>Contractor May Stop Work or Terminate</u> | 59 |
| <u>Article 17 – Final Resolution of Disputes</u> | | 59 |
| <u>17.01</u> | <u>Methods and Procedures</u> | 59 |
| <u>Article 18 – Miscellaneous</u> | | 59 |
| <u>18.01</u> | <u>Giving Notice</u> | 59 |
| <u>18.02</u> | <u>Computation of Times</u> | 59 |
| <u>18.03</u> | <u>Cumulative Remedies</u> | 60 |
| <u>18.04</u> | <u>Limitation of Damages</u> | 60 |
| <u>18.05</u> | <u>No Waiver</u> | 60 |
| <u>18.06</u> | <u>Survival of Obligations</u> | 60 |
| <u>18.07</u> | <u>Controlling Law</u> | 60 |
| <u>18.08</u> | <u>Headings</u> | 60 |

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 form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 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, or both; 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, or both; 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; or (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. A demand for money or services by a third party is not a Claim.
 11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); (d) the Toxic

- Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree 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 the 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. *Engineer*—The individual or entity named as such in the Agreement.
 21. *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.
 22. *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. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
 23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
 24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
 25. *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.
 26. *Notice of Award*—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
 27. *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.
 28. *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.
 29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.
 30. *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.

31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
33. *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.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
35. *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.
36. *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.
37. *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 furnished by Owner which are designated for the use of Contractor.
38. *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.
39. *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.
40. *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 thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to

Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.

45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *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.
48. *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 the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
 1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by 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:*
 1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
 1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. 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 15.04).
- E. *Furnish, Install, Perform, Provide:*
 1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 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. 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 Bonds and Evidence of Insurance

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor's Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner's Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 Copies of Documents

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed 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 specifically 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 Initial 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 for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall 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.
- 2.06 Electronic Transmittals
- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
 - B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
 - C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items 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 items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

- 3.01 Intent
- A. The Contract Documents are complementary; what is required by one 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 or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall 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.

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, shall mean 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, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, 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, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, 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 Documents 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 Documents 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 shall 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 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 thereunder.
- 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 give written notice to Owner and Contractor 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 editions, 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 shall preclude 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 thirtieth 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 sixtieth day after the day of Bid opening or the thirtieth 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 shall 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 shall 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 shall 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 the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the 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. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall 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 utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 - 4. acts of war or terrorism.
- D. 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.
- E. Paragraph 8.03 governs 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.

- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times 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.
- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 Availability of Lands

- A. Owner shall furnish the Site. Owner shall notify Contractor 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; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
 - 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, 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 at law; 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 shall 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 known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); 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 upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. 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; or
 - 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.

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 either:
 - 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; or
 - 2. is of such a nature as to require a change in the Drawings or Specifications; or
 - 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 the necessity of Owner's obtaining 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 above; 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. *Possible Price and Times Adjustments:*
 - 1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, 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 conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
 - 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; or
 - 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 as 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, or both, then any such adjustment shall 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, or both, 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.

5.05 Underground Facilities

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities,

- including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. 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 in the Contract Documents, or was not shown or indicated 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), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.
- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; 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 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. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, 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. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - 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;
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and

- d. 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, or both, then any such adjustment shall 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, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
- 5.06 Hazardous Environmental Conditions at Site
- A. *Reports and Drawings:* The Supplementary Conditions identify:
 1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. 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 Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. 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; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
 - C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
 - D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
 - E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner

- may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
 - G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, 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.
 - H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
 - I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or 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 shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
 - J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
 - K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 Performance, Payment, and Other Bonds

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall 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 Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.

- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, 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 shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. 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.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 Insurance—General Provisions

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements 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 and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements 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 and endorsements, and documentation of applicable self-insured

retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- E. 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, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of 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.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect 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 shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 Contractor's Insurance

- A. *Workers' Compensation*: Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).
 - 4. Foreign voluntary worker compensation (if applicable).
- B. *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:
 - 1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 - 2. claims for damages insured by reasonably available personal injury liability coverage.
 - 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content*: Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
 - 1. Products and completed operations coverage:
 - a. Such insurance shall 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, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.

3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. 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); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. 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.
- D. *Automobile liability*: Contractor shall purchase and maintain automobile liability insurance against claims 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 shall be written on an occurrence basis.
- E. *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. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance*: Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.
- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *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 shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
1. include at least the specific coverages provided in this Article.
 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.

4. remain in effect at least until final payment (and longer if expressly required in this Article) 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 Documents.
 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed 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.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 Owner's Liability Insurance

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. 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.

6.05 Property Insurance

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. 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 may be provided through other insurance policies acceptable to Owner and Contractor.
 3. 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.
4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).
 5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
 6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed 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.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- 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 notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* 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 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.
- 6.06 **Waiver of Rights**
- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers 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. 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 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 Subcontractors, all individuals or entities identified in the Supplementary Conditions as 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. None of the above waivers shall extend 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. 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:
 - 1. loss 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 perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner 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.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work 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 any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 Receipt and Application of Property Insurance Proceeds

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 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 6.05 shall 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, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES

7.01 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. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.02 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 at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, 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.

7.03 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 shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by 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 shall 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.

7.04 “Or Equals”

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the 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 material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an “or equal” item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:

- a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
- b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it 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 shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request*: If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 Substitutes

- A. Unless the specification or description of an item of material or equipment 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 material or equipment under the circumstances described below. To the extent possible such requests shall 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 material or equipment from anyone other than Contractor.
 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.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 material or equipment that Contractor seeks to furnish or use. The application:
 - a. shall 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 that specified, and
 - 3) be suited to the same use as that 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 that specified, and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. shall 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 shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.
- 7.06 Concerning Subcontractors, Suppliers, and Others
- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
 - B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities 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, Supplier, or other individual or entity 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 five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. 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, Suppliers, or other individuals or entities 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, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, 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, Supplier, or other individual or entity, whether initially or as a replacement, shall 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 fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.
- O. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
 - 2. shall create 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.

7.07 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 a particular invention, design, process, product, or device is specified in the Contract Documents for use in the

performance of the Work and if, to the actual knowledge of Owner or 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 shall be disclosed by Owner 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.

7.08 Permits

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of 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

7.09 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.

7.10 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. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give 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 notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 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.

7.12 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. 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.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when 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.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. 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.
- E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor 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).
- F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

- G. Contractor's duties and responsibilities for safety and protection shall 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.
- 7.13 Safety Representative
 - A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.
- 7.14 Hazard Communication Programs
 - A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.
- 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 threatened 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 thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.
- 7.16 Shop Drawings, Samples, and Other Submittals
 - A. *Shop Drawing and Sample Submittal Requirements:*
 - 1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified 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
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
 - 2. Each submittal shall 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 submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.
 - B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.
 - 1. *Shop Drawings:*
 - a. Contractor shall submit the number of copies required in the Specifications.
 - b. Data shown on the Shop Drawings will 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.D.
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.D.
 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. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- D. *Engineer's Review:*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. 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, conform to the information given in 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 shall 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.
 5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 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, shall 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, Sample, or other submittal shall 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.D.4.
- E. *Resubmittal Procedures:*
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 submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.

3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

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 and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 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. any inspection, test, or approval by others; or
 8. any correction of defective Work by Owner.
- D. 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 shall 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 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 performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury 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 shall 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.

- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 Delegation of Professional Design Services

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

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 utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and

storage of materials and equipment and the execution of such other work. 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.

- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, 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.

8.02 Coordination

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 Legal Relationships

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner for whom the Owner is responsible 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, or both. 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 shall 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. When applicable, any such equitable adjustment in Contract Price shall 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 is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- 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. 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 to 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.
- C. 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 to Contractor.

- D. 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 shall 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 Documents (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 10.08. 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 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 Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.
- 10.04 Rejecting Defective Work
 - A. Engineer has the authority to reject Work in accordance with Article 14.

- 10.05 Shop Drawings, Change Orders and Payments
- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
 - B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
 - C. Engineer's authority as to Change Orders is set forth in Article 11.
 - D. Engineer's authority as to Applications for Payment is set forth in Article 15.
- 10.06 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.
- 10.07 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.
- 10.08 Limitations on Engineer's Authority and Responsibilities
- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
 - B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
 - C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
 - D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
 - E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.
- 10.09 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 (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

- 11.01 Amending and Supplementing Contract Documents
- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.

1. Change Orders:
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
2. Work Change Directives: 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 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.
3. Field Orders: 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. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 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. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes 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 shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate 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.

11.03 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.

11.04 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 shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall 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); or
 - 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 11.04.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 11.04.C).
- C. Contractor's Fee: When applicable, the Contractor's fee for overhead and profit shall 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 shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five 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 11.04.C.2.a and 11.04.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.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 five 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 shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
 - d. no fee shall 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 will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 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 shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 Change Proposals

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.
 - 1. Procedures: Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. 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. The supporting data shall 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. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 - 2. Engineer's Action: Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall 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.
 - 3. Binding Decision: Engineer's decision will be 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 that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 Execution of Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 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 11.02, (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 in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 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 shall be submitted 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; and
 - 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.
- 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 shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall be incorporated in a Change Order 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. 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 shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall 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. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
 - 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 - 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of 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 shall 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 for services specifically related to the Work.
5. Supplemental costs including 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, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - 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 property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
 - 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 shall not include any of the following items:
 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, 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. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 5. 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: When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.
- E. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

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 on account of any of the foregoing will be valid.
- C. Contingency Allowance: Contractor agrees that a 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 on account of Work covered by allowances, and the Contract Price shall 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, subject to the provisions of the following paragraph.

- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 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 will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

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 shall 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 shall 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 shall 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 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 shall 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, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, 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 shall 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 rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven 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 on account of 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 shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, 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 shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
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, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, 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 on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of 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 that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated 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;
 - l. there are other items entitling 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 shall 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 shall be treated as an amount due as determined by Paragraph 15.01.C.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 seven days after the time of payment by Owner.

15.03 Substantial Completion

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall 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 seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial

Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 Partial Use or Occupancy

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 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 6.05 regarding builder's risk or other property insurance.

15.05 Final Inspection

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 Final Payment

- A. Application for Payment:
 - 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall 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 disputes that Contractor believes are unsettled; 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 Application and Acceptance:

1. 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 ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall 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. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. 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. 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.

D. Payment Becomes Due: Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 Waiver of Claims

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 Correction Period

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then 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 other adjacent areas;
 - 2. correct such defective Work;
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 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 therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or 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).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. 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.
- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not 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, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall 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) ten 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) 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 seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
 - E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
 - F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
 - G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.
- 16.03 Owner May Terminate For Convenience
- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
 - B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, 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 seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 Methods and Procedures

- A. Disputes Subject to Final Resolution: The following disputed matters are subject to final resolution under the provisions of this Article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising 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; or
 - 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 Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

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 shall not constitute a waiver of that provision, nor shall 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 or completion of the Contract or termination 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 Headings

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

END OF DOCUMENT 00700 – GENERAL CONDITIONS

DOCUMENT 00800 – SUPPLEMENTARY CONDITIONS

GENERAL

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC® C-700 (2013 Edition). All provisions that are not so amended or supplemented remain in full force and effect.

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.

ARTICLE 2 – PRELIMINARY MATTERS

2.02 Copies of Documents

Delete Paragraph 2.02.A in its entirety and insert the following in its place.

- A. Owner shall furnish to Contractor one printed copy of the Contract including one fully executed counterpart of the Agreement. An electronic portable document format (PDF) may be requested by Contractor.

2.03 Before Starting Construction

Delete Paragraph 2.03 in its entirety.

2.04 Preconstruction Conference; Designation of Authorized Representatives

Delete Paragraph 2.04.A in its entirety and insert the following in its place:

- 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, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.

2.05 Initial Acceptance of Schedules

Delete Paragraph 2.05 in its entirety.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.04 Requirements of the Contract Documents

Delete Paragraph 3.04.C in its entirety and insert the following:

- 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 give written notice to Owner and Contractor 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 FDOT Section 5-12 Claims by Contractor.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 Commencement of Contract Times; Notice to Proceed

Delete Paragraph 4.01.A in its entirety and insert the following in its place.

- A. The Contract Times will commence to run on the thirtieth 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 one hundred twenty-fifth (125th) day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.02 Use of Site and Other Areas

Delete Paragraph 5.02.A.2 in its entirety and insert the following:

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, 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 mediation, or at law; and (c) 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 mediation 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.

5.03 Subsurface and Physical Conditions

Delete Paragraphs 5.03.A and 5.03.B in their entirety and insert the following:

- A. The report of explorations or tests of subsurface conditions at or adjacent to the Site, I.E., the Geotechnical Report, is attached to the Project Manual as Appendix B. No drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

5.06 Hazardous Environmental Conditions

Delete Paragraphs 5.06.B and 5.06.I in their entirety.

Delete Paragraphs 5.06.A and 5.06.J in their entirety and insert the following:

- A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.
- J. 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 mediation 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

shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

ARTICLE 6 – BONDS AND INSURANCE

6.03 Performance, Payment and Other Bonds

Add the following paragraph immediately after Paragraph 6.01.C:

- 1. All bonds shall be written by a surety with no less than an "A" rating by national rating agency. All sureties must be on the U.S. Department of Treasury's Listing of Approved Sureties (Department Circular 570) and bonds must be within the Treasury's underwriting limitation.

6.02 Insurance – General Requirements

Delete Paragraph 6.02.B in its entirety and insert the following:

- B. All insurance required by the Contract to be purchased and maintained by OWNER and 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. All companies that provide insurance policies required under this CONTRACT shall have a minimum A+, Class X or higher in the Bests Key Rating Guide.

Add the following new paragraphs immediately after Paragraph 6.02.J:

- K. Where applicable, Okaloosa County Board of County Commissioners shall be shown as an Additional Insured on all applicable insurance policies except Workers Compensation Insurance.
- L. Where applicable, a waiver of subrogation should be included on all Workers Compensation Insurance policies.

6.03 Contractor's Insurance

Add the following new paragraph immediately after Paragraph 6.03.J:

- K. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

- 1. Workers' Compensation, and related coverages under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

| | |
|--|------------------|
| State: | Statutory _____ |
| Federal, if applicable (e.g., Longshoreman's): | Statutory _____ |
| Employer's Liability: | |
| Bodily injury, each accident | \$ 500,000 _____ |
| Bodily injury by disease, each employee | \$ 500,000 _____ |
| Bodily injury/disease aggregate | \$ 500,000 _____ |

- 2. Contractor's Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:

| | |
|---|--------------------|
| General Aggregate | \$ 1,000,000 _____ |
| Products - Completed Operations Aggregate | \$ 1,000,000 _____ |
| Personal and Advertising Injury | \$ 1,000,000 _____ |
| Each Occurrence (Bodily Injury and Property Damage) | \$ 1,000,000 _____ |

3. Automobile Liability under Paragraph 6.03.D. of the General Conditions:

Bodily Injury:

Each person \$ 1,000,000

Each accident \$ 1,000,000

Property Damage:

Each accident \$ 500,000

[or]

Combined Single Limit of \$ 1,000,000

Additional Insureds: In addition to Owner (Okaloosa County Board of County Commissioners) include as additional insureds the following: Poly, Inc.

4. Contractor's Pollution under Paragraph 6.03.F of the General Conditions

Each Occurrence \$ Not Required

General Aggregate \$ Not Required

5. Contractor's Professional Liability under Paragraph 6.03.H of the General Conditions

Each Occurrence \$ Not Required

Annual Aggregate \$ Not Required

Delete Paragraph 6.03.C.1 in its entirety and insert the following in its place:

1. Products and completed operations coverage:

a. Such insurance shall be maintained for two years after final payment.

Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence continuation of such insurance at final payment and two years thereafter.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.02 Labor; Working Hours

Delete Paragraph 7.02 B. in its entirety and insert the following:

B. 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.

7.07 Patent Fees and Royalties

Delete Paragraphs 7.07.B and C in their entirety and replace with the following:

C. 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 mediation 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.

7.10 Laws and Regulations

Delete Paragraph 7.10.B in its entirety and replace with the following:

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

7.18 Indemnification

Delete Paragraph 7.18.A in its entirety and insert the following:

Contractor shall indemnify and hold harmless the Owner and the design 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 mediation or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury 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.

ARTICLE 8 – OTHER WORK AT THE SITE

8.03 Legal Relationships

Delete Paragraph 8.03.D in its entirety and insert the following:

- D. 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 (both Design and CEI), 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 mediation 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 mediation or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 10 – ENGINEER’S STATUS DURING CONSTRUCTION

10.03 Project Representative

Add the following new paragraphs immediately after Paragraph 10.03.A:

- B. The Resident Project Representative (RPR) will be Engineer's representative at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions.
 - 1. General: RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner only with the knowledge of and under the direction of Engineer.
 - 2. Schedules: Review the progress schedule, schedule of Shop Drawing and Sample submittals, and Schedule of Values prepared by Contractor and consult with Engineer concerning acceptability.
 - 3. Conferences and Meetings: Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings, and prepare and circulate copies of minutes thereof.
 - 4. 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 proper execution of the Work.
 - 5. Interpretation of Contract Documents: Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
 - 6. Shop Drawings and Samples:
 - a. Record date of receipt of Samples and Contractor-approved Shop Drawings.
 - b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.
 - c. Advise Engineer and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which RPR believes that the submittal has not been approved by Engineer.
 - 7. Modifications: Consider and evaluate Contractor’s suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR’s recommendations, if any, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.
 - 8. Review of Work and Rejection of Defective Work:
 - a. Conduct on-Site observations of Contractor’s work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Report to Engineer whenever RPR believes that any part of Contractor’s work in progress is defective, will not produce a completed Project that conforms generally to the Contract Documents, or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be

- corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
9. Tests, and System Start-ups:
 - a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.
 - b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.
 10. Records:
 - a. Prepare a daily report or keep a diary or log book, recording Contractor's hours on the Site, Subcontractors present at the Site, weather conditions, data relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, deliveries of equipment or materials, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer.
 - b. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.
 - c. Maintain records for use in preparing Project documentation.
 11. Reports:
 - a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the Progress Schedule and schedule of Shop Drawing and Sample submittals.
 - b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
 - c. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, force majeure or delay events, damage to property by fire or other causes, or the discovery of any Constituent of Concern or Hazardous Environmental Condition.
 12. Payment Requests: Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the Schedule of Values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.
 13. Certificates, Operation and Maintenance Manuals: During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Contract Documents to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.
 14. Completion:
 - a. Participate in Engineer's visits to the Site to determine Substantial Completion, assist in the determination of Substantial Completion and the preparation of a punch list of items to be completed or corrected.
 - b. Participate in Engineer's final visit to the Site to determine completion of the Work, in the company of Owner and Contractor, and prepare a final punch list of items to be completed and deficiencies to be remedied.
 - c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the notice of acceptability of the work.

- C. The RPR shall 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 Contractor's work.
 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. Accept Shop Drawing or Sample submittals from anyone other than Contractor.
 8. Authorize Owner to occupy the Project in whole or in part.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

Delete Paragraph 15.01.B.1 in its entirety and insert the following in its place:

- B. Applications for Payment
1. Application for payment shall generally be submitted on a monthly basis (no more than once per 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 shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

Delete Paragraph 15.01.C.1 in its entirety and insert the following in its place:

- C. Review of Application
1. Engineer will within 5 business 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.

15.03 Substantial Completion

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, shall 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 Article 15.

15.08 Correction Period

Delete Paragraph 15.08.B in its entirety and insert the following in its place:

- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or mediation 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)

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.04 Contractor May Stop Work or Terminate

Delete Paragraphs 16.04.A and 16.04.B in their entirety and insert the following in their place:

- 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 60 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 60 days to pay Contractor any sum finally determined to be due, Contractor may, seven 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 18 – MISCELLANEOUS

18.07 Controlling Law

Delete paragraph 18.07.A in its entirety and replace the following in its place:

- A. This Contract shall be interpreted in accordance with the laws of the State of Florida without regard to its principles of conflicts of laws. The parties agree that venue for any legal proceedings arising out of this Contract shall be in the state courts of Okaloosa County, Florida.

Add the following two sub articles to Article 18.

18.09 Coordination of Contract Documents

- A. The following documents are integral parts of the Contract; a requirement occurring in one is as binding as though occurring in all. All parts of the Contract are complementary and describe and provide for a complete Work. In addition to the work and materials specified in the Standard Specifications as being included in any specific pay item, include in such pay items additional, incidental work not specifically mentioned, when so shown in the plans, or if indicated, or obvious and apparent, as being necessary for the proper completion of the Work under such pay item and not stipulated as being covered under other pay items.

-
- B. In cases of discrepancy, the governing order of the documents is as follows:
1. Modifications issued after the execution of the Agreement
 2. Agreement between Owner & Contractor for Construction Contract
 3. Addenda issued after the Bid Specifications were advertised to potential Bidders
 4. Supplementary Conditions
 5. FDOT Standard Specifications for Road & Bridge Construction, Latest Edition
 6. EJCDC General Conditions, 2013 Edition
 7. Technical Specifications
 8. Construction Drawings
 9. Computed dimensions govern over scaled dimensions
- 18.10 Construction Closeout Requirements to County
- A. Immediately after being notified by the Engineer that all other requirements of the Agreement have been completed Contractor shall complete the following items
1. Signed Release of Liens;
 2. Certificate of Insurance for two year period, letter from Contractor stating Certificate of Insurance will be maintained for two (2) years;
 3. Certifications from Surety that Payment/Performance Bond shall remain in effect one year following final payment;
 4. Consent of Surety for Final Payment;
 5. Final Invoice with Engineer's Recommendation, final payment of this Contract shall be made within sixty (60) days after completion by the Contractor of all Work covered by the Agreement and acceptance of such Work by the County;
 6. Record (As-Built) Drawing

END OF DOCUMENT 00800 – SUPPLEMENTARY CONDITION

DOCUMENT 00810 – SPECIAL CONDITIONS

ARTICLE 1 – DUTIES OF CONTRACTOR

- 1.03 The Contractor shall be required to post the property. The sign, meeting the following requirements, shall be posted on the property.
- A. The sign must be prominently placed on the development site and shall not be located further than five feet from the adjacent right-of-way. The required content of the sign shall be legible as viewed from the adjacent right-of-way.
 - B. Such sign shall be not larger than 18 inches by 24 inches and not smaller than 16 inches by ten inches in size.
 - C. The sign must clearly indicate the name, and 24 hours a day, seven days a week emergency contact phone number of the responsible party for said development site.
 - D. The sign must be continuously on the property of the development site and shall be removed from said property within five working days after the issuance of Certificate of Completion.

DOCUMENT 01010 – SUMMARY OF WORK

PART 1 - GENERAL

1.01 Work Covered by the Contract Documents

- A. The project intent is to construct a new water booster station on Okaloosa Island
- B. The WORK covered by the CONTRACT Documents include the construction of the new water booster station including CMU building with ramp and retaining wall, three close-coupled vertical pumps, piping, valves, flowmeter, sodium hypochlorite disinfection system, controls, electrical including a generator set (generator, ATS and HVAC supplied by Owner, installed by Contractor) and sitework, along with two control valve assemblies at the east and west Island elevated tanks, and other WORK as shown on the construction drawings and described in the specifications.

1.02 Work Sequence

- A. The sheet pilings shall be installed first and following that the work sequence will be determined by the CONTRACTOR.

1.03 Contractor's Use of Premises

- A. The CONTRACTOR may use a portion of the site controlled by the Owner for parking and storage. Use of any portion of the site controlled by the Owner shall be coordinated with the Owner and shall not interfere with Owners normal operations.
- B. CONTRACTOR shall assume full responsibility for safety at the work site for all workers and visitors.
- C. The CONTRACTOR shall send proper notices, make all necessary arrangements, and perform all services required in the care and maintenance of all OWNER and public utilities within the construction limits.

PART 2 - PRODUCTS OMITTED

PART 3 - EXECUTION OMITTED

END OF DOCUMENT 01010 – SUMMARY OF WORK

DOCUMENT 01040 – PROJECT COORDINATION

PART 1 - GENERAL

1.01 Related Documents

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

1.02 Summary

- A. This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:
 - 1. Coordination.
 - 2. Administrative and supervisory personnel.
 - 3. General installation provisions.
 - 4. Cleaning and protection.

1.03 Coordination

- A. Coordination: Coordinate construction activities included under various sections of these Specifications to assure efficient and orderly installation of each part of the WORK. Coordinate construction operations included under different sections of the Specifications that are dependent upon each other for proper installation, connection, and operation.
 - 1. Where installation of one part of the WORK is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.
 - 2. Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
 - 1. Prepare similar memoranda for the OWNER and separate CONTRACTORS where coordination of their WORK is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the WORK. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of schedules.
 - 2. Installation and removal of temporary facilities.
 - 3. Delivery and processing of submittals.
 - 4. Progress meetings.
 - 5. Project Close-out activities.

1.04 Submittal

- A. Coordination Drawings: Prepare and submit coordination Drawings where close and careful coordination is required for installation of products and materials fabricated off-site by separate entities, and where limited space availability necessitates maximum utilization of space for efficient installation of different components.
 - 1. Show the interrelationship of components shown on separate Shop Drawings.
 - 2. Indicate required installation sequences.
 - 3. Comply with requirements contained in Section 00700 Article 7.16

- B. Staff Names: Within 15 days of Notice to Proceed, submit a list of the CONTRACTOR's principal staff assignments, including the Superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses and telephone numbers.

PART 2 - PRODUCTS OMITTED

PART 3 - EXECUTION

3.01 General Installation Provisions

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which WORK is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Manufacturer's Instructions: Comply with manufacturer's written installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.
- C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- D. Provide attachment and connection devices and methods necessary for securing WORK. Secure WORK true to line and level. Allow for expansion and building movement.
- E. Visual Effects: Provide uniform joint widths in exposed WORK. Arrange joints in exposed WORK to obtain the best visual effect. Refer questionable choices to the Architect for final decision.
- F. Recheck measurements and dimensions, before starting each installation.
- G. Install each component during weather conditions and Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.
- H. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.
- I. Mounting Heights: Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the Architect for final decision.

3.02 Cleaning and Protection

- A. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- B. Clean and maintain completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- C. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:
 - 1. Excessive static or dynamic loading
 - 2. Excessive internal or external pressures
 - 3. Excessively high or low temperatures
 - 4. Thermal shock
 - 5. Excessively high or low humidity
 - 6. Air contamination or pollution
 - 7. Water
 - 8. Solvents
 - 9. Chemicals

10. Puncture
11. Abrasion
12. Heavy traffic
13. Soiling, staining and corrosion
14. Bacteria
15. Rodent and insect infestation
16. Combustion
17. Electrical current
18. Improper lubrication
19. Unusual wear or other misuse
20. Contact between incompatible materials
21. Misalignment
22. Excessive weathering
23. Unprotected storage
24. Improper shipping or handling
25. Theft
26. Vandalism

END OF DOCUMENT 01040 – PROJECT COORDINATION

DOCUMENT 01350 – WARRANTIES AND MANUALS

PART 1 – GENERAL

1.01 Warranties

- A. The CONTRACTOR shall provide a warranty on all materials and workmanship for at least one (1) year (min.) from the date of Substantial Completion as per the General Conditions.
- B. Additional Warranties apply to individual products, materials and / or assemblies; refer to each of the respective Specification sections to obtain the minimum required warranty information.

1.02 Operation Manuals

- A. The CONTRACTOR shall file (in one place) all operation, maintenance or other manuals received with equipment and upon completion of project, they must be presented to the OWNER with a notification, in writing, to the ENGINEER that this has been accomplished.

PART 2 - PRODUCTS OMITTED

PART 3 - EXECUTION OMITTED

END OF DOCUMENT 01350 – WARRANTIES AND MANUALS

DOCUMENT 01500 – TEMPORARY FACILITIES

PART 1 – GENERAL

1.01 Temporary Storage and Office

- A. The CONTRACTOR shall provide for his own use at project site, such storage and office space as deemed necessary.
- B. Provide Construction barriers and /or barricades, locations will be coordinated with the OWNER's Representative on the site, before installation.
- C. Trailers and sheds as necessary shall be located with-in the construction barriers, and only with the ENGINEER's and OWNER's approval.

1.02 Use Charges

- A. Usage charges for temporary services of facilities are not chargeable to the Owner or the ENGINEER.

1.03 Regulations

- A. Comply with requirements of local laws and regulations governing construction and local industry standards, in the installation of temporary services and facilities.

1.04 Standards

- A. Comply with the requirements of NFPA Code 241, "Building Construction and Demolition Operations", the ANSI-AIO Series standards for "Safety Requirements for Construction and Demolition", and the NECA National Joint Guideline NJG-6 "Temporary Job Utilities and Services".

1.05 Inspections

- A. Inspect and test each service before placing temporary utilities in use. Arrange for inspections and tests by governing authorities, and obtain certifications and permits for use.

1.06 Submittals

- A. Submit copies of reports and permits required or necessary for the installation and operation; including any reports of tests, inspections and / or permits necessary for installation, use and operation of the temporary facilities.

1.07 Temporary Services

- A. Toilet Facilities
 - 1. The CONTRACTOR shall provide temporary, on-site toilet facilities for the duration of construction. Cleaning shall conducted in accordance with 2.07.
- B. General Utilities
 - 1. Water: The CONTRACTOR shall pay and provide for water needed for the Project during Construction.
 - 2. Power: The CONTRACTOR shall pay for electricity used for the Project during the Construction. CONTRACTOR shall coordinate with Florida Power and Light for connection.
 - a. Comply with applicable requirements of NEMA, NECA and UL standards and governing regulations. Install temporary lighting of adequate illumination levels to perform the WORK specified as needed.
 - b. Comply with NECA pertaining to installation of temporary wiring service and grounding. Provide transformers, and over current protective devices at main distribution panel for power and light circuitry.

Provide disconnects for equipment circuits.

1.08 Protection of Occupants

- A. Provide all warning signs, temporary fencing, barricades, supports, partitions, etc. as required to provide protection to the occupants, and to exclude unauthorized persons from the WORK areas.
- B. Comply with recognized standards and code requirements for erection of barricades where needed to prevent accidents. Paint with appropriate colors and warning signs to inform personnel at the site and the public of the hazard being protected against. Provide lighting where needed, including flashing red lights where appropriate.

1.09 Lifting Devices and Hoisting

- A. Provide cranes, hoists, towers and other lifting devices necessary for the proper and efficient movement of materials; provide operating personnel for equipment as required. Equipment shall be provided with proper guys, bracing and other safety devices as required by Local or State codes.
- B. Remove towers and hoisting equipment when they are no longer needed, or as directed by the Architect.

1.10 First Aid Supplies

- A. Comply with governing regulations and recognized recommendations within the construction industry.

1.11 Rodent and Pest Control

- A. The CONTRACTOR shall retain a local exterminator and/or pest control company to perform extermination and control procedures at regular intervals so that the project will be relatively free of pests and their residues at all times during the construction project.
- B. Any pest control operations will be done in a lawful manner using environmentally safe materials.

1.12 Collection and Disposal of Waste

- A. Establish a system for collection and disposal of waste materials. Enforce requirements strictly. Do not hold collected materials longer than seven (7) days during normal weather or three (3) days when the daily temperature is expected to rise above 80 degrees F. (27 degrees C).
- B. Handle waste materials that are hazardous, dangerous, or unsanitary separately from other waste by containerizing.
- C. Dispose of all waste material in a lawful manner.

1.13 Site Drainage

- A. Utilize the existing facilities for temporary drainage where feasible.
- B. Maintain the existing site, existing building and construction areas free of water.
- C. Dispose of rainwater in a lawful manner which will not result in flooding in project, nor endanger either existing or new WORK or temporary facilities.
- D. Take necessary measures to prevent erosion.

1.14 Environmental Protection

- A. Conduct all construction activities, by means and methods that comply with any and all environmental regulations, to minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result from the performance of WORK at the site.

1.15 General Protection

- A. Provide protection from damage, dust, etc. to all items in vicinity of the CONTRACT WORK including, but not limited to, existing building surfaces, finishes, items of equipment, utilities, etc. The CONTRACTOR will repair any new damage caused and / or created due to this construction project, to Owner's satisfaction at no additional cost to Owner. (Non-Construction related damage would be exempt from this clause)

PART 2 – PRODUCTS OMITTED

PART 3 - EXECUTION

3.01 General Operations

- A. Supervision: Limit the availability of temporary services and facilities to essential and intended uses to minimize waste and abuse.
 - 1. Do not permit temporary installation to be abused or endangered.
- B. Maintenance: Operate and maintain temporary services and facilities in good operating condition and in a safe and efficient manner until removal is authorized.
 - 1. Do not overload services or facilities.
 - 2. Protect from damage by freezing temperatures and/or similar elements.
 - 3. Do not allow unsanitary and/or hazardous conditions to develop or persist on site.
- C. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24-hour basis where required to achieve indicated results and avoid the possibility of damage to the WORK or to temporary facilities.

3.02 General Removal

- A. Remove each temporary service and facility promptly when need has ended, or when it is replaced by use of a permanent facility, but no later than Substantial Completion.
- B. Complete or, if necessary, restore permanent WORK delayed because of interference with the temporary service or facility.
- C. Repair all damaged WORK, clean exposed surfaces and replace any WORK which cannot be repaired.
- D. Clean and renovate any permanent services and/or facilities that may have been used to provide a temporary service and/or facilities during the construction period.

END OF DOCUMENT 01500 – TEMPORARY FACILITIES

DOCUMENT 01700 – PROJECT CLOSE-OUT

PART 1 - GENERAL

1.01 Related Documents

- A. Drawings and general provisions of Contract, including General and Supplementary General Conditions and other Division-0 Specification sections, apply to the WORK of this section.

1.02 Description of Requirements

- A. Definitions: Close-out is hereby defined to include general requirements near end of the Contract Time, in preparation for final acceptance, final payment and normal termination of contract.
- B. Specific requirements for individual units of WORK are specified in sections of Division 0 through 16. Time of close-out is directly related to the "Substantial Completion", and must be a single time period for entire WORK.

1.03 Prerequisites to Substantial Completion

- A. General: Prior to requesting the ENGINEER's inspection for certification of Substantial Completion, complete the following and list any known exceptions (if any) in request.
 - 1. The in progress payment request will coincident with or first following date claimed, show either 100% completion for portion of WORK claimed as "Substantially Complete", or list incomplete items, value of incompleteness, and reasons for the items being incomplete.
 - 2. Include any supporting documentation required for completion as indicated in these Contract Documents.
 - 3. Submit statement showing accounting of any changes to the Contract Sum.
 - 4. Contractor shall notify and advise the OWNER of any pending insurance change over requirements.
 - 5. Submit specific warranties, workmanship / maintenance bonds, maintenance agreements, final certifications and similar documents.
 - 6. Obtain and submit releases enabling OWNER's full and unrestricted use of the WORK and access to services and utilities, including, where required, Occupancy Permits, operating certificates, and similar releases.
 - 7. Deliver tools, spare parts, extra stocks of materials, and similar physical items to the OWNER.
 - 8. Complete the start-up testing of the systems, and deliver the instructions of the operating systems to the OWNER and / or maintenance personnel. Discontinue (or change over) and remove from project site all temporary facilities and services, along with any construction tools and facilities, mock-ups, and similar elements.
 - 9. Complete the final cleaning up requirements, including the touch-up of any marred surfaces as required.
 - 10. Touch-up and otherwise repair and restore marred exposed finishes.

1.04 Inspection Procedures

- A. Upon the receipt of the Contractor's request. The Engineer of Record will either proceed with the inspection or advise the Contractor of any prerequisites not fulfilled.
- B. Following the initial inspection the Engineer of Record will either prepare a Certificate of Substantial Completion, or advise the Contractor of WORK that must be performed prior to the issuance of the certificate; and repeat the inspection when requested and assured that WORK has been substantially completed.

- C. The Engineer shall prepare a type written "punch-list" of items to be completed and attach it to the Substantial Completion Form. Results of the completed inspection will form initial "punch-list" for the final acceptance.

1.05 Prerequisites to Final Acceptance

- A. General: Prior to requesting the ENGINEER's final construction review for certification of final acceptance and final payment, as required by General Conditions, complete the following and list any known exceptions (if any) in request:
 - 1. Submit final payment request with final releases and supporting documentation not previously submitted and/or accepted. Include certificates of insurance for products and completed operations where required.
 - 2. Submit updated final statement, accounting for additional (final) changes to Contract Sum.
 - 3. Submit a certified copy of ENGINEER's "final punch-list" of itemized WORK to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by the ENGINEER.
 - 4. Submit Consent of Surety.
 - 5. Submit Certified and Notarized Lien Release stating that all parties have been or will be paid (showing amounts).
 - 6. Submit final liquidated damages settlement statement, acceptable to OWNER.
 - 7. Revise and submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Review Procedure: Upon receipt of Contractor's notice that WORK has been completed, including punch-list items resulting from earlier construction reviews, and excepting incomplete items delayed because of acceptable circumstances. The ENGINEER will re-inspect the WORK.
- C. Upon completion of review, the ENGINEER will either prepare the Certificate of Final Acceptance or advise the Contractor of WORK not completed or of obligations not fulfilled as required for final acceptance.
- D. If necessary, procedure will be repeated.

1.06 Equipment Close-out

- A. General Operating / Maintenance Instructions: Arrange for each installer of the WORK that requires a continuing maintenance or operation, to meet with OWNER's personnel, at the project site, to provide basic instructions needed for the proper operation and any type of equipment maintenance.
 - 1. Include instructions by manufacturer's representatives where installers are not experts in the required procedures.
 - 2. Review maintenance manuals, record documentation, tools, spare parts and materials, lubricants, fuels, identification system, control sequences, hazards, cleaning and similar procedures and facilities.
 - 3. For operational equipment, demonstrate start-up, shut-down, emergency operations, noise and vibration adjustments, safety, economy /efficiency adjustments, and similar operations.
 - 4. Review maintenance and operations in relation with applicable warranties, agreements to maintain, bonds, and similar continuing commitments

1.07 Final Cleaning

- A. For any special cleaning requirements for the specific units of WORK, would be specified in individual sections, of Divisions 2 through 16.
- B. General cleaning during the progress of WORK is specified in General Conditions and as temporary services in "Temporary Facilities" section of this Division.

- C. Provide final cleaning of the WORK, at time indicated, consisting of cleaning each surface or unit of WORK to normal "clean" condition as expected for a first-class building cleaning and maintenance program.
- D. Comply with the manufacturer's instructions for cleaning operations. The following are examples, but not by way of limitation, of cleaning levels required:
 - 1. Remove labels which are not required as permanent labels.
 - 2. Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing any substances which are noticeable as a vision obscuring material. Replace broken glass and all damaged transparent materials.
 - 3. Clean all exposed exterior and interior hard-surfaced finishes, to a dirt-free condition, free of dust, stains, films and similar noticeable distracting substances. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces. Restore reflective surfaces to the original reflective condition.
 - 4. Wipe surfaces of mechanical and electrical equipment clean; remove any excess lubrication and other substances.
 - 5. Remove debris and surface dust from limited-access spaces including roofs, plenums, shafts, attics and similar spaces.
 - 6. Clean all light fixtures and lamps so as to function with full efficiency.
 - 7. Clean the project site (within limits of construction), including landscape areas, of litter and foreign substances. Sweep paved areas to a broom-clean condition; remove stains, petro-chemical spills and other foreign deposits.
- E. Removal of Protection: Except as otherwise indicated or requested by the ENGINEER and / or OWNER. Remove all temporary protection devices and facilities.
- F. Comply with safety standards and governing regulations for the cleaning operations. Do not burn waste materials at site, or bury any debris or excess materials on the OWNER's property, or discharge volatile or other harmful or dangerous materials into the drainage systems. Remove all waste materials from site and dispose of in a lawful manner.
- G. When extra materials are remaining after the completion of associated WORK, which have become the OWNER's property, dispose of these to OWNER's best advantage as directed.

END OF DOCUMENT 01700 – PROJECT CLOSE-OUT

DOCUMENT 01750 – RECORD DOCUMENTS

PART 1 – GENERAL

1.01 Related Documents

- A. Drawings and general provisions of CONTRACT, including General and Supplementary General Conditions and other Division-0 Specification sections, apply to the WORK of this section.

1.02 Summary

- A. Section includes administrative and procedural requirements for the record set of documents, including the following;
 - 1. Record Set of Drawings.
 - 2. Record Set of Specifications.
- B. Related Sections:
 - 1. Section 01700 - Project Close-Out.

1.03 Record Document Submittal

- A. Submit the following copies of the Record Documents during or prior to the Project Close-out:
 - 1. Provide one complete full size color copies, of the "marked-up" record set of drawings.
 - 2. Provide one complete "marked-up" record set of specifications.
- B. Copies are to be distributed, one of each type to the OWNER.

1.04 Use and Storage

- A. Store the Record Documents in the field office apart from the documents used for the construction. Do not use the Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition. Make all documents and samples available at all times for the OWNER, ENGINEERS and / or Building Inspectors as needed.
- B. Each CONTRACTOR is responsible for obtaining, recording, and maintaining the Record Documents information for its own WORK. The CONTRACTOR is responsible for coordinating the information, where information from more than one CONTRACTOR is to be integrated with the information from other CONTRACTORS to form one combined record.

1.05 Record Drawings

- A. Mark the Record Drawings to show the actual installation where the locations vary from the installation locations shown originally. Give particular attention to information on the concealed elements that would be difficult to identify or measure and record later. Items required to be marked include, but are not limited to, the following:
 - 1. Measured horizontal and vertical locations of underground utilities and other appurtenances, referenced to permanent surface improvements.
 - 2. Locations of concealed internal utilities and appurtenances.
 - 3. Actual equipment locations.
 - 4. Revisions to routing of piping and conduits.
 - 5. Duct size and routing.
 - 6. Depths of foundations below the first floor.
 - 7. Revisions to electrical circuitry.
 - 8. Dimensional changes to the Drawings.
 - 9. Revisions to details on the Drawings.
 - 10. Details not on the original CONTRACT Drawings.
 - 11. Changes made following the OWNER's written orders.

12. Changes made by Addendum, Change Orders, Requests for Information (RFIs), or ENGINEER's Supplemental Instructions (ASIs).
- B. Mark the Record Drawings and Shop Drawings completely and accurately. Utilize personnel proficient at recording graphic information in the production of the marked-up Record Documents.

1.06 Record Specifications

- A. Mark the Record Specifications to show Addendums, Change Orders, Requests for Information (RFIs), or ENGINEER's Supplemental Instructions (ASIs).
- B. Indicate on the Record Specifications the actual product that was installed where the installation varies from the Specifications, addenda and CONTRACT modifications.
 1. Give particular attention to information on concealed products and the installations that cannot be readily identified and recorded later.
 2. Mark the Record copy with the propriety name and model number of products, materials and equipment furnished, including substitutions and product options selected.
 3. Record the name of manufacturer, supplier, installer and other necessary to provide a record of selections made.
 4. For each principal product, indicate whether the record Product Data has been submitted in the operation and maintenance manuals instead of submitted as record Product Data.
 5. Note related Change Orders and turnover drawings where applicable.

PART 2 – PRODUCT OMITTED

PART 3 – EXECUTION

3.01 Preparation

- A. Daily mark the Record Documents to show the actual conditions where the installation varies from that shown originally. Require the individual or entity who obtained the record data, whether that individual or entity is the Installer, Sub-contractor or similar entity to provide the information for the preparation of the corresponding marked-up Record Set of Drawings.
 1. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 2. Accurately record information in an acceptable drawing technique.
 3. Record data as soon as possible after obtaining it.
 4. Record and check the mark-up before enclosing the concealed installations.
 5. Record the changes and modifications as they occur. Do not wait until the end of the Project.

3.02 Recording

- A. During construction, maintain an extra set of the CONTRACT Documents specifically for the purpose of creating the Record Documents. Keep them separate from the set used for construction.
 1. Stamp each sheet of the Record Drawings and the cover of the Record Specifications in the lower right-hand corner with a reasonably large ink stamp to read "Record Set".
 2. Mark Record Set Documents with a red pencil or pen. Use other colors to distinguish between changes for different categories of the WORK at the same location or for clarity. (All marks shall be photo reproducible.)
 3. Mark the record documents completely and accurately.
 4. Indicate any additional important information that was either shown schematically or omitted from the CONTRACT Documents.
 5. Mark the Record Documents to indicate actual WORK done that deviates from the CONTRACT Documents.

- B. Maintain the Record Documents in good order and in a clean, dry, legible condition.
- C. Make all Record Documents and samples available at all times for the OWNER, ENGINEERS and / or Building Inspectors as needed.
- D. After completing the preparation of the Record Documents, prepare the drawings and specifications for distribution.
- E. Submit the Record Documents, whether or not any changes and / or additional information was recorded.

END OF DOCUMENT 01750 – RECORD DOCUMENTS

DOCUMENT 00610 – PERFORMANCE BOND

CONTRACTOR (name and address):

J&P Construction Co., Inc.

D/B/A Jamison Construction Company

2550 39th Street

Tuscaloosa, AL 35403

SURETY (name and address of principal place of business):

OWNER (name and address):

Okaloosa Board of County Commissioners

1250 N. Eglin Parkway

Shalimar, FL 32579

CONSTRUCTION CONTRACT

Effective Date of the Agreement: _____

Amount: Two Million, Ninety-Five Thousand Dollars and Zero Cent (\$2,095,000.00)

Description (name and location): **Replacement of Okaloosa Island Water Booster Station**

BOND

Bond Number: _____

Date (not earlier than the Effective Date of the Agreement of the Construction Contract): _____

Amount: Two Million, Ninety-Five Thousand Dollars and Zero Cent (\$2,095,000.00)

Modifications to this Bond Form: None See Paragraph 16

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

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (seal)

Surety's Name and Corporate Seal (seal)

By: _____
Signature

By: _____
Signature

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall 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 shall not be reduced or set off on account of any such unrelated obligations. No right of action shall 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 may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall 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 shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall 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 shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall 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 shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

END OF DOCUMENT 00610 – PERFORMANCE BOND

DOCUMENT 00620 – PAYMENT BOND

CONTRACTOR (name and address):

J&P Construction Co., Inc.

D/B/A Jamison Construction Company

2550 39th Street

Tuscaloosa, AL 35403

SURETY (name and address of principal place of business):

OWNER (name and address):

Okaloosa Board of County Commissioners

1250 N. Eglin Parkway

Shalimar, FL 32579

CONSTRUCTION CONTRACT

Effective Date of the Agreement: _____

Amount: Two Million, Ninety-Five Thousand Dollars and Zero Cent (\$2,095,000.00)

Description (name and location): **Replacement of Okaloosa Island Water Booster Station**

BOND

Bond Number: _____

Date (not earlier than the Effective Date of the Agreement of the Construction Contract): _____

Amount: Two Million, Ninety-Five Thousand Dollars and Zero Cent (\$2,095,000.00)

Modifications to this Bond Form: None See Paragraph 16

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

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (seal)

Surety's Name and Corporate Seal (seal)

By: _____
Signature

By: _____
Signature

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

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

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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 satisfy 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 shall 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 shall be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall 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 shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall 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:

1. The name of the Claimant;
2. The name of the person for whom the labor was done, or materials or equipment furnished;
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;
4. A brief description of the labor, materials, or equipment furnished;
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;
6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
7. The total amount of previous payments received by the Claimant; and
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 shall be 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 shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows:

END OF DOCUMENT 00620 – PAYMENT BOND

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

**STANDARD GENERAL CONDITIONS
OF THE CONSTRUCTION CONTRACT**

Prepared by



Issued and Published Jointly by



These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

Copyright © 2013:

National Society of Professional Engineers

1420 King Street, Alexandria, VA 22314-2794
(703) 684-2882
www.nspe.org

American Council of Engineering Companies
1015 15th Street N.W., Washington, DC 20005
(202) 347-7474
www.acec.org

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400
(800) 548-2723
www.asce.org

The copyright for this document is owned jointly by the three sponsoring organizations listed above. The National Society of Professional Engineers is the Copyright Administrator for the EJCDC documents; please direct all inquiries regarding EJCDC copyrights to NSPE.

NOTE: EJCDC publications may be purchased at www.ejcdc.org, or from any of the sponsoring organizations above.

TABLE OF CONTENTS

| | Page |
|--|-------|
| <u>Article 1 – Definitions and Terminology</u> | vii |
| <u>1.01</u> <u>Defined Terms</u> | vii |
| <u>1.02</u> <u>Terminology</u> | x |
| <u>Article 2 – Preliminary Matters</u> | xi |
| <u>2.01</u> <u>Delivery of Bonds and Evidence of Insurance</u> | xi |
| <u>2.02</u> <u>Copies of Documents</u> | xi |
| <u>2.03</u> <u>Before Starting Construction</u> | xi |
| <u>2.04</u> <u>Preconstruction Conference; Designation of Authorized Representatives</u> | xi |
| <u>2.05</u> <u>Initial Acceptance of Schedules</u> | xii |
| <u>2.06</u> <u>Electronic Transmittals</u> | xii |
| <u>Article 3 – Documents: Intent, Requirements, Reuse</u> | xii2 |
| <u>3.01</u> <u>Intent</u> | xii |
| <u>3.02</u> <u>Reference Standards</u> | xii |
| <u>3.03</u> <u>Reporting and Resolving Discrepancies</u> | xiii |
| <u>3.04</u> <u>Requirements of the Contract Documents</u> | xiii |
| <u>3.05</u> <u>Reuse of Documents</u> | xiv |
| <u>Article 4 – Commencement and Progress of the Work</u> | xiv4 |
| <u>4.01</u> <u>Commencement of Contract Times; Notice to Proceed</u> | xiv |
| <u>4.02</u> <u>Starting the Work</u> | xiv |
| <u>4.03</u> <u>Reference Points</u> | xiv |
| <u>4.04</u> <u>Progress Schedule</u> | xiv |
| <u>4.05</u> <u>Delays in Contractor’s Progress</u> | xv |
| <u>Article 5 – Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions</u> | xv6 |
| <u>5.01</u> <u>Availability of Lands</u> | xv |
| <u>5.02</u> <u>Use of Site and Other Areas</u> | xvi |
| <u>5.03</u> <u>Subsurface and Physical Conditions</u> | xvi |
| <u>5.04</u> <u>Differing Subsurface or Physical Conditions</u> | xvii7 |
| <u>5.05</u> <u>Underground Facilities</u> | xviii |
| <u>5.06</u> <u>Hazardous Environmental Conditions at Site</u> | xix |
| <u>Article 6 – Bonds and Insurance</u> | xxi |
| <u>6.01</u> <u>Performance, Payment, and Other Bonds</u> | xxi |
| <u>6.02</u> <u>Insurance—General Provisions</u> | xxi |
| <u>6.03</u> <u>Contractor’s Insurance</u> | xxii |
| <u>6.04</u> <u>Owner’s Liability Insurance</u> | xxiv |
| <u>6.05</u> <u>Property Insurance</u> | xxiv5 |

| | | |
|--|---|---------|
| 6.06 | <u>Waiver of Rights</u> | xxvi |
| 6.07 | <u>Receipt and Application of Property Insurance Proceeds</u> | xxvi |
| <u>Article 7 – Contractor’s Responsibilities</u> | | xxvii |
| 7.01 | <u>Supervision and Superintendence</u> | xxvii |
| 7.02 | <u>Labor; Working Hours</u> | xxvii8 |
| 7.03 | <u>Services, Materials, and Equipment</u> | xxvii8 |
| 7.04 | <u>“Or Equals”</u> | xxvii8 |
| 7.05 | <u>Substitutes</u> | 29 |
| 7.06 | <u>Concerning Subcontractors, Suppliers, and Others</u> | xxix0 |
| 7.07 | <u>Patent Fees and Royalties</u> | xxx1 |
| 7.08 | <u>Permits</u> | xxx2 |
| 7.09 | <u>Taxes</u> | xxx2 |
| 7.10 | <u>Laws and Regulations</u> | xxx1 |
| 7.11 | <u>Record Documents</u> | xxxii |
| 7.12 | <u>Safety and Protection</u> | xxxii |
| 7.13 | <u>Safety Representative</u> | xxxiii |
| 7.14 | <u>Hazard Communication Programs</u> | xxxiii |
| 7.15 | <u>Emergencies</u> | xxxiii |
| 7.16 | <u>Shop Drawings, Samples, and Other Submittals</u> | xxxiii |
| 7.17 | <u>Contractor’s General Warranty and Guarantee</u> | xxxiv |
| 7.18 | <u>Indemnification</u> | xxxv |
| 7.19 | <u>Delegation of Professional Design Services</u> | xxxvi |
| <u>Article 8 – Other Work at the Site</u> | | xxxvi |
| 8.01 | <u>Other Work</u> | xxxvi |
| 8.02 | <u>Coordination</u> | xxxvii |
| 8.03 | <u>Legal Relationships</u> | xxxvii |
| <u>Article 9 – Owner’s Responsibilities</u> | | 39 |
| 9.01 | <u>Communications to Contractor</u> | xxxviii |
| 9.02 | <u>Replacement of Engineer</u> | 39 |
| 9.03 | <u>Furnish Data</u> | 39 |
| 9.04 | <u>Pay When Due</u> | 39 |
| 9.05 | <u>Lands and Easements; Reports, Tests, and Drawings</u> | 39 |
| 9.06 | <u>Insurance</u> | 39 |
| 9.07 | <u>Change Orders</u> | 39 |
| 9.08 | <u>Inspections, Tests, and Approvals</u> | 39 |
| 9.09 | <u>Limitations on Owner’s Responsibilities</u> | 39 |
| 9.10 | <u>Undisclosed Hazardous Environmental Condition</u> | 40 |

| | | |
|--|--|--------|
| 9.11 | <u>Evidence of Financial Arrangements</u> | 40 |
| 9.12 | <u>Safety Programs</u> | 40 |
| <u>Article 10 – Engineer’s Status During Construction</u> | | 40 |
| 10.01 | <u>Owner’s Representative</u> | xxxix |
| 10.02 | <u>Visits to Site</u> | 40 |
| 10.03 | <u>Project Representative</u> | 40 |
| 10.04 | <u>Rejecting Defective Work</u> | 40 |
| 10.05 | <u>Shop Drawings, Change Orders and Payments</u> | 41 |
| 10.06 | <u>Determinations for Unit Price Work</u> | xxxix |
| 10.07 | <u>Decisions on Requirements of Contract Documents and Acceptability of Work</u> | xxxix |
| 10.08 | <u>Limitations on Engineer’s Authority and Responsibilities</u> | xl |
| 10.09 | <u>Compliance with Safety Program</u> | xl |
| <u>Article 11 – Amending the Contract Documents; Changes in the Work</u> | | xl |
| 11.01 | <u>Amending and Supplementing Contract Documents</u> | xl |
| 11.02 | <u>Owner-Authorized Changes in the Work</u> | xli |
| 11.03 | <u>Unauthorized Changes in the Work</u> | xli |
| 11.04 | <u>Change of Contract Price</u> | xli |
| 11.05 | <u>Change of Contract Times</u> | xlii |
| 11.06 | <u>Change Proposals</u> | xlii |
| 11.07 | <u>Execution of Change Orders</u> | 44 |
| 11.08 | <u>Notification to Surety</u> | 45 |
| <u>Article 12 – Claims</u> | | 45 |
| 12.01 | <u>Claims</u> | 45 |
| <u>Article 13 – Cost of the Work; Allowances; Unit Price Work</u> | | xliv |
| 13.01 | <u>Cost of the Work</u> | 46 |
| 13.02 | <u>Allowances</u> | 48 |
| 13.03 | <u>Unit Price Work</u> | 48 |
| <u>Article 14 – Tests and Inspections; Correction, Removal or Acceptance of Defective Work</u> | | 49 |
| 14.01 | <u>Access to Work</u> | 49 |
| 14.02 | <u>Tests, Inspections, and Approvals</u> | 49 |
| 14.03 | <u>Defective Work</u> | xlviii |
| 14.04 | <u>Acceptance of Defective Work</u> | xlviii |
| 14.05 | <u>Uncovering Work</u> | xlviii |
| 14.06 | <u>Owner May Stop the Work</u> | xlix |
| 14.07 | <u>Owner May Correct Defective Work</u> | xlix |
| <u>Article 15 – Payments to Contractor; Set-Offs; Completion; Correction Period</u> | | l |
| 15.01 | <u>Progress Payments</u> | l |
| 15.02 | <u>Contractor’s Warranty of Title</u> | lii |

| | | |
|--|--|------|
| <u>15.03</u> | <u>Substantial Completion</u> | lii |
| <u>15.04</u> | <u>Partial Use or Occupancy</u> | liii |
| <u>15.05</u> | <u>Final Inspection</u> | liii |
| <u>15.06</u> | <u>Final Payment</u> | 55 |
| <u>15.07</u> | <u>Waiver of Claims</u> | liv |
| <u>15.08</u> | <u>Correction Period</u> | liv |
| <u>Article 16 – Suspension of Work and Termination</u> | | lv |
| <u>16.01</u> | <u>Owner May Suspend Work</u> | lv |
| <u>16.02</u> | <u>Owner May Terminate for Cause</u> | lv |
| <u>16.03</u> | <u>Owner May Terminate For Convenience</u> | 58 |
| <u>16.04</u> | <u>Contractor May Stop Work or Terminate</u> | 59 |
| <u>Article 17 – Final Resolution of Disputes</u> | | 59 |
| <u>17.01</u> | <u>Methods and Procedures</u> | 59 |
| <u>Article 18 – Miscellaneous</u> | | 59 |
| <u>18.01</u> | <u>Giving Notice</u> | 59 |
| <u>18.02</u> | <u>Computation of Times</u> | 59 |
| <u>18.03</u> | <u>Cumulative Remedies</u> | 60 |
| <u>18.04</u> | <u>Limitation of Damages</u> | 60 |
| <u>18.05</u> | <u>No Waiver</u> | 60 |
| <u>18.06</u> | <u>Survival of Obligations</u> | 60 |
| <u>18.07</u> | <u>Controlling Law</u> | 60 |
| <u>18.08</u> | <u>Headings</u> | 60 |

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 form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 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, or both; 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, or both; 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; or (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. A demand for money or services by a third party is not a Claim.
 11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local

- statute, law, rule, regulation, ordinance, resolution, code, order, or decree 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 the 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. *Engineer*—The individual or entity named as such in the Agreement.
 21. *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.
 22. *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. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
 23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
 24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
 25. *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.
 26. *Notice of Award*—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
 27. *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.
 28. *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.
 29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.
 30. *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.
 31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the

- Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
 33. *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.
 34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
 35. *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.
 36. *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.
 37. *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 furnished by Owner which are designated for the use of Contractor.
 38. *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.
 39. *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.
 40. *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 thereof.
 41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
 42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
 43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
 44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
 45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid

petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *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.
48. *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 the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives*:
 1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by 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*:
 1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective*:
 1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. 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 15.04).
- E. *Furnish, Install, Perform, Provide*:
 1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

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. 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 Bonds and Evidence of Insurance

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 Copies of Documents

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed 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 specifically 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 Initial 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 for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall 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.

2.06 Electronic Transmittals

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items 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 items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 Intent

- A. The Contract Documents are complementary; what is required by one 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 or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall 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.

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, shall mean 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, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, 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, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, 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 Documents 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 Documents 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 shall 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 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 thereunder.

- 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 give written notice to Owner and Contractor 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 editions, 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 shall preclude 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 thirtieth 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 sixtieth day after the day of Bid opening or the thirtieth 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 shall 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 shall 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 shall 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 the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the 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. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall 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 utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 4. acts of war or terrorism.
- D. 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.
- E. Paragraph 8.03 governs 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.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times 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.
- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 Availability of Lands

- A. Owner shall furnish the Site. Owner shall notify Contractor 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; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, 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 at law; 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 shall 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 known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); 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 upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. 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; or
 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.

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 either:
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; or
 2. is of such a nature as to require a change in the Drawings or Specifications; or
 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 the necessity of Owner's obtaining 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 above; 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. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, 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 conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
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; or
 - 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 as 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, or both, then any such adjustment shall 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, or both, 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.

5.05 Underground Facilities

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. 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 in the Contract Documents, or was not shown or indicated 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), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.
- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of

Work in connection with the Underground Facility in question; 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 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. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, 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. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - 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;
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
 - d. 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, or both, then any such adjustment shall 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, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 Hazardous Environmental Conditions at Site

- A. *Reports and Drawings:* The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. 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 Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. 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; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
 - D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
 - E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
 - F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
 - G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, 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.
 - H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
 - I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or 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 shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 Performance, Payment, and Other Bonds

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall 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 Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, 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 shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. 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.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 Insurance—General Provisions

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

- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements 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 and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements 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 and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. 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, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of 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.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect 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 shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 Contractor's Insurance

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).
 - 4. Foreign voluntary worker compensation (if applicable).

- B. *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:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 2. claims for damages insured by reasonably available personal injury liability coverage.
 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
 - a. Such insurance shall 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, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. 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); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. 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.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against claims 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 shall be written on an occurrence basis.
- E. *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. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.
- G. *Additional insureds:* The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *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 shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.

- I. *General provisions:* The policies of insurance required by this Paragraph 6.03 shall:
 - 1. include at least the specific coverages provided in this Article.
 - 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 - 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 - 4. remain in effect at least until final payment (and longer if expressly required in this Article) 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 Documents.
 - 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed 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.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 Owner's Liability Insurance

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. 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.

6.05 Property Insurance

- A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 - 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
 - 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes

- of loss as may be specifically required by the Supplementary Conditions. 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 may be provided through other insurance policies acceptable to Owner and Contractor.
3. 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.
 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).
 5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
 6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed 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.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- 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 notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* 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 6.05, it may do so at Contractor's expense.

- F. *Insurance of Other Property*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 Waiver of Rights

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers 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. 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 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 Subcontractors, all individuals or entities identified in the Supplementary Conditions as 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. None of the above waivers shall extend 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. 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:
 - 1. loss 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 perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner 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.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work 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 any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 Receipt and Application of Property Insurance Proceeds

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 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 6.05 shall 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, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 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. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.02 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 at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, 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.

7.03 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 shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by 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 shall 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.

7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the 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 material or equipment, or items from other proposed suppliers under the circumstances described below.

1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it 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 shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request*: If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 Substitutes

- A. Unless the specification or description of an item of material or equipment 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 material or equipment under the circumstances described below. To the extent possible such requests shall 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 material or equipment from anyone other than Contractor.
 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.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 material or equipment that Contractor seeks to furnish or use. The application:
 - a. shall 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 that specified, and
 - 3) be suited to the same use as that 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 that specified, and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. shall 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 shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 Concerning Subcontractors, Suppliers, and Others

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities 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, Supplier, or other individual or entity 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 five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. 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, Suppliers, or other individuals or entities 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, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, 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, Supplier, or other individual or entity, whether initially or as a replacement, shall 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 fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.
- O. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
 - 2. shall create 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.

7.07 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 a particular invention, design, process, product, or device is specified in the Contract Documents for use in the

performance of the Work and if, to the actual knowledge of Owner or 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 shall be disclosed by Owner 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.

7.08 Permits

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of 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

7.09 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.

7.10 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. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give 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 notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 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.

7.12 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. 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.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when 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.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. 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.
- E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor 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).
- F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
- G. Contractor's duties and responsibilities for safety and protection shall 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.

- 7.13 Safety Representative
- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.
- 7.14 Hazard Communication Programs
- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.
- 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 threatened 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 thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.
- 7.16 Shop Drawings, Samples, and Other Submittals
- A. *Shop Drawing and Sample Submittal Requirements:*
1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified 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
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
 2. Each submittal shall 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 submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.
1. *Shop Drawings:*
 - a. Contractor shall submit the number of copies required in the Specifications.
 - b. Data shown on the Shop Drawings will 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.D.
 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.D.

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. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- D. *Engineer's Review:*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. 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, conform to the information given in 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 shall 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.
 5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 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, shall 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, Sample, or other submittal shall 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.D.4.
- E. *Resubmittal Procedures:*
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 submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
 3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

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 and its officers, directors, members, partners,

employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.

- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 - 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 - 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. any inspection, test, or approval by others; or
 - 8. any correction of defective Work by Owner.
- D. 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 shall 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 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 performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury 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 shall 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.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 Delegation of Professional Design Services

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

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 utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. 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.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, 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.

8.02 Coordination

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 Legal Relationships

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner for whom the Owner is responsible 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, or both. 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 shall 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. When applicable, any such equitable adjustment in Contract Price shall 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 is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- 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. 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 to 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.
- C. 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 to Contractor.
- D. 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 shall 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 Documents (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 10.08. 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 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 Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer’s consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 Rejecting Defective Work

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 Shop Drawings, Change Orders and Payments

- A. Engineer’s authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer’s authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer’s authority as to Change Orders is set forth in Article 11.
- D. Engineer’s authority as to Applications for Payment is set forth in Article 15.

10.06 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.

10.07 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.

10.08 Limitations on Engineer's Authority and Responsibilities

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 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 (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 Amending and Supplementing Contract Documents

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. Change Orders:
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
 - 2. Work Change Directives: 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 11.04 regarding change of Contract Price. Contractor must submit any Change

Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. Field Orders: 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. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 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. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes 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 shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate 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.

11.03 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.

11.04 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 shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall 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); or
 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 11.04.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 11.04.C).
- C. Contractor's Fee: When applicable, the Contractor's fee for overhead and profit shall 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 shall be 15 percent;

- b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five 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 11.04.C.2.a and 11.04.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.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 five 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 shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
- d. no fee shall 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 will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 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 shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 Change Proposals

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.
 - 1. Procedures: Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. 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. The supporting data shall 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. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 - 2. Engineer's Action: Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall 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.
 - 3. Binding Decision: Engineer's decision will be 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 that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 Execution of Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 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 11.02, (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 in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 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 shall be submitted 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; and
 - 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.
- 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 shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall be incorporated in a Change Order 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. 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 shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall 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. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social

security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of 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 shall 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 for services specifically related to the Work.
5. Supplemental costs including 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, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - 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 property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
 - 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 shall not include any of the following items:
 - 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, 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. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 - 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 - 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 - 5. 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: When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.
- E. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

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 on account of any of the foregoing will be valid.
- C. Contingency Allowance: Contractor agrees that a 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 on account of Work covered by allowances, and the Contract Price shall 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, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 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 will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

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 shall 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 shall 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 shall 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 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 shall 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, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, 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 shall 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 rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven 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 on account of 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 shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, 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 shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
 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, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, 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 on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of 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 that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated 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;
 - l. there are other items entitling 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 shall 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 shall be treated as an amount due as determined by Paragraph 15.01.C.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 seven days after the time of payment by Owner.

15.03 Substantial Completion

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall 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 seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial

Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 Partial Use or Occupancy

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 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 6.05 regarding builder's risk or other property insurance.

15.05 Final Inspection

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 Final Payment

- A. Application for Payment:
 - 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.
 - 2. The final Application for Payment shall 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 disputes that Contractor believes are unsettled; 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 Application and Acceptance:
 - 1. 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 ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall 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. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. 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. 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.
- D. Payment Becomes Due: Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 Waiver of Claims

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 Correction Period

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through

construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then 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 other adjacent areas;
 2. correct such defective Work;
 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 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 therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or 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).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. 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.
- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not 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, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall 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) ten 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) 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 seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 Owner May Terminate For Convenience

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, 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 seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven

days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 Methods and Procedures

- A. Disputes Subject to Final Resolution: The following disputed matters are subject to final resolution under the provisions of this Article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising 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; or
 - 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 Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

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 shall not constitute a waiver of that provision, nor shall 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 or completion of the Contract or termination 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 Headings
- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

END OF DOCUMENT 00700 – GENERAL CONDITIONS

GENERAL

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC® C-700 (2013 Edition). All provisions that are not so amended or supplemented remain in full force and effect.

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.

ARTICLE 2 – PRELIMINARY MATTERS

2.02 Copies of Documents

Delete Paragraph 2.02.A in its entirety and insert the following in its place.

Owner shall furnish to Contractor one printed copy of the Contract including one fully executed counterpart of the Agreement. An electronic portable document format (PDF) may be requested by Contractor.

2.03 Before Starting Construction

Delete Paragraph 2.03 in its entirety.

2.04 Preconstruction Conference; Designation of Authorized Representatives

Delete Paragraph 2.04.A in its entirety and insert the following in its place:

- 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, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.

Initial Acceptance of Schedules

Delete Paragraph 2.05 in its entirety.

DOCUMENTS: INTENT, REQUIREMENTS, REUSE

Requirements of the Contract Documents

Delete Paragraph 3.04.C in its entirety and insert the following:

- 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 give written notice to Owner and Contractor 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 FDOT Section 5-12 Claims by Contractor.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 Commencement of Contract Times; Notice to Proceed

Delete Paragraph 4.01.A in its entirety and insert the following in its place.

The Contract Times will commence to run on the thirtieth 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 one hundred twenty-fifth (125th) day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.02 Use of Site and Other Areas

Delete Paragraph 5.02.A.2 in its entirety and insert the following:

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 7.12, 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 mediation, or at law; and (c) 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 mediation 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.

5.03 Subsurface and Physical Conditions

Delete Paragraphs 5.03.A and 5.03.B in their entirety and insert the following:

The report of explorations or tests of subsurface conditions at or adjacent to the Site, I.E., the Geotechnical Report, is attached to the Project Manual as Appendix B. No drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

5.06 Hazardous Environmental Conditions

Delete Paragraphs 5.06.B and 5.06.I in their entirety.

Delete Paragraphs 5.06.A and 5.06.J in their entirety and insert the following:

No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.

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 mediation 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 shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

ARTICLE 6 – BONDS AND INSURANCE

6.01 Performance, Payment and Other Bonds

Add the following paragraph immediately after Paragraph 6.01.C:

All bonds shall be written by a surety with no less than an "A" rating by national rating agency. All sureties must be on the U.S. Department of Treasury's Listing of Approved Sureties (Department Circular 570) and bonds must be within the Treasury's underwriting limitation.

6.02 Insurance – General Requirements

Delete Paragraph 6.02.B in its entirety and insert the following:

All insurance required by the Contract to be purchased and maintained by OWNER and 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. All companies that provide insurance policies required under this CONTRACT shall have a minimum A+, Class X or higher in the Bests Key Rating Guide.

Add the following new paragraphs immediately after Paragraph 6.02.J:

Where applicable, Okaloosa County Board of County Commissioners shall be shown as an Additional Insured on all applicable insurance policies except Workers Compensation Insurance.

Where applicable, a waiver of subrogation should be included on all Workers Compensation Insurance policies.

6.03 Contractor's Insurance

Add the following new paragraph immediately after Paragraph 6.03.J:

The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

Workers' Compensation, and related coverages under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

| | |
|--|-------------------|
| State: | <u>Statutory</u> |
| Federal, if applicable (e.g., Longshoreman's): | <u>Statutory</u> |
| Employer's Liability: | |
| Bodily injury, each accident | \$ <u>500,000</u> |
| Bodily injury by disease, each employee | \$ <u>500,000</u> |
| Bodily injury/disease aggregate | \$ <u>500,000</u> |

Contractor's Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:

| | |
|---|---------------------|
| General Aggregate | \$ <u>1,000,000</u> |
| Products - Completed Operations Aggregate | \$ <u>1,000,000</u> |
| Personal and Advertising Injury | \$ <u>1,000,000</u> |
| Each Occurrence (Bodily Injury and Property Damage) | \$ <u>1,000,000</u> |

Automobile Liability under Paragraph 6.03.D. of the General Conditions:

| | |
|--------------------------|---------------------|
| Bodily Injury: | |
| Each person | \$ <u>1,000,000</u> |
| Each accident | \$ <u>1,000,000</u> |
| Property Damage: | |
| Each accident | \$ <u>500,000</u> |
| [or] | |
| Combined Single Limit of | \$ <u>1,000,000</u> |

Additional Insureds: In addition to Owner (Okaloosa County Board of County Commissioners) include as additional insureds the following: Poly, Inc.

Contractor's Pollution under Paragraph 6.03.F of the General Conditions

| | |
|-------------------|------------------------|
| Each Occurrence | \$ <u>Not Required</u> |
| General Aggregate | \$ <u>Not Required</u> |

Contractor's Professional Liability under Paragraph 6.03.H of the General Conditions

| | |
|------------------|------------------------|
| Each Occurrence | \$ <u>Not Required</u> |
| Annual Aggregate | \$ <u>Not Required</u> |

Delete Paragraph 6.03.C.1 in its entirety and insert the following in its place:

Products and completed operations coverage:

Such insurance shall be maintained for two years after final payment.

Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence continuation of such insurance at final payment and two years thereafter.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.02 Labor; Working Hours

Delete Paragraph 7.02 B. in its entirety and insert the following:

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.

7.07 Patent Fees and Royalties

Delete Paragraphs 7.07.B and C in their entirety and replace with the following:

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 mediation 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.

7.10 Laws and Regulations

Delete Paragraph 7.10.B in its entirety and replace with the following:

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 mediation or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

7.18 Indemnification

Delete Paragraph 7.18.A in its entirety and insert the following:

Contractor shall indemnify and hold harmless the Owner and the design 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 mediation or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury 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.

ARTICLE 8 – **OTHER WORK AT THE SITE**

8.03 Legal Relationships

Delete Paragraph 8.03.D in its entirety and insert the following:

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 (both Design and CEI), 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 mediation 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 mediation or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 10 – **ENGINEER'S STATUS DURING CONSTRUCTION**

10.03 Project Representative

Add the following new paragraphs immediately after Paragraph 10.03.A:

The Resident Project Representative (RPR) will be Engineer's representative at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions.

General: RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner only with the knowledge of and under the direction of Engineer.

Schedules: Review the progress schedule, schedule of Shop Drawing and Sample submittals, and Schedule of Values prepared by Contractor and consult with Engineer concerning acceptability.

Conferences and Meetings: Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings, and prepare and circulate copies of minutes thereof.

Liaison:

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.

Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.

Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.

Interpretation of Contract Documents: Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.

Shop Drawings and Samples:

Record date of receipt of Samples and Contractor-approved Shop Drawings.

Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.

Advise Engineer and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which RPR believes that the submittal has not been approved by Engineer.

Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, if any, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.

Review of Work and Rejection of Defective Work:

Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.

Report to Engineer whenever RPR believes that any part of Contractor's work in progress is defective, will not produce a completed Project that conforms generally to the Contract Documents, or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

Tests, and System Start-ups:

Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.

Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.

Records:

Prepare a daily report or keep a diary or log book, recording Contractor's hours on the Site, Subcontractors present at the Site, weather conditions, data relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, deliveries of equipment or materials, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer.

Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.

Maintain records for use in preparing Project documentation.

Reports:

Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the Progress Schedule and schedule of Shop Drawing and Sample submittals.

Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.

Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, force majeure or delay events, damage to property by fire or other causes, or the discovery of any Constituent of Concern or Hazardous Environmental Condition.

Payment Requests: Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the Schedule of Values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

Certificates, Operation and Maintenance Manuals: During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Contract Documents to be assembled and furnished by Contractor are applicable to the items actually installed and in

accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

Completion:

Participate in Engineer's visits to the Site to determine Substantial Completion, assist in the determination of Substantial Completion and the preparation of a punch list of items to be completed or corrected.

Participate in Engineer's final visit to the Site to determine completion of the Work, in the company of Owner and Contractor, and prepare a final punch list of items to be completed and deficiencies to be remedied.

Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the notice of acceptability of the work.

The RPR shall not:

Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).

Exceed limitations of Engineer's authority as set forth in the Contract Documents.

Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.

Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work.

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.

Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.

Accept Shop Drawing or Sample submittals from anyone other than Contractor.

Authorize Owner to occupy the Project in whole or in part.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

Delete Paragraph 15.01.B.1 in its entirety and insert the following in its place:

Applications for Payment

Application for payment shall generally be submitted on a monthly basis (no more than once per 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 shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

Delete Paragraph 15.01.C.1 in its entirety and insert the following in its place:

Review of Application

Engineer will within 5 business 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.

15.03 Substantial Completion

Add the following new subparagraph to Paragraph 15.03.B:

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, shall 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 Article 15.

15.08 Correction Period

Delete Paragraph 15.08.B in its entirety and insert the following in its place:

If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or mediation 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)

ARTICLE 16 – **SUSPENSION OF WORK AND TERMINATION**

16.04 Contractor May Stop Work or Terminate

Delete Paragraphs 16.04.A and 16.04.B in their entirety and insert the following in their place:

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 60 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven 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 60 days to pay Contractor any sum finally determined to be due, Contractor may, seven 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 18 – **MISCELLANEOUS**

18.07 Controlling Law

Delete paragraph 18.07.A in its entirety and replace the following in its place:

This Contract shall be interpreted in accordance with the laws of the State of Florida without regard to its principles of conflicts of laws. The parties agree that venue for any legal proceedings arising out of this Contract shall be in the state courts of Okaloosa County, Florida.

Add the following two sub articles to Article 18.

18.09 Coordination of Contract Documents

The following documents are integral parts of the Contract; a requirement occurring in one is as binding as though occurring in all. All parts of the Contract are complementary and describe and provide for a complete Work. In addition to the work and materials specified in the Standard Specifications as being included in any specific pay item, include in such pay items additional, incidental work not specifically mentioned, when so shown in the plans, or if indicated, or obvious

and apparent, as being necessary for the proper completion of the Work under such pay item and not stipulated as being covered under other pay items.

In cases of discrepancy, the governing order of the documents is as follows:

- Modifications issued after the execution of the Agreement
- Agreement between Owner & Contractor for Construction Contract
- Addenda issued after the Bid Specifications were advertised to potential Bidders
- Supplementary Conditions
- FDOT Standard Specifications for Road & Bridge Construction, Latest Edition
- EJCDC General Conditions, 2013 Edition
- Technical Specifications
- Construction Drawings
- Computed dimensions govern over scaled dimensions

18.10 Construction Closeout Requirements to County

Immediately after being notified by the Engineer that all other requirements of the Agreement have been completed Contractor shall complete the following items

- Signed Release of Liens;

- Certificate of Insurance for two year period, letter from Contractor stating Certificate of Insurance will be maintained for two (2) years;

- Certifications from Surety that Payment/Performance Bond shall remain in effect one year following final payment;

- Consent of Surety for Final Payment;

- Final Invoice with Engineer's Recommendation, final payment of this Contract shall be made within sixty (60) days after completion by the Contractor of all Work covered by the Agreement and acceptance of such Work by the County;

- Record (As-Built) Drawing

END OF DOCUMENT 00800 – SUPPLEMENTARY CONDITION

ARTICLE 1 – DUTIES OF CONTRACTOR

1.03 The Contractor shall be required to post the property. The sign, meeting the following requirements, shall be posted on the property.

The sign must be prominently placed on the development site and shall not be located further than five feet from the adjacent right-of-way. The required content of the sign shall be legible as viewed from the adjacent right-of-way.

Such sign shall be not larger than 18 inches by 24 inches and not smaller than 16 inches by ten inches in size.

The sign must clearly indicate the name, and 24 hours a day, seven days a week emergency contact phone number of the responsible party for said development site.

The sign must be continuously on the property of the development site and shall be removed from said property within five working days after the issuance of Certificate of Completion.

PART 1 - GENERAL

1.01 Work Covered by the Contract Documents

The project intent is to construct a new water booster station on Okaloosa Island

The WORK covered by the CONTRACT Documents include the construction of the new water booster station including CMU building with ramp and retaining wall, three close-coupled vertical pumps, piping, valves, flowmeter, sodium hypochlorite disinfection system, controls, electrical including a generator set (generator, ATS and HVAC supplied by Owner, installed by Contractor) and sitework, along with two control valve assemblies at the east and west Island elevated tanks, and other WORK as shown on the construction drawings and described in the specifications.

1.02 Work Sequence

The sheet pilings shall be installed first and following that the work sequence will be determined by the CONTRACTOR.

1.03 Contractor's Use of Premises

The CONTRACTOR may use a portion of the site controlled by the Owner for parking and storage. Use of any portion of the site controlled by the Owner shall be coordinated with the Owner and shall not interfere with Owners normal operations.

CONTRACTOR shall assume full responsibility for safety at the work site for all workers and visitors.

The CONTRACTOR shall send proper notices, make all necessary arrangements, and perform all services required in the care and maintenance of all OWNER and public utilities within the construction limits.

PART 2 - PRODUCTS OMITTED

PART 3 - EXECUTION OMITTED

END OF DOCUMENT 01010 – SUMMARY OF WORK

PART 1 - GENERAL

1.01 Related Documents

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

1.02 Summary

This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:

- Coordination.
- Administrative and supervisory personnel.
- General installation provisions.
- Cleaning and protection.

1.03 Coordination

Coordination: Coordinate construction activities included under various sections of these Specifications to assure efficient and orderly installation of each part of the WORK. Coordinate construction operations included under different sections of the Specifications that are dependent upon each other for proper installation, connection, and operation.

Where installation of one part of the WORK is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.

Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.

Make adequate provisions to accommodate items scheduled for later installation.

Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.

Prepare similar memoranda for the OWNER and separate CONTRACTORS where coordination of their WORK is required.

Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the WORK. Such administrative activities include, but are not limited to, the following:

- Preparation of schedules.
- Installation and removal of temporary facilities.
- Delivery and processing of submittals.
- Progress meetings.
- Project Close-out activities.

1.04 Submittal

Coordination Drawings: Prepare and submit coordination Drawings where close and careful coordination is required for installation of products and materials fabricated off-site by separate entities, and where limited space availability necessitates maximum utilization of space for efficient installation of different components.

Show the interrelationship of components shown on separate Shop Drawings.

Indicate required installation sequences.

Comply with requirements contained in Section 00700 Article 7.16

Staff Names: Within 15 days of Notice to Proceed, submit a list of the CONTRACTOR's principal staff assignments, including the Superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses and telephone numbers.

PART 2 - PRODUCTS OMITTED

PART 3 - EXECUTION

3.01 General Installation Provisions

Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which WORK is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

Manufacturer's Instructions: Comply with manufacturer's written installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.

Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.

Provide attachment and connection devices and methods necessary for securing WORK. Secure WORK true to line and level. Allow for expansion and building movement.

Visual Effects: Provide uniform joint widths in exposed WORK. Arrange joints in exposed WORK to obtain the best visual effect. Refer questionable choices to the Architect for final decision.

Recheck measurements and dimensions, before starting each installation.

Install each component during weather conditions and Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.

Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.

Mounting Heights: Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the Architect for final decision.

3.02 Cleaning and Protection

During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

Clean and maintain completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:

- Excessive static or dynamic loading
- Excessive internal or external pressures
- Excessively high or low temperatures
- Thermal shock
- Excessively high or low humidity
- Air contamination or pollution
- Water
- Solvents
- Chemicals
- Puncture
- Abrasion
- Heavy traffic
- Soiling, staining and corrosion
- Bacteria
- Rodent and insect infestation
- Combustion
- Electrical current
- Improper lubrication
- Unusual wear or other misuse
- Contact between incompatible materials

Misalignment
Excessive weathering
Unprotected storage
Improper shipping or handling
Theft
Vandalism

END OF DOCUMENT 01040 – PROJECT COORDINATION

PART 1 – GENERAL

1.01 Warranties

The CONTRACTOR shall provide a warranty on all materials and workmanship for at least one (1) year (min.) from the date of Substantial Completion as per the General Conditions.

Additional Warranties apply to individual products, materials and / or assemblies; refer to each of the respective Specification sections to obtain the minimum required warranty information.

1.02 Operation Manuals

The CONTRACTOR shall file (in one place) all operation, maintenance or other manuals received with equipment and upon completion of project, they must be presented to the OWNER with a notification, in writing, to the ENGINEER that this has been accomplished.

PART 2 - PRODUCTS OMITTED

PART 3 - EXECUTION OMITTED

END OF DOCUMENT 01350 – WARRANTIES AND MANUALS

PART 1 – GENERAL

1.01 Temporary Storage and Office

The CONTRACTOR shall provide for his own use at project site, such storage and office space as deemed necessary.

Provide Construction barriers and /or barricades, locations will be coordinated with the OWNER's Representative on the site, before installation.

Trailers and sheds as necessary shall be located with-in the construction barriers, and only with the ENGINEER's and OWNER's approval.

1.02 Use Charges

Usage charges for temporary services of facilities are not chargeable to the Owner or the ENGINEER.

1.03 Regulations

Comply with requirements of local laws and regulations governing construction and local industry standards, in the installation of temporary services and facilities.

1.04 Standards

Comply with the requirements of NFPA Code 241, "Building Construction and Demolition Operations", the ANSI-AIO Series standards for "Safety Requirements for Construction and Demolition", and the NECA National Joint Guideline NJG-6 "Temporary Job Utilities and Services".

1.05 Inspections

Inspect and test each service before placing temporary utilities in use. Arrange for inspections and tests by governing authorities, and obtain certifications and permits for use.

1.06 Submittals

Submit copies of reports and permits required or necessary for the installation and operation; including any reports of tests, inspections and / or permits necessary for installation, use and operation of the temporary facilities.

1.07 Temporary Services

Toilet Facilities

The CONTRACTOR shall provide temporary, on-site toilet facilities for the duration of construction. Cleaning shall conducted in accordance with 2.07.

General Utilities

Water: The CONTRACTOR shall pay and provide for water needed for the Project during Construction.

Power: The CONTRACTOR shall pay for electricity used for the Project during the Construction. CONTRACTOR shall coordinate with Florida Power and Light for connection.

Comply with applicable requirements of NEMA, NECA and UL standards and governing regulations. Install temporary lighting of adequate illumination levels to perform the WORK specified as needed.

Comply with NECA pertaining to installation of temporary wiring service and grounding. Provide transformers, and over current protective devices at main distribution panel for power and light circuitry.

Provide disconnects for equipment circuits.

1.08 Protection of Occupants

Provide all warning signs, temporary fencing, barricades, supports, partitions, etc. as required to provide protection to the occupants, and to exclude unauthorized persons from the WORK areas.

Comply with recognized standards and code requirements for erection of barricades where needed to prevent accidents. Paint with appropriate colors and warning signs to inform personnel at the site and the public

of the hazard being protected against. Provide lighting where needed, including flashing red lights where appropriate.

1.09 Lifting Devices and Hoisting

Provide cranes, hoists, towers and other lifting devices necessary for the proper and efficient movement of materials; provide operating personnel for equipment as required. Equipment shall be provided with proper guys, bracing and other safety devices as required by Local or State codes.

Remove towers and hoisting equipment when they are no longer needed, or as directed by the Architect.

1.10 First Aid Supplies

Comply with governing regulations and recognized recommendations within the construction industry.

1.11 Rodent and Pest Control

The CONTRACTOR shall retain a local exterminator and/or pest control company to perform extermination and control procedures at regular intervals so that the project will be relatively free of pests and their residues at all times during the construction project.

Any pest control operations will be done in a lawful manner using environmentally safe materials.

1.12 Collection and Disposal of Waste

Establish a system for collection and disposal of waste materials. Enforce requirements strictly. Do not hold collected materials longer than seven (7) days during normal weather or three (3) days when the daily temperature is expected to rise above 80 degrees F. (27 degrees C).

Handle waste materials that are hazardous, dangerous, or unsanitary separately from other waste by containerizing.

Dispose of all waste material in a lawful manner.

1.13 Site Drainage

Utilize the existing facilities for temporary drainage where feasible.

Maintain the existing site, existing building and construction areas free of water.

Dispose of rainwater in a lawful manner which will not result in flooding in project, nor endanger either existing or new WORK or temporary facilities.

Take necessary measures to prevent erosion.

1.14 Environmental Protection

Conduct all construction activities, by means and methods that comply with any and all environmental regulations, to minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result from the performance of WORK at the site.

1.15 General Protection

Provide protection from damage, dust, etc. to all items in vicinity of the CONTRACT WORK including, but not limited to, existing building surfaces, finishes, items of equipment, utilities, etc. The CONTRACTOR will repair any new damage caused and / or created due to this construction project, to Owner's satisfaction at no additional cost to Owner. (Non-Construction related damage would be exempt from this clause)

PART 2 – PRODUCTS OMITTED

PART 3 - EXECUTION

3.01 General Operations

Supervision: Limit the availability of temporary services and facilities to essential and intended uses to minimize waste and abuse.

Do not permit temporary installation to be abused or endangered.

Maintenance: Operate and maintain temporary services and facilities in good operating condition and in a safe and efficient manner until removal is authorized.

Do not overload services or facilities.

Protect from damage by freezing temperatures and/or similar elements.

Do not allow unsanitary and/or hazardous conditions to develop or persist on site.

Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24-hour basis where required to achieve indicated results and avoid the possibility of damage to the WORK or to temporary facilities.

3.02 General Removal

Remove each temporary service and facility promptly when need has ended, or when it is replaced by use of a permanent facility, but no later than Substantial Completion.

Complete or, if necessary, restore permanent WORK delayed because of interference with the temporary service or facility.

Repair all damaged WORK, clean exposed surfaces and replace any WORK which cannot be repaired.

Clean and renovate any permanent services and/or facilities that may have been used to provide a temporary service and/or facilities during the construction period.

END OF DOCUMENT 01500 – TEMPORARY FACILITIES

PART 1 - GENERAL

1.01 Related Documents

Drawings and general provisions of Contract, including General and Supplementary General Conditions and other Division-0 Specification sections, apply to the WORK of this section.

1.02 Description of Requirements

Definitions: Close-out is hereby defined to include general requirements near end of the Contract Time, in preparation for final acceptance, final payment and normal termination of contract.

Specific requirements for individual units of WORK are specified in sections of Division 0 through 16. Time of close-out is directly related to the "Substantial Completion", and must be a single time period for entire WORK.

1.03 Prerequisites to Substantial Completion

General: Prior to requesting the ENGINEER's inspection for certification of Substantial Completion, complete the following and list any known exceptions (if any) in request.

The in progress payment request will coincident with or first following date claimed, show either 100% completion for portion of WORK claimed as "Substantially Complete", or list incomplete items, value of incompleteness, and reasons for the items being incomplete.

Include any supporting documentation required for completion as indicated in these Contract Documents.

Submit statement showing accounting of any changes to the Contract Sum.

Contractor shall notify and advise the OWNER of any pending insurance change over requirements.

Submit specific warranties, workmanship / maintenance bonds, maintenance agreements, final certifications and similar documents.

Obtain and submit releases enabling OWNER's full and unrestricted use of the WORK and access to services and utilities, including, where required, Occupancy Permits, operating certificates, and similar releases.

Deliver tools, spare parts, extra stocks of materials, and similar physical items to the OWNER.

Complete the start-up testing of the systems, and deliver the instructions of the operating systems to the OWNER and / or maintenance personnel. Discontinue (or change over) and remove from project site all temporary facilities and services, along with any construction tools and facilities, mock-ups, and similar elements.

Complete the final cleaning up requirements, including the touch-up of any marred surfaces as required.

Touch-up and otherwise repair and restore marred exposed finishes.

1.04 Inspection Procedures

Upon the receipt of the Contractor's request. The Engineer of Record will either proceed with the inspection or advise the Contractor of any prerequisites not fulfilled.

Following the initial inspection the Engineer of Record will either prepare a Certificate of Substantial Completion, or advise the Contractor of WORK that must be performed prior to the issuance of the certificate; and repeat the inspection when requested and assured that WORK has been substantially completed.

The Engineer shall prepare a type written "punch-list" of items to be completed and attach it to the Substantial Completion Form. Results of the completed inspection will form initial "punch-list" for the final acceptance.

1.05 Prerequisites to Final Acceptance

General: Prior to requesting the ENGINEER's final construction review for certification of final acceptance and final payment, as required by General Conditions, complete the following and list any known exceptions (if any) in request:

Submit final payment request with final releases and supporting documentation not previously submitted and/or accepted. Include certificates of insurance for products and completed operations where required.

Submit updated final statement, accounting for additional (final) changes to Contract Sum.

Submit a certified copy of ENGINEER's "final punch-list" of itemized WORK to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by the ENGINEER.

Submit Consent of Surety.

Submit Certified and Notarized Lien Release stating that all parties have been or will be paid (showing amounts).

Submit final liquidated damages settlement statement, acceptable to OWNER.

Revise and submit evidence of final, continuing insurance coverage complying with insurance requirements.

Review Procedure: Upon receipt of Contractor's notice that WORK has been completed, including punch-list items resulting from earlier construction reviews, and excepting incomplete items delayed because of acceptable circumstances. The ENGINEER will re-inspect the WORK.

Upon completion of review, the ENGINEER will either prepare the Certificate of Final Acceptance or advise the Contractor of WORK not completed or of obligations not fulfilled as required for final acceptance.

If necessary, procedure will be repeated.

1.06 Equipment Close-out

General Operating / Maintenance Instructions: Arrange for each installer of the WORK that requires a continuing maintenance or operation, to meet with OWNER's personnel, at the project site, to provide basic instructions needed for the proper operation and any type of equipment maintenance.

Include instructions by manufacturer's representatives where installers are not experts in the required procedures.

Review maintenance manuals, record documentation, tools, spare parts and materials, lubricants, fuels, identification system, control sequences, hazards, cleaning and similar procedures and facilities.

For operational equipment, demonstrate start-up, shut-down, emergency operations, noise and vibration adjustments, safety, economy /efficiency adjustments, and similar operations.

Review maintenance and operations in relation with applicable warranties, agreements to maintain, bonds, and similar continuing commitments

1.07 Final Cleaning

For any special cleaning requirements for the specific units of WORK, would be specified in individual sections, of Divisions 2 through 16.

General cleaning during the progress of WORK is specified in General Conditions and as temporary services in "Temporary Facilities" section of this Division.

Provide final cleaning of the WORK, at time indicated, consisting of cleaning each surface or unit of WORK to normal "clean" condition as expected for a first-class building cleaning and maintenance program.

Comply with the manufacturer's instructions for cleaning operations. The following are examples, but not by way of limitation, of cleaning levels required:

Remove labels which are not required as permanent labels.

Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing any substances which are noticeable as a vision obscuring material. Replace broken glass and all damaged transparent materials.

Clean all exposed exterior and interior hard-surfaced finishes, to a dirt-free condition, free of dust, stains, films and similar noticeable distracting substances. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces. Restore reflective surfaces to the original reflective condition.

Wipe surfaces of mechanical and electrical equipment clean; remove any excess lubrication and other substances.

Remove debris and surface dust from limited-access spaces including roofs, plenums, shafts, attics and similar spaces.

Clean all light fixtures and lamps so as to function with full efficiency.

Clean the project site (within limits of construction), including landscape areas, of litter and foreign substances. Sweep paved areas to a broom-clean condition; remove stains, petro-chemical spills and other foreign deposits.

Removal of Protection: Except as otherwise indicated or requested by the ENGINEER and / or OWNER. Remove all temporary protection devices and facilities.

Comply with safety standards and governing regulations for the cleaning operations. Do not burn waste materials at site, or bury any debris or excess materials on the OWNER's property, or discharge volatile or other harmful or dangerous materials into the drainage systems. Remove all waste materials from site and dispose of in a lawful manner.

When extra materials are remaining after the completion of associated WORK, which have become the OWNER's property, dispose of these to OWNER's best advantage as directed.

END OF DOCUMENT 01700 – PROJECT CLOSE-OUT

PART 1 – GENERAL

1.01 Related Documents

Drawings and general provisions of CONTRACT, including General and Supplementary General Conditions and other Division-0 Specification sections, apply to the WORK of this section.

1.02 Summary

Section includes administrative and procedural requirements for the record set of documents, including the following;

- Record Set of Drawings.

- Record Set of Specifications.

- Related Sections:

 - Section 01700 - Project Close-Out.

1.03 Record Document Submittal

Submit the following copies of the Record Documents during or prior to the Project Close-out:

- Provide one complete full size color copies, of the "marked-up" record set of drawings.

- Provide one complete "marked-up" record set of specifications.

- Copies are to be distributed, one of each type to the OWNER.

1.04 Use and Storage

Store the Record Documents in the field office apart from the documents used for the construction. Do not use the Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition. Make all documents and samples available at all times for the OWNER, ENGINEERS and / or Building Inspectors as needed.

Each CONTRACTOR is responsible for obtaining, recording, and maintaining the Record Documents information for its own WORK. The CONTRACTOR is responsible for coordinating the information, where information from more than one CONTRACTOR is to be integrated with the information from other CONTRACTORS to form one combined record.

1.05 Record Drawings

Mark the Record Drawings to show the actual installation where the locations vary from the installation locations shown originally. Give particular attention to information on the concealed elements that would be difficult to identify or measure and record later. Items required to be marked include, but are not limited to, the following:

- Measured horizontal and vertical locations of underground utilities and other appurtenances, referenced to permanent surface improvements.

 - Locations of concealed internal utilities and appurtenances.

 - Actual equipment locations.

 - Revisions to routing of piping and conduits.

 - Duct size and routing.

 - Depths of foundations below the first floor.

 - Revisions to electrical circuitry.

 - Dimensional changes to the Drawings.

 - Revisions to details on the Drawings.

 - Details not on the original CONTRACT Drawings.

 - Changes made following the OWNER's written orders.

 - Changes made by Addendum, Change Orders, Requests for Information (RFIs), or ENGINEER's Supplemental Instructions (ASIs).

Mark the Record Drawings and Shop Drawings completely and accurately. Utilize personnel proficient at recording graphic information in the production of the marked-up Record Documents.

1.06 Record Specifications

Mark the Record Specifications to show Addendums, Change Orders, Requests for Information (RFIs), or ENGINEER's Supplemental Instructions (ASIs).

Indicate on the Record Specifications the actual product that was installed where the installation varies from the Specifications, addenda and CONTRACT modifications.

Give particular attention to information on concealed products and the installations that cannot be readily identified and recorded later.

Mark the Record copy with the propriety name and model number of products, materials and equipment furnished, including substitutions and product options selected.

Record the name of manufacturer, supplier, installer and other necessary to provide a record of selections made.

For each principal product, indicate whether the record Product Data has been submitted in the operation and maintenance manuals instead of submitted as record Product Data.

Note related Change Orders and turnover drawings where applicable.

PART 2 – PRODUCT OMITTED

PART 3 – EXECUTION

3.01 Preparation

Daily mark the Record Documents to show the actual conditions where the installation varies from that shown originally. Require the individual or entity who obtained the record data, whether that individual or entity is the Installer, Sub-contractor or similar entity to provide the information for the preparation of the corresponding marked-up Record Set of Drawings.

Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.

Accurately record information in an acceptable drawing technique.

Record data as soon as possible after obtaining it.

Record and check the mark-up before enclosing the concealed installations.

Record the changes and modifications as they occur. Do not wait until the end of the Project.

3.02 Recording

During construction, maintain an extra set of the CONTRACT Documents specifically for the purpose of creating the Record Documents. Keep them separate from the set used for construction.

Stamp each sheet of the Record Drawings and the cover of the Record Specifications in the lower right-hand corner with a reasonably large ink stamp to read "Record Set".

Mark Record Set Documents with a red pencil or pen. Use other colors to distinguish between changes for different categories of the WORK at the same location or for clarity. (All marks shall be photo reproducible.)

Mark the record documents completely and accurately.

Indicate any additional important information that was either shown schematically or omitted from the CONTRACT Documents.

Mark the Record Documents to indicate actual WORK done that deviates from the CONTRACT Documents.

Maintain the Record Documents in good order and in a clean, dry, legible condition.

Make all Record Documents and samples available at all times for the OWNER, ENGINEERS and / or Building Inspectors as needed.

After completing the preparation of the Record Documents, prepare the drawings and specifications for distribution.

Submit the Record Documents, whether or not any changes and / or additional information was recorded.

END OF DOCUMENT 01750 – RECORD DOCUMENTS

APPENDIX A

TECHNICAL SPECIFICATIONS

SECTION 01 33 00 - SUBMITTALS

PART 1 - GENERAL

1.1 DESCRIPTION AND REQUIREMENTS

- A. Type of Submittals. This Section of the Specifications describes the procedures for submittals of Schedule of Submittals, Schedule of Construction, Insurance Certificates, List of Subcontractors, Anticipated Payment Schedules, Shop Drawings, Product Data, Samples, and miscellaneous work-related submittals.
- B. Submittal Contents. The submittal contents required are specified in each section and in this specification.
- C. Definitions. Submittals are categorized as follows:
 - 1. Shop Drawings:
 - a. Shop drawings shall include technical data, drawings, diagrams, performance curves, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information as applicable to the specific item for which the shop drawing is prepared.
 - b. Provide newly-prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated) or appropriate number of prints hereof, with name of preparer (firm name) indicated. The Contract Drawings shall not be traced or reproduced by any method for use as or in lieu of detail shop drawings. Show dimensions and note which are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards and special coordination requirements. Do not allow shop drawing copies without appropriate final "Action" markings by the Engineer to be used in connection with the Work.
 - 2. Product Data:
 - a. Product data includes standard printed information on materials, products and systems, not specially prepared for this project, other than the designation of selections from among available choices printed therein.
 - b. Collect required data into one submittal for each unit of work or system, and clearly mark each copy to show which choices and options are applicable to project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked, and special coordination requirements.
 - c. Show all performance characteristics, capacities, clearances required, and wiring or piping diagrams. Supplement standard information to provide all information specifically applicable to work.
 - 3. Samples:
 - a. Samples include both fabricated and unfabricated physical examples of materials, products and units of work, both as complete units and as smaller portions of units of work, either for limited visual inspection or (where indicated) for more detailed testing and analysis.

- b. Provide units identical with final condition of proposed materials or products for the work. Include "range" samples (not less than 3 units) where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of optional samples where the Engineer's selection is required. Prepare samples to match the Engineer's sample where indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations, and compliance with standards. Samples are submitted for review and confirmation of "kind" by the Engineer. Engineer will not "test" samples (except as otherwise indicated) for other requirements, which are the exclusive responsibility of the Contractor.
- c. Samples shall be of sufficient size to clearly indicate functional characteristics of the products and full range of color, texture, and pattern.
- 4. Miscellaneous submittals related directly to the work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, statements of applicability, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, and similar information, devices and materials applicable to the Work but not processed as shop drawings, product data or samples.

D. List of Required Submittals:

| <u>No.</u> | <u>Description</u> | <u>Section No.</u> |
|------------|--|--------------------|
| 1. | Notice of Intent to Use Generic Permit | 01 41 26.02 |
| 2. | Notice of Termination of Construction | 01 41 26.02 |
| 3. | Operation and Maintenance Data | 01 78 23.01 |
| 4. | Concrete Design Mixes | 03 30 00 |
| 5. | Shop Drawings for Reinforcement | 03 30 00 |
| 6. | Concrete Testing Reports | 03 30 00 |
| 7. | Product Data for Unit Masonry and Accessories | 04 20 00 |
| 8. | Product Data and Shop Drawings | 05 12 00 |
| 9. | Test Reports on Connections | 05 12 00 |
| 10. | Qualification Data for Quality Assurance Person | 05 12 00 |
| 11. | Product Data, Shop Drawings and Samples | 05 52 13 |
| 12. | Product Data, Fastener Patterns, Material Certifications, Reports and Qualification Statements | 06 10 00 |
| 13. | Shop Drawings and Design Values | 06 19 20 |
| 14. | Product Data | 07 21 00 |
| 15. | Product Data, Shop Drawings and Samples | 07 41 13.16 |
| 16. | Product Data and Samples | 07 46 33 |
| 17. | Product Data and Samples | 07 92 00 |
| 18. | Product Data and Shop Drawings | 08 11 16 |
| 19. | Product Data, Shop Drawings and Samples | 08 33 23 |
| 20. | Product Data, Shop Drawings, Samples and Hardware Set Schedule | 08 71 00.01 |
| 21. | Product Data, Samples and Product List | 09 96 00 |
| 22. | Product Data, Samples and Product List | 09 96 53 |
| 23. | Catalog Data, Shop Drawings and List | 26 05 00 |

| | | |
|-----|---|-------------|
| 24. | Specification Sheet, Controls, Dimensional Drawing, Wiring Schematic and Sound Data | 26 32 13 |
| 25. | Product Data, Shop Drawings and Field Quality Control Test Reports | 26 36 00 |
| 26. | Product Data and Material Test Reports | 31 00 00 |
| 27. | Shop Drawings and Engineering Data | 32 31 13 |
| 28. | Shop Drawings and Engineering Data | 33 05 51 |
| 29. | Product Data | 40 05 51 |
| 30. | Product Data, Shop Drawings, Manufacturer's Certifications and Field Test Reports | 40 71 13.13 |
| 31. | Product Data and Drawings | 40 75 21 |
| 32. | Product Data and Drawings | 40 76 26 |
| 33. | Shop Drawings and Product Data | 41 22 23 |
| 34. | Shop Drawings, Schematics and Technical Data | 43 21 03 |
| 35. | Shop Drawings and Product Data | 46 31 11.03 |

1.2 GENERAL SUBMITTAL REQUIREMENTS

- A. Scheduling. Where appropriate in various required administrative submittals (listings of products, manufacturers, supplier and subcontractors, and in job progress schedule), show principle work-related submittal requirements and time schedules for coordination and integration of submittal activity with related work in each instance.
- B. Coordination of Submittal Times. Prepare and transmit each submittal to the Engineer sufficiently in advance of performing related work or other applicable activities, so the installation will not be delayed or improperly sequenced by processing times, including non-approval and resubmittal (if required). Coordinate with other submittals, testing, purchasing, delivery and similar sequenced activities. No extension of time will be authorized because of Contractor's failure to transmit submittals to the Engineer sufficiently in advance of the work.
- C. Sequencing Requirements. As applicable in each instance, do not proceed with a unit of work until submittal procedures have been sequenced with related units of work, in a manner which will ensure that the action will not need to be later modified or rescinded by reason of a subsequent submittal which should have been processed earlier or concurrently for coordination.
- D. Preparation of Submittals. Provide permanent marking on each submittal to identify project, date, Contractor, subcontractor, submittal name and similar information to distinguish it from other submittals. Show Contractor's executed review and approval marking and provide space for the Engineer's "Action" marking. Package each submittal appropriately for transmittal and handling. Submittals which are received from sources other than through the Contractor's office will be returned "without action".
- E. Transmittal Identification.
 1. Number transmittals in sequence for each Division of the Specifications. The number before the dash indicates the Section of the Specifications, and the number after the dash is the sequence number of the transmittal (33 11 00-1 would be the first transmittal

applicable to Section 33 11 00 of the Specifications. 33 11 00-2 would be the second transmittal for Section 33 11 00, etc.)

2. Identify resubmittals with a letter of the alphabet following the original number, using A for the first resubmittal, B for the second resubmittal, etc. A resubmittal affecting transmittal 33 11 00-1 would then be numbered 33 11 00-1A. The 33 11 00-1 would then be entered in the space "Previous Transmittal Number", which is left blank except on resubmittals.

1.3 SPECIFIC CATEGORY REQUIREMENTS

- A. General. Except as otherwise indicated in the individual work sections, comply with general requirements specified herein for each indicated category of submittal.

1. Submittals shall be accompanied by a cover sheet which shall contain:
 - a. The date of submission and the dates of any previous submissions.
 - b. The Project title and number.
 - c. Date.
 - d. Contract No.
 - e. The names of the:
 - 1) Contractor
 - 2) Supplier
 - 3) Manufacturer
 - f. Identification of the product, with the Specification Section number.
 - g. A list of all the sheets included in the submittal.
 - h. Field dimensions, clearly identified as such.
 - i. Relation to adjacent or critical features of the work or materials.
 - j. Applicable standards, such as ASTM or Federal Specification numbers.
 - k. Notification to the Engineer in writing, at time of submission, of any deviations on the submittals from requirements of the Contract Documents.
 - l. Identification of revisions on resubmittals.
 - m. An 8 inch x 3 inch blank space for Contractor and Engineer stamps.
 - n. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the Work and of Contract Documents.
 - o. Submittal sheets or drawings showing more than the particular item under consideration shall have all but the pertinent description of the item for which review is requested crossed out.

1.4 CONTRACTOR RESPONSIBILITIES

- A. In addition to any other requirements of this section, the Contractor shall be responsible to:
 1. Review shop drawings, product data and samples prior to submission.
 2. Determine and verify:
 - a. Field measurements.
 - b. Field construction criteria and required clearances.
 - c. Catalog numbers and similar data.
 - d. Conformance with specifications.
 3. Coordinate each submittal with requirements of the work and of the Contract Documents.

4. Notify the Engineer in writing, at time of submission, of any deviations in the submittals from requirements of the Contract Documents.
5. Begin no fabrication or work which requires submittals until return of submittals with Engineer approval.

1.5 ROUTING OF SUBMITTALS

- A. Submittals and routine correspondence shall be routed as follows:
1. Supplier to Contractor (through representative if applicable) for detailed review.
 2. Contractor to Consulting Engineer for review or comment.
 3. Consulting Engineer to Contractor.
 4. Contractor to Field Office and Supplier.

1.6 SUBMITTAL COPIES REQUIRED

- A. Shop Drawings, Product Data, and Miscellaneous Submittals. All released submittals will be distributed as follows:

| | |
|-------------------|-----------------|
| 1. For Poly, Inc. | 2 copies |
| 2. For Owner | 2 copies |
| 3. For Contractor | 3 copies |
| TOTAL | <u>7 copies</u> |

- B. To the above number may be added additional copies as required by the Contractor.
- C. The Engineer will mark all copies of each shop drawing. One will be retained in the Engineer's office, one sent to the Engineer's Field office, two will be retained for the Owner and the remaining copies sent to the Contractor for his records and distribution.

NOTE: Electronic submittals may be substituted for paper submittals with the approved of the Owner.

- D. For nonapproval items, such as parts lists, operation and maintenance data, four (4) copies are required, unless specified otherwise:

| | |
|-------------------|-----------------|
| 1. For Poly, Inc. | 2 copies |
| 2. For Owner | 2 copies |
| TOTAL | <u>4 copies</u> |

- E. Samples
1. Submittal. At Contractor's option, provide preliminary submittal of a single set of samples for the Engineer's review and "action." Otherwise, initial submittal is final submittal unless returned with "action" which requires resubmittal. Submit two (2) sets of samples in final submittal; one set will be returned.
 2. Quality Control Set. Maintain returned final set of samples at project site, in suitable condition and available for quality control comparisons by Engineer and by others.

1.7 REVIEW OF SUBMITTALS

- A. Review Time. Allow a minimum of two (2) weeks for the Engineer's initial processing of each submittal requiring review and response, except allow longer periods where processing must be delayed for coordination with subsequent submittals or when a sufficiently large number of submittals are sent during a short period. The Engineer will advise the Contractor promptly when it is determined that a submittal being processed must be delayed. Allow two weeks for reprocessing each submittal. Advise the Engineer on each submittal as to whether processing time is critical to progress of the work, and therefore the work would be expedited if processing time could be foreshortened.
- B. Engineer's Action:
1. Final Unrestricted Release. Work may proceed, provided it complies with contract documents, when submittal is returned with the following:
 - a. Marking: "A" - No Exceptions Taken.
 2. Final-But-Restricted Release. Work may proceed, provided it complies with notations and corrections on submittal and with contract documents, when submittal is returned with the following:
 - a. Marking: "B" - Make Corrections Noted.
 3. Returned for Resubmittal. Do not proceed with Work. Revise submittal in accordance with notations thereon, and resubmit without delay to obtain a different action marking. Do not allow submittals with the following marking (or unmarked submittals where a marking is required) to be used in connection with performance of the work.
 - a. Marking: "C" - Revise and resubmit.
 - b. Marking: "D" - Rejected - Does Not Comply with Project Requirements.
 4. Only three (3) copies of items marked "C" or "D" will be reviewed and marked. One copy will be retained in the Poly, Inc. office and the other copies with all remaining unmarked copies will be returned to the contractor for resubmittal.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 33 00

SECTION 01 35 24 - SAFETY

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. The Contractor shall be responsible for conducting all work in a safe manner and taking all necessary precautions to ensure the safety and protection of workers, property, and the general public. The Contractor's responsibility for protecting the public is described in the "General Conditions".
- B. All construction work shall be conducted in accordance with the latest applicable requirements of 29CFR, Part 1926, Subpart P of the Occupational Safety and Health Act, Safety and Health Regulations for Construction, Section 107 of the Contract Work Hours and Safety Standards Act, as well as any other local and state safety codes and regulations.
- C. The Contractor shall designate a trained and qualified employee who is to be responsible for ensuring that the work is performed safely and in conformance with all applicable regulations.
- D. The Contractor shall determine for himself the safety hazards involved in prosecuting the work and the precautions necessary to conduct the work safely. If the Contractor is unsure as to any special hazards which may be unique on this project, it shall be his responsibility to hire a qualified professional to assist the Contractor in completing the project in a safe manner.
- E. The Contractor shall bear all risks associated with performing the work and shall fully indemnify the Owner and Engineer.
- F. All traffic control shall conform to the Manual on Uniform Traffic Control Devices published by the U.S. Department of Transportation, Federal Highway Administration.
- G. The Contractor shall comply with all provisions of the Trench Safety Act.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 35 24

SECTION 01 41 26.02 - FDEP STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY

PART 1 - GENERAL

1.1 SUMMARY

- A. Not applicable.

1.2 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.
 - 1. ENVIRONMENTAL PROTECTION AGENCY (EPA):
 - a. EPA Publications 832-R-92-005 (SEP 1992) Storm Water Management for Construction Activities - Developing Pollution Prevention Plans and Best Management Practices.
 - b. EPA Stormwater Pollution Prevention for Construction Activities, Office of Wastewater Enforcement and Compliance, U. S. Environmental Protection Agency, Washington, D.C., 20460, as amended.
 - B. FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP):
 - 1. The Generic Permit for Stormwater Discharge from Construction Activities that Disturb One Acre or more of Land (CGP) (DEP Document 62-621.300 (4) (a)).
 - 2. CGP Notice of Intent (NOI) (FDEP Form 62-621.300 (4) (b)).
 - 3. CGP Notice of Termination (NOT) (FDEP Form 62-621.300 (6)).

1.3 GENERAL REQUIREMENTS

- A. Permit: The scope of work includes filing a Notice of Intent (NOI) with the FDEP NPDES Stormwater Notices Center at least thirty (30) days prior to initiating construction activities. Additionally, a site specific Stormwater Pollution Prevention Plan (SWPPP) shall be prepared for the project. Grading operations shall be undertaken only after the permit has been issued and all construction activities shall be prosecuted in accordance with the Contractor's approved SWPPP and the rules of the various authorities having jurisdiction. The Contractor shall comply with the FDEP regulation and SWPPP for construction practices, and conducting tests, inspections, and other activities required by law to prevent pollution of the waters of the state.
 - 1. The Contractor shall by his administrative and construction practices maintain the permit in effect until the eligibility requirements for termination specified in the CGP have been met. At that time the Contractor shall file a Notice of Termination with the FDEP NPDES Stormwater Notices Center.
- B. Submittals: Two (2) copies of the NOI and all applications, plans, reports, tests, NOT, and all other documents and correspondence submitted to or received from the regulating agencies shall be submitted to the Owner and Engineer.

1. Submit names and qualifications of Contractor personnel assigned to inspect implementation and effectiveness of the BMP Plan. Submit phone numbers for Contractor personnel on a 24 hour basis in case of emergency.
 2. At the termination of the project the Contractor shall furnish to the owner one copy of all records of inspections and monitoring information along with materials listed above in a bound volume or volumes filed by date for records retention.
- C. Record Retention: The Contractor and the owner shall maintain records listed in 1.3.2. for a period of three (3) years.

1.4 FORMS AND INSTRUCTIONS

- A. The Contractor shall obtain at his expense all forms, instructions, rules and reference publications required and needed to obtain and implement the general permit. Forms and instructions can be obtained from NPDES Stormwater Program, 2600 Blair Stone Road, Mail Station 2500, Tallahassee, Florida 32399. Information may also be obtained from the FDEP website at <http://www.dep.state.fl.us/water/stormwater/npdes/construction3.htm>.

1.5 APPLICATION, FORMS, AND DATA

- A. The application to FDEP Stormwater Notices Center shall contain the following items:
1. Notice of Intent.
 2. Appropriate permit fee.
 3. A Copy of the SWPPP (If required by the FDEP).
- B. Site specific data required on the NOI and site location map will be furnished by the engineer and attached to these specifications.

1.6 LIABILITY

- A. Liability and responsibility for compliance with the permittee's duties under this permit are not delegable by contract or otherwise. The permittee shall ensure that any agent, Contractor, subcontractor or other person employed by, under contract, or paid a salary by the permittee complies with this permit. Any violations resulting from the actions of such person shall be considered violations of this permit and may subject the permittee to enforcement action.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 FORMS

- A. Prepare and execute all forms and reports as required, conduct all necessary tests and prosecute the work in accordance with the SWPPP.

END OF SECTION 01 41 26.02

SECTION 01 57 13.02 - TEMPORARY EROSION CONTROL FOR FLORIDA

PART 1 - GENERAL

1.1 SCOPE OF THE WORK

- A. Erosion control shall be employed during the construction period and shall include all necessary temporary measures required to prevent soil erosion from the site until permanent erosion control and finished surfaces are installed.
- B. Erosion control measures shall be considered incidental to all construction involving land disturbing activities.

1.2 RELATED SECTIONS

- A. Section 01 41 26.02 - FDEP Stormwater Permit for Construction Activity

1.3 QUALITY ASSURANCE

- A. The Contractor shall comply with applicable codes, rules, ordinances, regulations, and laws of local, municipal, state or federal authorities having jurisdiction over the project.
- B. Work on the various state and federal highways shall comply with the current Standard Specifications for Construction.
- C. Erosion control measures for construction shall conform to these Specifications and the applicable federal, state, or local codes regarding erosion.

PART 2 - PRODUCTS

2.1 SLOPE DRAINS

- A. Slope drains shall be flexible plastic pipe of a manufacture for the intended purpose.

2.2 FILTER CLOTH

- A. Filter cloth for silt fences shall be a pervious sheet of synthetic polymer filaments forming a stable network so that fibers retain their relative positions. Filter cloth shall be of the type recommended by its manufacturer for the intended application. The filter cloth shall meet the following requirement.
 - 1. Minimum Average Thickness: 30 mils (by ASTM D1777).
 - 2. Air Permeability: 250 to 550 C.F.M./Sq. Ft.
 - 3. Minimum Grab Strength: 110 lbs. (by ASTM D1682).

PART 3 - EXECUTION

3.1 GENERAL

- A. Temporary erosion control construction shall be directed toward and have the purpose of controlling soil erosion at its potential source. Downstream sediment entrapment measures shall be employed, but only as a backup to primary control at the source.
- B. A continuing program of installation and maintenance of sediment control shall be employed during the construction period.

3.2 TEMPORARY EROSION CONTROL DURING CONSTRUCTION

- A. Temporary erosion control construction shall be employed until such time as permanent paving, planting, and restoration of natural areas is effective in control of erosion from the site. Measures shall conform to the SWPPP approved as part of the submittal required in Section 01 41 26.02 of these specifications.
- B. Silt Fences:
 - 1. Temporary silt fences shall be located at all points where surface water can leave the construction area if the source area is subject to soil erosion.
 - 2. Silt fences shall be constructed to remove sediments from flowing water through filtration and sedimentation. Silt fences shall be constructed in accordance with the details shown on the drawings and the manufacturer's printed instructions.
 - 3. Silt fences shall be arranged to create ponding behind them. Provision shall be made for removing accumulated sediments and maintaining ponding capacity.
 - 4. Silt fences shall be removed and the area restored when permanent erosion control is effective.
- C. Grading Operations: Grading operations shall be scheduled so that the ground surface will be disturbed for the shortest possible time before permanent construction is installed. Large areas shall be maintained as flat as possible to minimize soil transport through surface flow.
 - 1. Wherever steeper slopes or abrupt changes in grade are required, a diversion or berm shall be constructed at the top of the slope to cause the surface water to flow along the diversion to a control point to be transported downslope in a slope drain. In no case shall surface water be allowed to flow uncontrolled down slopes.
- D. Slope Drains: Temporary slope drains shall be provided to convey surface water down slopes. Slope drains shall be provided with an apron at their tops to anchor them and properly direct water into them. Stone or rubble shall be placed at slope drain outlets to prevent scour at these points.
- E. Ground Cover:
 - 1. All exposed soils sloping 5% or greater shall be protected by application of ground cover.
 - 2. Ground cover may consist of any effective erosion preventative treatment such as straw or other mulches, plantings, etc.
 - 3. All grassing or planting operations shall include mulching as stabilization until ground cover by planting is effective.

- F. Hay Bales: This work shall consist of construction of baled hay or straw dams to protect against downstream accumulations of silt. The baled hay or straw shall be constructed as detailed or in such a manner to remain securely in place subject to the approval of the Engineer. The dam shall be placed so as to effectively control silt dispersion under conditions present on this project.

3.3 CLEANUP AND REMOVAL

- A. At the time that permanent erosion control is effective temporary devices and their accumulated sediments shall be removed.

END OF SECTION 01 57 13.02

SECTION 01 61 00 - GENERAL MATERIALS STIPULATIONS

PART 1 - GENERAL

1.1 SCOPE

- A. These General Materials Stipulations apply, in general, to all equipment and piping. They supplement the detailed specifications, but in case of conflict, the detailed specifications shall govern.

1.2 COORDINATION

- A. The Contractor shall assume full responsibility for the coordination of the installation of all materials and products furnished under these Contract Documents. The Contractor shall be completely responsible for verification that all structures, piping and components furnished by him and/or his Subcontractors and Suppliers are compatible. The Contractor shall start up each system and shall make all necessary adjustments to place each system in proper operating condition.

1.3 PATENT ROYALTIES

- A. All royalties and fees for patents covering materials, articles, apparatus, devices, or equipment shall be included in prices bid by the Contractor. Attention is directed to the requirements of the "General Conditions" concerning patents.

1.4 GUARANTEE

- A. The Contractor shall guarantee all material against faulty or inadequate design, improper assembly or erection, defective materials, defective workmanship breakage or other failure. The guarantee period shall be defined in The General Conditions.

1.5 WORKMANSHIP AND MATERIALS

- A. All material shall be designed, fabricated, and assembled in accordance with the best modern engineering and shop practice. Individual parts shall be manufactured to standard sizes and gages so that repair parts, furnished at any time, can be installed in the field. Like parts of duplicate units shall be interchangeable. Material shall be new and shall not have been in service at any time prior to delivery, except as required by tests.
- B. Materials shall be suitable for service conditions. Iron castings shall be tough, close grained, gray iron free from blowholes, flaws, or excessive shrinkage and shall conform to ASTM A 48, Class 30 minimum. Plugging of defective castings shall not be permitted. Castings shall be annealed to remove internal stresses prior to machining and shall have the mark number and heat number cast on them.

- C. Except where otherwise specified, structural and miscellaneous fabricated steel shall conform to the Standards of the American Institute of Steel Construction.

1.6 SHOP PRIMING AND PAINTING

- A. All iron and carbon steel surfaces of shop fabricated equipment and all ferrous and nonferrous surfaces specified to be shop primed or painted shall be painted in the shop with one or more coats of primer.
- B. All surfaces to be primed in the shop shall have all rust, mill scale, grease, oils, mud, dirt, welding flux, slag, weld spatter, and other foreign material removed after fabrication and prior to application of primer. Welds shall be scraped, chipped, and brushed as necessary to remove all embedded slag or weld spatter. Sharp edges of cut or sheared edges shall be dulled by at least one pass of a power grinder to improve paint adherence. Surface preparation prior to shop priming shall conform to that specified in the detailed equipment specifications. Where surface preparation prior to shop priming is not otherwise specified, iron and carbon steel surfaces that will not be placed in immersion service shall be given a commercial blast cleaning in accordance with Steel Structures Painting Council Specification SP-6. Iron and carbon steel surfaces that will be placed in immersion service shall be blasted in accordance with SSPC-SP 10 Near White Blast Cleaning. Galvanized, aluminum and stainless steel surfaces shall be abrasive blasted in accordance with SSPC-SP 7 Brush Off Blast Cleaning producing a minimum anchor profile of 1.0 mil. Copper surfaces shall be cleaned with a mild solution of phosphoric acid and buffed or polished to a bright finish. Cleaned surfaces shall be primed immediately after cleaning. Sand-blasting shall not be permitted on electrical or mechanical equipment after assembly. Sandblasting shall achieve an anchor pattern or blast profile of between 30 and 40 percent of the dry film thickness of the first applied coat of primer.
- C. Primers shall be applied with suitable brushes, rollers, or spray equipment at a rate of application not to exceed the manufacturer's recommended rate for the surface being painted. Primer shall not be applied in areas where there is an excessive amount of dust present in the air. Primer shall be mixed, stored, and applied in strict adherence to the manufacturer's recommendations. Primed surfaces shall be smooth and free of brush marks, streaks, laps, runs, or skipped or missed areas. Special care shall be taken to ensure that all cracks, corners, and crevices are filled with primer. Shop primed materials shall not be handled or assembled until the shop coating is dry and hard.
- D. Where shop primers are not otherwise specified, iron and carbon steel surfaces shall be coated with one coat of NSF approved, organic zinc rich urethane primer equal to Tnemec Series 91 H2O Hydro-Zinc applied to achieve a minimum dry film thickness of 2.5 mils. Galvanized, stainless steel and aluminum surfaces shall be coated with one coat of polyamide epoxy primer equal to Tnemec Series 20 Pota-Pox applied at a rate to achieve 2.0 mils minimum.
- E. Unless otherwise specified, miscellaneous iron castings shall be given a commercial blast cleaning and coated in the shop with one coat of Polyamidoamine epoxy applied to a minimum dry film thickness of 6.0 mils. Polyamidoamine epoxy shall equal Tnemec Series N140-1211 Pota-Pox Plus.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 61 00

SECTION 01 74 23 - CLEANUP

PART 1 - GENERAL

1.1 GENERAL

- A. This section covers the general cleanup which the Contractor shall be required to perform both during construction and before final acceptance of the project unless otherwise shown on the Drawings or specified elsewhere in these Specifications.

1.2 HAZARD CONTROL

- A. The Contractor shall prevent accumulation of wastes which create hazardous conditions.
- B. Burning or burying rubbish and waste materials on the site shall not be allowed.

1.3 DISPOSAL OF SURPLUS MATERIALS

- A. Unless otherwise shown on the Drawings, specified or directed, the Contractor shall dispose of all surplus excavated materials and equipment from demolition, legally off the site, and shall provide his own suitable, off-site spoil area, unless an on-site area is designated by the Owner.

1.4 DURING CONSTRUCTION

- A. Execute periodic cleanup to keep the work, the site and adjacent properties free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations.
- B. Provide on-site containers for the collection of waste materials, debris and rubbish.
- C. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.

1.5 FINAL CLEANING

- A. The Contractor shall:
 - 1. Remove from the site all waste material and leave the site with an appearance acceptable to the Engineer.
- B. Restoration of Landscape Damage. Any landscape feature scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition at the Contractor's expense. The Engineer will decide what method of restoration shall be used.

- C. Post-Construction Cleanup or Obliteration. The Contractor shall obliterate all signs of temporary construction facilities such as haul roads, work areas, structures, stockpiles of excess or waste materials, or any other vestiges of construction, as directed by the Engineer.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 74 23

SECTION 01 78 23.01 - OPERATION AND MAINTENANCE DATA - SHORT FORM

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The Contractor shall provide five (5) copies of a complete and comprehensive referenced manual containing operating and maintenance data to enable operators and plant engineers to correctly operate, service, and maintain all equipment and accessories covered by the detailed equipment specifications. The data contained in the manual shall explain and illustrate clearly and simply all principles and theory of operation, operating instructions, maintenance procedures, calibration procedures, and safety precautions and procedures for the equipment involved. Safety precautions and procedures shall be stressed.

1.2 SUBMITTAL

- A. The Contractor shall submit to the Engineer for approval two (2) preliminary copies of the data reference manual with all specified material before the work covered by these Contract Documents is 50 percent complete. No payment for greater than 50 percent of the Contract Price will be made until all the preliminary copies of the manual are submitted and the submittal is satisfactory to the Engineer. Before the work is 80 percent complete, the Contractor shall submit five (5) copies of each manual complete in detail as specified below. No payment for more than 80 percent of the Contract Price will be made until all the final copies of the manuals are submitted and the submittal is satisfactory to the Engineer. The Engineer will notify the Contractor in writing of any deficiencies in the manual and will return the manual for completion and/or correction. The Contractor shall submit five (5) copies of any revised or additional data required to complete the manual or as required by the Engineer.
- B. At the time of the inspection for substantial completion, the Engineer will notify the Contractor of any revisions, corrections or incomplete data required for the satisfactory completion of the Operating and Maintenance Data Reference Manual. The Engineer will not recommend final acceptance of the work or final payment until the Operating and Maintenance Data Reference Manual is complete and satisfactory to him.

1.3 CONTENTS OF OPERATING AND MAINTENANCE DATA REFERENCE MANUAL

- A. The operating and Maintenance Data Reference Manual shall contain, but is not limited to, the following information on all equipment and accessories furnished and installed under these specifications.
 - 1. Equipment function, normal operating characteristics, and limiting conditions for all equipment furnished.
 - 2. Detailed assembly, installation, alignment, adjustment, and checking instructions for all equipment furnished.
 - 3. Detailed operating instructions for start-up, calibration, routine and normal operation, regulation and control, shutdown and emergency conditions for all equipment furnished.

4. Detailed lubrication instructions and schedules for all equipment furnished including identification of lubricant (description, specification and trade name of at least two manufacturers), diagrams illustrating lubrication points.
5. Detailed guide to "troubleshooting" for all equipment furnished.
6. Detailed parts list identified by generic title, materials of construction and part number (actual manufacturer's number, not Supplier's) list of recommended spare parts identified as specified above, and predicted life of parts subject to wear, and an exploded view of each equipment assembly for all equipment furnished.
7. Detailed disassembly, overhaul, and reassembly instructions for all equipment furnished.
8. Electrical and instrumentation schematics for all equipment furnished, including motor control centers, control panels, instrument panels, and analyzer panels.
9. List of all special tools supplied and description of their use for all equipment furnished. Special tools include any tool not normally available in an industrial hardware or mill supply house.
10. Detailed preventive maintenance procedures and schedules for all equipment furnished.
11. Detailed list of settings for relays, pressure switches, temperature switches, level switches, thermostats, alarms, relief valves, rupture discs, etc.
12. One copy of all record shop drawings and engineering data for all equipment furnished.
13. Performance and characteristics operating curves for all equipment furnished.
14. List of names and addresses of nearest service centers for parts, overhaul, and service.
15. Three (3) copies of any instructions and parts list attached to equipment when delivered.
16. Procedures for storing, handling, and disposing of any chemicals or products used with the equipment or system.
17. The suppliers O&M information will address the particular equipment furnished with specific details on operation and maintenance practices. General data will not be accepted.
18. No separate payment will be made for the Operating and Maintenance Data Reference Manual and the cost of said manual shall be included in the Contract Price.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 78 23.01

SECTION 31 00 00 - EARTHWORK

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01 41 26 - Stormwater Permit for Construction Activities.

1.2 SCOPE

- A. This specification section includes earthwork and related operations, including, but not limited to, dewatering, excavating all classes of material encountered, pumping, draining and handling of water encountered in the excavations, handling, storage, transportation, and disposal of all excavated and unsuitable material, construction of fills and embankments, backfilling around structures and pipe, backfilling all trenches and pits, compacting, all sheeting, shoring and bracing, preparation of subgrades, surfacing and grading, and any other similar, incidental, or appurtenant earth-work operation which may be necessary to properly complete the work.
- B. The Contractor shall provide all services, labor, materials, and equipment required for all earthwork and related operations necessary or convenient to the Contractor for furnishing a complete work as shown on the Drawings or specified in these Contract Documents.

1.3 GENERAL

- A. Earthwork operations shall be performed in a safe and proper manner with appropriate precautions being taken against all hazards.
- B. All excavated and filled areas for structures, trenches, etc., shall be maintained by the Contractor in good condition at all times until final acceptance by the Owner. All damage caused by erosion or other construction operations shall be repaired by the Contractor using material of the same type as the damaged material.
- C. Earthwork within the rights-of-way of the State Department of Transportation and the County Road Department shall be done in accordance with requirements and provisions of the permits issued by those agencies for the construction within their respective rights-of-way. Such requirements and provisions, where applicable, shall take precedence and supersede the provisions of these Specifications.
- D. The Contractor shall control grading in a manner to prevent water from running into excavations. Obstruction of surface drainage shall be avoided and means shall be provided whereby storm water can be uninterrupted in existing gutters, other surface drains, or temporary drains. Material for backfill or for protection of excavation in public roads from surface drainage shall be neatly placed and kept shaped so as to cause the least possible interference with public travel. Free access must be provided to all fire hydrants, meters, and private drives.

- E. No classification of excavated materials will be made. Excavation and trenching work shall include the removal and subsequent handling of all materials excavated or otherwise removed in performance of the contract work, regardless of the type, character, composition, or condition thereof.
- F. Tests of compaction and density shall be conducted by an independent testing laboratory approved by the Engineer. Costs of compaction tests performed by an independent testing laboratory shall be paid for directly by the Contractor. The Contractor shall make all necessary excavations and shall supply any samples of materials necessary for conducting compaction and density tests. The cost of all retests made necessary by the failure of materials to conform to the requirements of these Contract Documents shall be paid by the Contractor.
- G. All earthwork operations shall comply with the requirements of OSHA Construction Standards, Part 1926, Subpart P, Excavations, Trenching, and Shoring, and Subpart O, Motor Vehicles, Mechanized Equipment, and Marine Operations; and the Florida Trench Safety Act.
- H. It is understood and agreed that the Contractor has made a thorough investigation of the surface and subsurface conditions of the project and any special construction problems which might arise as a result of nearby watercourses and flood plains, particularly in areas where construction activities may encounter water-bearing sands and gravels or limestone solution channels. The Contractor shall be responsible for providing all services, labor, equipment, and materials necessary or convenient to him for completing the work within the time specified in these Contract Documents.

1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 00.
- B. Product Data: For each type of the following manufactured products required:
 - 1. Controlled low-strength material, including design mixture.
 - 2. Warning tapes.
 - 3. Tracer Wire.
- C. Qualification Data: For qualified testing agency.
- D. Material Test Reports: For each on-site and borrow soil material proposed for fill and backfill as follows:
 - 1. Classification according to ASTM D 2487.
 - 2. Laboratory compaction curve according to ASTM D 698 and/or ASTM D 1557.
- E. Field quality control reports.

1.5 QUALITY ASSURANCE

- A. Geotechnical Testing Agency Qualifications: Qualified according to ASTM E 329 and ASTM D 3740 for testing indicated.

PART 2 - PRODUCTS

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, SM, SC, CL, and ML according to ASTM D 2487, or a combination of these groups; free of rock or gravel larger than 2 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
 - 1. Liquid Limit: < 50.
 - 2. Plasticity Index: < 25.
 - 3. Maximum Dry Density: ≥ 100 pcf.
- C. Unsatisfactory Soils: Soil Classification Groups OL, CH, MH, OH, and PT according to ASTM D 2487, 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. Select Earth Backfill: Fine, sound, loose earth containing optimum moisture content for compaction to 100% of maximum density, free from all wood, vegetable matter, debris, and other objectionable material, and having scattered clods, stones, or broken concrete less than 1½ inches in maximum dimension except that the maximum particle size shall be ¾-inch when used with PVC or other flexible thermoplastic pipe.
- E. Select Backfill Borrow Material: Select backfill borrow material shall be obtained from offsite and shall be an approved sand/clay free from all wood, vegetable matter, debris, or other objectionable material.
- F. Topsoil: Material suitable for topsoil obtained from excavations or offsite areas. Material to be natural, friable soil representative of productive, well-drained soils in the area, free of subsoil, stumps, rocks larger than 1 inch in diameter, brush, weeds, toxic substances, and other material detrimental to plant growth. Amend topsoil pH range to obtain a pH of 5.5 to 7.

2.2 SAND

- A. ASTM C 33/C 33M; fine aggregate.

2.3 CRUSHED STONE SELECT FOUNDATION MATERIAL

- A. ALDOT No. 67 stone per Section 801 of ALDOT Standard Specifications for Highway Construction, latest edition.

2.4 DETECTABLE WARNING TAPE AND TRACE WIRE

- A. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils 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 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.
- B. Conductive Trace Wire for Water Pipe:
1. Trace wire to be ten (10) gauge AWG minimum solid copper with steel core and thermoplastic insulation recommended for direct burial. Acceptable models are Copperhead 1030 HS, Pro-trace HF-CCD-PE30 or Owner approved equal.
 2. All joined sections of the locator wire shall be connected by copper clad steel such as Copperhead DryConn Direct Bury Lug3M DBR, or Owner approved equal, and shall be watertight to provide electrical continuity.
 3. Each trace wire access point for meter boxes and flush assemblies to be composed of one Copperhead® SnakePit® Magnetized Tracer Box with cap section, or Owner approved equal.
 4. Each trace wire access point for valve stands to be composed of one Copperhead® SnakePit® cap section only without Tracer Box, or Owner approved equal.

2.5 CONTROLLED LOW-STRENGTH MATERIAL

- A. Controlled Low-Strength Material: Self-compacting, low-density, flowable concrete material produced from the following:
1. Portland Cement: ASTM C 150/C 150M, Type I or Type II.
 2. Fly Ash: ASTM C 618, Class C or F.
 3. Normal-Weight Aggregate: ASTM C 33/C 33M, 3/4-inch nominal maximum aggregate size.
 4. Foaming Agent: ASTM C 869/C 869M.
 5. Water: ASTM C 94/C 94M.
 6. Air-Entraining Admixture: ASTM C 260/C 260M.
 7. Compressive Strength: 80-100 psi.

PART 3 - EXECUTION

3.1 INITIAL SITE PREPARATION

- A. Preparatory to beginning of construction operations, the Contractor shall remove from the site all vegetable growth, brush, stumps, roots, debris, and any other objectionable matter which, if left in place, would interfere with the proper performance or completion of the contemplated work, would impair its subsequent use, or would form obstructions therein.

- B. The Contractor shall exercise special precautions for the protection and preservation of trees, cultivated shrubs, sod, fences, buildings, and other structures which are located in the construction area but not within designated clearing limits. The Contractor shall be responsible for the repair and/or replacement of any of the aforementioned items damaged by his operation or construction activities.
- C. The Contractor shall remove and dispose of all excess material resulting from clearing or site preparation operations. The Contractor shall dispose of such materials in a manner acceptable to the Engineer and at an approved location where such materials can be lawfully disposed.

3.2 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to full depth in a manner to prevent intermingling with underlying subsoil or other waste materials.
 - 1. Remove subsoil and nonsoil materials from topsoil, including clay lumps, gravel, and other objects larger than 2 inches 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. Do not stockpile topsoil within protection zones.
 - 2. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.

3.3 DEWATERING

- A. Open pits and sewer trenches shall be continuously dewatered, if required due to groundwater levels, by the Contractor until such a time that the standard sewer bedding has been installed and satisfactory materials have been backfilled to a point that the sewer line will not float. At that time, dewatering can be discontinued. The use of the special sewer trench for flotation control shall only be used where specifically authorized by the Engineer.
- B. The Contractor shall provide and maintain at all times during construction ample means and devices with which to promptly remove and properly dispose of all water from any source entering the excavations or other parts of the work. Dewatering shall be accomplished by methods which will ensure a dry excavation and preservation of the final lines and grades of the bottoms of excavations. Methods of dewatering may include sump pumps, well points, deep wells, or other suitable methods which do not damage or weaken structures, foundations, or subgrades. Shallow excavations may be dewatered using open ditches provided such ditches are kept open and free-draining at all times. The actual dewatering methods used shall be acceptable to the Engineer.
- C. Unless specifically authorized by the Engineer, no concrete or mortar shall be placed in water nor shall water be allowed to rise over newly-placed concrete or mortar for at least 24 hours after placement. No concrete structure shall be exposed to unequal hydrostatic forces until the concrete has reached its specified 28-day strength. Water shall not be allowed to rise above

bedding during pipe-laying operations. The Contractor shall exercise care to prevent damage to pipelines or structures resulting from flotation, undermining, or scour. Dewatering operations shall commence when ground or surface water is first encountered and shall be continuous until such times as water can safely be allowed to rise in accordance with the provisions of this section.

- D. Standby pumping equipment shall be on the jobsite. A minimum of one standby unit shall be available for immediate installation should any pumping unit fail. The design and installation of well points or deep wells shall be suitable for the accomplishment of the work. Drawings or diagrams on proposed well point or deep well dewatering systems shall be submitted to the Engineer for review.
- E. The Contractor shall dispose of the water from the work in a suitable manner without damage to adjacent property. Conveyance of the water shall be such as to not interfere with traffic flow or treatment facilities operation. The Contractor will be held responsible for the condition of any pipe or conduit which he may use for drainage purposes, and all such pipes or conduits shall be left clean and free of sediment.
- F. The Contractor shall be responsible for obtaining coverage under the *Generic Permit for the Discharge of Produced Ground water from Non-Contaminated Site Activity* (FDEP Document Number 62-621.300 (2)) for any water that is discharged to surface waters of the State, as defined in Chapter 62-620, F.A.C., during dewatering operations.
 - 1. Required water testing shall be performed by an independent laboratory certified by the State of Florida FDEP to perform testing on ground water.
 - 2. If initial testing proves that the produced water does not meet the requirements for disposal under the generic permit other methods of disposal may be considered as approved by the Engineer.
 - 3. All costs associated with permitting, testing of water and proper disposal of water from the earthwork operation shall be the sole responsibility of the Contractor. See Section 01 41 26.

3.4 SHEETING, SHORING, AND BRACING

- A. The sides of all excavations shall be sufficiently sheeted, shored, and braced as necessary to prevent slides, cave-ins, settlement or movement of the banks, to maintain the excavation clear of all obstructions, and to provide safe working conditions. Wood or steel sheeting of approved design and type shall be used in wet, saturated or flowing ground. All sheeting, shoring, and bracing shall have sufficient strength and rigidity to withstand the pressure exerted and to maintain shape and position under all circumstances.
- B. The responsibility for correctly assessing the need for sheeting and analyzing the stresses induced shall be the total responsibility of the Contractor. Since the Engineer does not dictate or determine the Contractor's sequence or limits of excavation, the Engineer assumes no responsibility for sheeting and shoring. The Contractor must employ or otherwise provide for adequate professional structural and geotechnical engineering supervision to assess the need for sheeting and shoring and design same. Results of sheeting and shoring analysis and design shall be submitted to the Engineer on request.
- C. Excavations adjacent to existing or proposed buildings and structures or in paved streets or alleys shall be sheeted, shored, and braced adequately to prevent undermining beneath or

subsequent settlement of such structures or pavements. Underpinning of adjacent structures shall be done when necessary to maintain structures in safe condition. Any damage to structures or pavements occurring through settlements, water or earth pressures, slides, caves, or other causes; due to failure or lack of sheeting or bracing, or due to improper bracing; or occurring through negligence or fault of the Contractor in any other manner shall be repaired by the Contractor at his own expense.

- D. Sheeting, shoring, or bracing materials shall not be left in place unless otherwise specified or shown on the Drawings or ordered by the Engineer in writing. Such materials shall be removed in such manner that no danger or damage will occur to new or existing structures or property, public or private, and so that cave-ins or slides will not take place. Trench sheeting shall be left in place until backfill has been brought to a level 12 inches above the top of the pipe. It shall then be cut off and the upper portion removed. Sheeting for structures shall be left in place until backfill has been brought to a level of 12 inches above the top of the bottom footing. It shall then be cut off and the upper portion removed. **NOTE: The sheeting shown on the Drawings on the north and east side of the booster station building shall be left in place.**
- E. All holes and voids left in the work by the removal of sheeting, shoring, or bracing shall be filled and thoroughly compacted.

3.5 EXCAVATION

- A. General:
1. Excavation shall include the removal of all material from an area necessary for the construction of a pipeline or structure. Excavations shall provide adequate working space and clearances for the work to be performed therein.
 2. Where quicksand, soft clay, spongy, swampy or other materials unsuitable for subgrade or foundation purposes are encountered below the excavation limits, they shall be removed and disposed of to the level of suitable material. Areas so excavated shall be backfilled with compacted layers of ASTM C-136, #67 crushed rock or other approved material conforming to the requirements specified herein for backfill to the lines and grades shown on the Drawings.
 3. Barriers shall be placed at each end of all excavations and at such places as may be necessary along excavations to warn all pedestrian and vehicular traffic of such excavations. Lights shall also be placed along excavations from sunset each day to sunrise of the next day until the excavations are backfilled. All excavations shall be barricaded in such a manner as to prevent persons from falling or walking into any excavation.
- B. Rock Excavation: Intentionally Omitted
- C. Borrow Excavation:
1. Wherever the backfill of excavated areas or the placement of embankments or other fills requires specified material not available at the site or material in excess of suitable material available from the authorized excavations, such materials shall be obtained from other sources. This may require the opening of borrow pits at points not immediately accessible from the work. In such cases the Contractor shall make suitable arrangements with the property owner and shall pay all costs incidental to the borrow material including royalties, if any, for the use of the material. Before a borrow pit is opened, the

quality and suitability of the material to be obtained therefrom shall be approved by the Engineer.

2. Borrow pits shall be cleared, grubbed, and finish graded in accordance with the requirements specified herein.

D. Trench Excavation:

1. Trench excavation shall be done using trench boxes or sheet piling so as to minimize the width of the trench required to construct the utility lines. Contractor shall protect all existing utility lines and structures that are to remain. Any damaged utility line or structure that was caused by negligence of the Contractor will be replaced by the Contractor at his expense in a manner approved by the Owner and Engineer.
2. Trench excavation shall consist of the removal of materials necessary for the construction of force mains, water, sewer, and other pipelines and all appurtenant facilities including manholes, inlets, outlets, headwalls, collars, concrete saddles, piers, and pipe protection called for on the Drawings.
3. Excavation for pipelines shall be made in open cut unless shown otherwise on the Drawings. Trenches shall be cut true to the lines and grades shown on the Drawings or established by the Engineer on the ground. The banks of trenches shall be cut in vertical, parallel planes equidistant from the pipe centerline. From an elevation 12 inches above the top of the pipe to the bottom of the trench, the horizontal distance between vertical planes for different sizes of pipe shall not exceed those shown on the Drawings. When sheeting is used, the width of the trench shall be considered as the distance between the inside faces of the sheeting. The bottom of the trench shall be cut carefully to the required grade of the pipe except where bedding materials or cradles are shown, in which case the excavation shall extend to the bottom of the bedding or cradles as shown on the Drawings. Minimum pipe cover shall be as shown on the Drawings or specified in these Contract Documents.
4. The use of a motor-powered trenching machine will be permitted but full responsibility for the preservation, replacement, and/or repair of damage to any existing utility services and private property shall rest with the Contractor.
5. Bell holes for bell and spigot pipe and/or mechanical joint pipe shall be excavated at proper intervals so the barrel of the pipe will rest for its entire length upon the bottom of the trench. Bell holes shall be large enough to permit proper installation of all joints in the pipe. Bell holes shall not be excavated more than 10 joints ahead of pipe laying. No part of any bell or coupling shall be in contact with the trench bottom, trench walls, or granular embedment when the pipe is jointed.
6. Excavation for manholes, outlets, collars, saddles, piers, and other pipelines structures shall conform to the additional requirements specified herein for structural excavation.
7. Pipe trenches shall not be excavated more than 200 feet in advance of pipe laying and all work shall be performed to cause the least possible inconvenience to the public. Adequate temporary bridges or crossings shall be constructed and maintained where required to permit uninterrupted vehicular and pedestrian traffic.
8. Unless otherwise specified herein or shown on the Drawings wherever pipe trenches are excavated below the elevation shown on the Drawings, the Contractor, at his own expense, shall fill the void thus made to the proper grade with compacted layers of ASTM C-136, #67 crushed rock or sand conforming to the requirements specified herein for backfill.
9. In all cases where materials are deposited along open trenches they shall be placed so that no damage will result to the work and/or adjacent property in case of rain or other surface wash.

10. In soft ground, quicksand, or in areas where soil conditions are such that pipe alignment, or bedding grade is endangered, the trench shall be excavated below bedding grade and then brought back to grade with crushed stone select foundation material. Stone stabilizer material shall be ASTM C-136 #67 crushed stone. Depth of stone shall be as shown on the plans or as directed by the Engineer.

E. Structural Excavation:

1. Structural excavation shall consist of the removal of all materials necessary for the construction of structures, including footers, retaining walls, wet wells, dry wells, manholes, and other miscellaneous structures.
2. The bottom of structural excavations shall be true to the lines and grades shown on the Drawings. Faces of excavations shall not be undercut for extended footings. Except as provided herein for excavation of unsuitable material or rock, where the excavation is carried below the grade elevation shown on the Drawings, the Contractor shall backfill the void thus made to the proper grade with 2500 psi concrete at his own expense.

3.6 SUBGRADE PREPARATION

- A. Notify Engineer when excavations have reached required subgrade.
- B. If Engineer determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Proof-roll subgrade below the building footers and slabs and pavements with a pneumatic-tired and loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
 1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph.
 2. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Engineer, and replace with compacted backfill or fill as directed.
- D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- E. Compact subgrade surface under structures to a minimum soil density of at least 98% of the maximum dry density as determined by the Modified Proctor Test, ASTM D-1557.
- F. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Engineer, without additional compensation.

3.7 UNAUTHORIZED EXCAVATION

- 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, may be used when approved by Engineer.
 1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Engineer.

3.8 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.

3.9 BACKFILLING

A. General:

1. Unless otherwise specified herein, earth backfill shall be compacted to not less than 95% of the maximum density at optimum water content as determined by AASHTO T-99, Method A (Standard Proctor). Crushed stone shall be compacted or consolidated to not less than 83% of the solid volume density as determined from the bulk specific gravity by AASHTO T-84 and T-85 and the dry weight of the aggregate.
2. Material that is too dry for adequate compaction shall receive a prior admix of sufficient water to secure optimum moisture content. Material having excessive water content shall not be placed at any time.
3. Unless otherwise specified herein backfill material required to be compacted shall be placed in horizontal layers not to exceed 6 inches in thickness (before compaction) and compacted in place by ramming, tamping, or rolling. Compaction shall be accomplished by power driven tools and machinery wherever possible. Compaction and consolidation of sand and crushed rock backfill shall be accomplished using vibrating equipment in a manner acceptable to the Engineer.

B. Backfilling Trenches:

1. The backfilling of sewer, water, and other pipeline trenches shall be started immediately after the construction of same has been inspected and approved by the Engineer. Backfill shall be placed in the trench under and on each side of the pipe in 6-inch layers for the full width of the trench and thoroughly and uniformly compacted by ramming and/or tamping to a minimum of 95% of the maximum density as described below. Sufficient select earth backfill shall be placed under and over the pipe and compacted to provide a cover of not less than 12 inches over the top of the pipe. Mechanical compactors or tampers shall not be used within 12 inches of pipe. Compaction in this area shall be accomplished by hand methods. Sand or specified crushed stone select foundation material shall be substituted for select earth backfill when the pipe is bituminous coated steel pipe or wrapped steel pipe or when crushed stone select foundation material is required. Backfilling using common earth backfill material shall proceed simultaneously on both sides of the pipe to prevent lateral displacement. Caution shall be used during backfill operations for PVC or other flexible thermoplastic pipe to prevent pipe deformation. PVC or other flexible thermoplastic pipe shall not be subjected to roller or wheel loads until a minimum of 36 inches of backfill has been placed over the top of the pipe and hydrohammer shall NOT be used until a minimum depth of 48 inches backfill has been placed over the top of the pipe.
2. In streets, alleys, across sidewalks and driveways, and at any other places subject to vehicular traffic or other superimposed loads, backfill shall be placed as described above, except for the top 6 or 8 inches (as indicated on the Drawings or in the Bid Form) of backfill, which shall be compacted sand/clay or crushed stone temporary surfacing. In these locations all backfill shall be compacted to not less than 100% of the maximum density at optimum moisture content as determined by AASHTO T-99, Method A

(Standard Proctor) instead of the 95% specified above. Where specified or shown on the Drawings, compacted crushed rock shall be substituted for common earth backfill for the entire depth of the trench. Crushed stone backfill shall be compacted to 83% of the solid volume density determined as specified above. When crushed rock backfill is required it shall be placed in lifts of 48 inches maximum and compacted by use of a hydro-hammer or approved vibratory compactor.

3. In all other areas not affected by superimposed loads, common earth backfill may be placed from a level of 12 inches above the top of pipe upward for the full depth of the trench without compaction. At these places, backfill shall be neatly rounded over the trench to sufficient height to allow for settlement to grade after consolidation.
4. All backfilling shall be performed in such a manner that the pipe or structure over or against which it is being placed will not be disturbed or injured. Any pipe or structure injured, damaged, or moved from its proper line or grade during backfilling operations shall be removed and repaired to the satisfaction of the Engineer and then re-backfilled.
5. Warning Tape: Install warning tape directly above utilities, 12 inches (300 mm) below finished grade, except 6 inches (150 mm) below subgrade under pavements and slabs.
6. Conductive Trace Wire for Water Pipe
 - a. Trace wire shall be installed on all water mains. The wire shall be installed in such a manner as to be able to properly trace all water mains without loss or deterioration of signal or without the transmitted signal migrating off the tracer wire.
 - b. Trace wire shall be installed in the same trench and inside bored holes and casing with pipe during pipe installation. It shall be secured to the pipe as required to insure that the wire remains adjacent to the pipe. The trace wire shall be securely bonded together at all wire joints with an approved watertight connector to provide electrical continuity, and it shall be accessible at all trace wire access points.
 - c. Trace wire access points shall in general be no more than five-hundred (500) feet and at every proposed valve box. Trace wire access points shall be within public right-of-way or public utility easements. Access points other than valve stands shall be within all flush assembly boxes and within specified meter boxes as determined by the local utility company.
 - d. Tracer wire shall be laid flat and securely affixed to the pipe at 10 foot intervals. The wire shall be protected from damage during the execution of the works. No breaks or cuts in the tracer wire or tracer wire insulation shall be permitted. At water service saddles, the tracer wire shall not be allowed to be placed between the saddle and the water main.
 - e. Except for approved spliced-in connections, tracer wire shall be continuous and without splices from each trace wire access point. Where any approved spliced-in connections occur, approved water tight connectors, shall be used to provide electrical continuity.
 - f. At all repair locations where there is existing tracer wire, the tracer wire shall be properly reconnected and spliced as outlined above.

C. Backfilling Under Structures:

1. Backfilling under structures shall consist of common earth backfill placed in 6-inch layers and compacted by tamping to a minimum of 98% of the maximum density as determined by the Modified Proctor Test, ASTM D-1557 for the full depth of the excavation from the bottom to the finished grade. Where practical, compaction of structural backfill shall be accomplished by power-driven tamping equipment.

- D. Backfilling Around Structures (Not Under Structures):
 - 1. Backfilling around structures shall consist of common earth backfill placed in 6-inch layers and compacted by tamping to a minimum of 95% of the maximum density determined as specified herein for the full depth of the excavation from the bottom to the finished grade. No backfill shall be placed against concrete structures until the concrete has reached its specified 28-day compressive strength. Where practical, compaction of structural backfill shall be accomplished by power-driven tamping equipment.
 - 2. Backfilling under sidewalks, stoops, etc. shall be compacted to a minimum of 100% of the maximum density as determined by AASHTO T-99, Method A (Standard Proctor).

3.10 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.

3.11 FILLS AND EMBANKMENTS

- A. Fills and embankments shall consist of all earth fills except backfills in trenches or under or around structures. Unless special material is specified or shown on the Drawings, material for fills and embankments shall consist of excavated material from structures or of a mixture of such excavated materials and materials borrowed from other sources by the Contractor. All material used for fills and embankments shall be free from wood, vegetable matter, debris, soft or spongy earth or clay, large rock, or other objectionable material and shall be acceptable to the Engineer.
- B. Materials shall be placed in the fill or embankment in successive layers 6 inches or less in thickness before compaction, each layer being approximately horizontal and extending to the full limit of the required cross section and shall be compacted at optimum water content over the entire surface to not less than 95% of the maximum density as determined by AASHTO T-99, Method A (Standard Proctor). The process shall be repeated for each layer of material until the fill or embankment conforms to the plan lines, grades, and cross sections. The degree of compaction and moisture content required, the method of tamping, and the equipment used shall be approved by the Engineer.
- C. The area over which the fill or embankment is to be constructed shall first be cleared of all vegetation, debris, and other objectionable material and, if the ground is in a loose, uncompacted condition, it shall be compacted to a minimum 95% of maximum density determined as specified herein.
- D. No material shall be placed beyond the sloping lines of embankment unless so ordered by the Engineer. Material allowed to be placed beyond the lines of embankment shown on the Drawings will be compacted as required above unless otherwise authorized by the Engineer.
- E. Wherever a trench passes through a fill or embankment, the fill or embankment material shall be placed and compacted to an elevation 12 inches above the top of the pipe before the trench is excavated.

3.12 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.
 - 2. Walks: Plus or minus 1 inch.
 - 3. Pavements: Plus or minus 1/2 inch.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.
- D. Final Grading
 - 1. After other earthwork operations have been completed, the sites of all structures and embankments shall be graded to reinstate the original condition. Grading operations shall be so conducted that materials shall not be removed or loosened beyond the required limits. The finished surfaces shall be left in smooth and uniform planes such as are normally obtainable from the use of hand tools. If the Contractor is able to obtain the required degree of evenness by means of mechanical equipment he will not be required to use hand labor methods. Slopes and ditches shall be neatly trimmed and finished to slopes shown on the Drawings unless otherwise approved by the Engineer.
 - 2. Unless otherwise specified or shown on the Drawings, all finished ground surfaces shall be graded and dressed to present a surface varying not more than plus or minus 0.10 foot as regards to local humps or depressions and shall be acceptable to the Engineer.

3.13 DISPOSAL OF WASTE AND UNSUITABLE MATERIALS

- A. All materials removed by excavation, which are suitable for the purpose, shall be used to the extent possible for backfilling pipe trenches or for such other purposes as may be shown on the Drawings. All materials not used for such purposes shall be considered as waste materials and the disposal thereof shall be made by the Contractor in a manner and at locations approved by the Engineer.
- B. Waste materials shall be spread in uniform layers and neatly leveled and shaped. Spoil banks shall be provided with sufficient and adequate openings to permit surface drainage of adjacent lands.
- C. Unsuitable materials, consisting of wood, vegetable matter, debris, soft or spongy clay, peat, and other objectionable material so designated by the Engineer shall be removed from the work site and disposed of by the Contractor in a manner and at a location approved by the Engineer.

3.14 MAINTENANCE OF SEWER TRENCHES

- A. Immediately after backfill and compaction of the excavated main and lateral trenches, the Contractor shall dress the trenches flush with the existing pavement and begin maintenance of same. The Contractor shall provide backfill material for the trenches when settlement or washing of the trenches occur. The maintenance period shall cover a minimum of the time period from initial pavement removal until the final inspection of the project unless otherwise directed by the Engineer. At no time during the maintenance period shall the trenches show a settlement of 2 inches without additional backfill being placed on the trenches. Maintenance is to be performed daily or as needed to maintain in good condition in the opinion of the Engineer and Owner.

3.15 SETTLEMENT WARRANTY

- A. The Contractor shall be responsible for all settlement of backfill, fills, and embankments which may occur within two (2) years after final acceptance of the work by the Owner.
- B. The Contractor shall make, or cause to be made, all repairs or replacements made necessary by settlement within 30 days after receipt of written notice from the Engineer or Owner.

3.16 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor will engage a qualified geotechnical engineering testing agency to perform tests and inspections required by these specifications and recommended in the Geotechnical Engineering Report included in Appendix B.
- 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. Compaction tests will be performed at the following locations and frequencies:
 - 1. Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least two tests for every 2000 sq. ft. but in no case fewer than three tests.
 - 2. Paved Areas: At subgrade and at each compacted fill and backfill layer every 500 feet but no fewer than three tests.
 - 3. Foundation Wall Area: At subgrade and at each compacted backfill layer, at least one test for every 100 feet or less of wall length but no fewer than two tests.
 - 4. Trench Backfill: At each compacted initial and final backfill layer, at least one test for every 500 feet or less of trench length but no fewer than two tests.
 - 5. Around Structures: At subgrade and at each compacted backfill layer at least one test for every 2,000 sq. ft.
- E. 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.

- F. Conductive Trace Wire for Water Pipe
 - 1. After water main installation the Contractor shall perform a continuity test on all trace wire to determine signal continuity. After water main installation and before final inspection the Contractor shall have water main exposed in designated areas to allow visual inspection and trace wire locating by Owner. If the trace wire is found to be not continuous after testing, the Contractor shall repair or replace the failed segment of the wire. A final trace wire locating test shall be performed by Owner at final inspection.

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.

END OF SECTION 31 00 00

SECTION 32 16 23.01 - CONCRETE SIDEWALKS

PART 1 - GENERAL

1.1 RELATED WORK ELSEWHERE

- A. Section 31 00 00 – Earthwork

1.2 SCOPE

- A. The work to be performed under this section shall consist of constructing concrete sidewalks.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cement: Conform to the requirements of Section 346-2 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, 2014 Edition. Minimum concrete compressive strength at 28-days shall be 4,000 psi.

2.2 SAND

- A. Clean, natural or imported sand conforming to ASTM D 1073.

PART 3 - EXECUTION

3.1 TYPES OF PAVEMENTS

- A. Sidewalks shall be Portland cement concrete. Materials, equipment, and construction methods used for paving work shall conform to the State Department of Transportation specifications applicable to the particular type required.
- B. Portland cement concrete pavement shall be replaced with 4000 psi concrete in accordance with State Department of Transportation specifications.
 - 1. Concrete pavements shall be reinforced and shall conform to details shown on the Drawings and applicable specification, Portland Cement Concrete Pavement, Section 350 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, 2014 Edition.

3.2 CONCRETE SIDEWALK

- A. Construction:

1. All concrete sidewalks shall conform to the applicable Sections of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, 2014 Edition.
 2. Preformed joints for use in concrete sidewalks shall be ½-inch thick conforming to the latest edition of AASHTO Standard Specifications, M59, for preformed bituminous fiber joints.
 3. Concrete forms shall be of wood or metal, shall be straight and free from warp, and shall be of sufficient strength when in place to hold the concrete true to line and grade within springing or distortion.
- B. When new sidewalk abuts a section of existing sidewalk, driveway or curb, the existing shall be cut to a neat line.
- C. Concrete sidewalks shall have a minimum uniform thickness of 4 inches. The new work shall be neatly jointed to the old so that the surface of the new work shall form an even unbroken plane with the old.
- D. The subgrade for concrete sidewalks, driveways or curb shall be formed by excavating to a depth equal to the thickness of the concrete plus 2 inches. Subgrade shall be prepared in accordance with Section 31 00 00 of these specifications and shall be of such width as shown on the drawings. Two (2) inches of clean sand shall be placed under all sidewalks and curb and shall be compacted thoroughly, and finished to a smooth unyielding surface at proper line, grade, and cross section.
- E. Expansion joints shall be required in accordance with FDOT specifications. Expansion joints shall be true and even, shall present a satisfactory appearance, and shall extend to within ½-inch of the top of finished concrete surface.
- F. Concrete shall have a light broom finish and shall be suitably protected from freezing and excessive heat by covering with burlap or other suitable material until cured.

END OF SECTION 32 16 23.01

SECTION 32 31 13 - CHAIN LINK FENCING

PART 1 - GENERAL

1.1 SCOPE

- A. The work covered by this section includes furnishing all labor, materials, and equipment required to install chain link fence, including all excavation, concrete, and accessories, as shown on the Drawings or specified herein. The work shall also include connection to existing chain link fencing, including relocation and/or reinforcement of same.
- B. Excavation and backfilling and concrete shall conform with the requirements of the sections entitled "Earthwork" and "Building Concrete Work," respectively.

1.2 SHOP DRAWINGS AND ENGINEERING DATA

- A. Submit complete shop drawings and engineering data in accordance with the requirements of the section entitled "Submittals" of these Specifications.

1.3 GUARANTEE

- A. Provide a guarantee against defective products and workmanship in accordance with the requirements of the section entitled "Guarantees and Warranties" of these Specifications.

PART 2 - PRODUCTS

2.1 CHAIN LINK FENCE

- A. Chain link fence shall have an overall height of 84 inches and shall be constructed of chain link fabric 72 inches high with three rows of barbed wire on top of steel brackets.
- B. Material for rails and posts shall be open hearth, Class II conforming to the requirements of ASTM A36. Alternately, posts may be roll formed sections of carbon steel having a minimum yield strength of 35,000 psi. Rails and posts shall be hot dipped galvanized in accordance with ASTM A 120 or A 123, as applicable.
- C. End, corner, angle, and pull posts shall be 2 $\frac{7}{8}$ inch outside diameter, standard tubular steel weighing not less than 5.79 pounds per linear foot, or 3.5-inch by 3.5-inch roll formed steel sections weighing not less than 4.84 pounds per linear foot.
- D. Line posts shall be 2 $\frac{1}{4}$ inch structural "H" sections weighing 4.1 pounds per linear foot, 2.25-inch by 1.70-inch roll formed steel C-sections weighing not less than 2.64 pounds per linear foot, or 2 $\frac{3}{8}$ inch outside diameter steel pipe weighing 3.65 pounds per linear foot.

- E. Top rail shall be 1 $\frac{5}{8}$ inch outside diameter steel pipe weighing 2.27 pounds per linear foot or "H" section weighing 2.27 pounds per linear foot. Top rails shall be provided with expansion rail couplings spaced at not less than 20-foot intervals.
- F. Gate posts for pedestrian gates shall be 2 $\frac{7}{8}$ inch outside diameter pipe weighing 5.79 pounds per linear foot. Gate posts for vehicular gates shall be 4 inch outside diameter pipe weighing 9.1 pounds per linear foot.
- G. Braces shall be provided at all corners and wherever fabric is not continuous, such as at gates or at other openings. Braces shall be of the same material as top rail.
- H. Extension arms on intermediate posts shall be of pressed steel. Extension arms on end and corner posts shall be heavy malleable iron. Extension arms shall carry three (3) barbed wires at an angle of 45° from the vertical towards the outside of the fence.
- I. Fittings used in connection with the fence and gates shall be heavy malleable iron or pressed steel.
- J. Barbed wire shall be 4-point pattern, two strand, No. 12-1/2 gauge, Class II, heavily hot dipped galvanized after weaving, with 14-gauge barbs placed 3 inches on center.
- K. Chain link fence shall be No. 9 gauge wire, heavily hot dipped galvanized after weaving. Galvanized coating conforming to ASTM A 392 Class II, 1.8 ounce minimum. As an alternate, the chain link fabric shall be 9 gauge aluminum coated conforming to ASTM A 491, 0.40 ounce minimum. The fabric shall have a knuckled selvage along the top rail and a twisted and barbed selvage along the bottom. The barbing shall be done by cutting the wire on a bias, creating sharp points.
- L. A 2 inch padlock and chain conforming to the latest Federal Specifications FF-P-101a, Type Id, shall be furnished with each gate. Three keys shall be furnished with each padlock. Chain shall be welded to the gate.
- M. Gate frames shall be of 1.9 inch outside diameter pipe weighing 2.83 pounds per linear foot. Corner fittings shall be of heavy, malleable iron castings or pressed steel. Fabric shall be same as in fence. Each gate frame shall be equipped with $\frac{3}{8}$ inch diameter adjustable truss rod. Gates shall be complete with pin-type hinges, catch and stops. Double gates shall have center rests. Hinges shall provide for swinging the gate open through an arc of not less than 180°. Gates shall be suitably braced and reinforced to prevent sagging. Double gates shall be provided with center plunger rod, catch and semi-automatic outer catches to secure gate in opened position. Pedestrian gates shall have 4 foot openings. Vehicular gates shall be of double swing type with 20 foot opening, unless shown otherwise on the Drawings.
- N. All tension bars shall be $\frac{1}{4}$ -inch by $\frac{3}{4}$ -inch ASTM A 36 mild carbon steel, and hot dipped galvanized. Tension bars shall extend the full height of the chain link fabric with no splices. Tension bars shall be held in place by $\frac{7}{8}$ -inch galvanized tension bands at a maximum spacing of 24 inches.
- O. All ferrous materials entering into the construction of required fencing shall be heavily galvanized by the hot dip process.

2.2 PRIVACY SLATS

- A. Privacy slats shall be manufacturer's standard aluminum slats. Color to be selected by Owner.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. End, corner, and gate posts shall be set in a concrete base not less than 12 inches in diameter which shall extend at least 3 inches below the bottom of the post. The post shall extend to a depth of at least 3 feet below the surface of the ground. A brace shall be spaced midway in height of each end, corner, and gate post and shall extend to the first line post. Braces shall be securely fastened to posts by means of malleable iron connections and trussed from line post back to end, corner, or gate post with a $\frac{3}{8}$ -inch diameter rod.
- B. Line posts shall be set in a concrete base not less than 10 inches in diameter which shall extend at least 3 inches below the bottom of the post. The post shall extend to a depth of at least 30 inches below the surface of the ground. Line posts shall be equally spaced along the line of fence at not to exceed 10-foot intervals.
- C. Galvanized steel pipe sleeves, 4-inch O.D. for corner, pull, and gate posts and 3½ inch O.D. for line posts shall be embedded in concrete as shown on the Drawings for all fence posts to be installed on concrete structures.
- D. Top rail shall be installed between line posts. Fabric shall not be erected until concrete has had sufficient time to cure. Chain-link fabric shall be stretched to uniform tightness on the outside of the posts with suitable tools and shall be attached with No. 6 gauge galvanized wire clips. Fabric shall be fastened to line posts at 14 inch intervals with 9 gauge ties. Fabric shall be attached to top rail at 24 inch intervals by 9 gauge tie wires.
- E. A No. 7 gauge galvanized wire shall be stretched along the bottom of the fence and securely fastened to the posts. The chain-link fabric shall be attached to the tension wire at intervals not to exceed 2 feet with No. 9 gauge aluminum coated tie wires.
- F. Barbed wire extension arms shall be attached to the top of each post, inclined at an angle of 45° from the vertical. Three strands of barbed wire shall be securely fastened to all extension arms. The top strand of barbed wire shall be 12 inches from the fence line horizontally and 12 inches above the top of the fabric vertically.
- G. Install privacy slats running diagonally in both directions in each link of the fabric.

END OF SECTION 32 31 13

SECTION 32 92 23 - SOLID SOD GRASSING (CENTIPEDE)

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Solid sod grassing shall consist of preparing areas including furnishing, as required, placing and incorporating topsoil, and fertilizer followed by setting sod and watering to obtain a live stand of grass.

1.2 MATERIALS AND WORKMANSHIP

- A. All sod shall be procured from areas where the soil is fertile. The sod shall be live, fresh growing grass at the time of harvesting. Workmanship shall be such that sod will not be damaged during planting.

1.3 ACCEPTANCE

- A. The Contractor shall, at his expense, maintain the grassed areas in a satisfactory condition until final acceptance of the project. The Engineer, at any time, may require resodding of any areas in which the establishment of the grass stand does not appear to be developing satisfactorily.
- B. The Contractor shall be responsible for obtaining a satisfactory stand of permanent grass. A satisfactory stand is defined as having at least 90% of the seedlings which are viable and growing 30-60 days following the sodding operation.
- C. The Contractor's period of responsibility shall extend to the completion of the contract or be extended in accordance with the above acceptance criteria until a satisfactory stand is obtained, whichever is later.

PART 2 - PRODUCTS

2.1 GRASS SOD

- A. In general, the above material shall be obtained from the sources of the Contractor's selection.
- B. Solid Sod: Grass sod shall be Centipede.
 - 1. All grass shall be native to the locality of the Work.
 - 2. All sod shall be procured from areas where the soil is fertile and contains a high percentage topsoil and where the grass is well rooted and full grown.
 - 3. Mechanical devices, such as sod cutters, may be used for cutting the sod into strips, blocks or rolls at least 12 inches wide with depth of $\frac{3}{4}$ -inch of soil removed with the turf.

4. Sections of sod shall be cut away below the root line and shall be removed in such a manner that no tearing or breaking will occur. Approved mechanical methods will be permitted. All broken or dried sod shall be rejected.
5. The sod shall, in general, be transplanted within three (3) days from the time it is harvested. Temporary storage shall be in a cool, moist, shady location with the grass side up.
6. In no event shall more than 10 days elapse between the cutting and planting of the sod.

2.2 FERTILIZER, LIME, AND WATER

- A. Fertilizer: The fertilizer used in connection with centipede grassing shall be 15-0-15 of the grade provided herein, on the plans and/or to meet requirements of soil test recommendations.
 1. Manufactured fertilizers shall comply with the State fertilizer laws.
- B. Water: Water will be free from substances harmful to the growth of plant.

2.3 TOPSOIL

- A. Sufficient topsoil should be present in most areas to be sodded. Topsoil shall be free from hard clods, brush, wood, or other debris. The topsoil shall contain organic material suitable for plant growth.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Soil samples shall be taken on all areas. Samples shall be analyzed by soil testing lab and fertilizer shall be applied in accordance with the lab recommendations.
- B. In lieu of soil testing, the Contractor may apply the initial application of fertilizer as follows:
 1. Fertilize initially with 30 pounds of 15-0-15 fertilizer per 1000 square foot.
 2. All areas to be grassed without sufficient topsoil shall receive a layer of supplemental topsoil from stockpiled established for that purpose. The ground shall be cultivated to loose depths of 2 inches. The topsoil shall then be hauled and applied to the designated areas to a depth of 2 inches. It shall then be harrowed and disced entirely through the layer of topsoil and partially into the subsoil in order to secure a bond of the top soil and the subsoil. Fertilizer shall be incorporated during the harrowing and discing of the topsoil.

3.2 APPLYING FERTILIZER

- A. Fertilizers shall be applied uniformly into the areas to be planted or improved in such amount and to such depth and according to the methods indicated in the Specifications for the various ground covers. When fertilizers are applied hydraulically they must be diluted sufficiently as directed so that no damage is done to plants.

3.3 SODDING

- A. All disturbed areas shall be solid sodded in accordance with the following:
1. Areas which are to be planted with sod shall have all shaping and dressing performed prior to planting operations.
 2. The sod shall be placed with the edges in close contact. Acceptable loamy top soil shall be used to fill joints. The entire sodded area shall then be tamped in place and watered in sufficient quantity to saturate the area.

3.4 MAINTENANCE

- A. The Contractor shall water, fill washes, preserve, protect, mow and otherwise care for all grassed areas and maintain in a satisfactory condition until final acceptance. Watering of the grassed areas, shall be applied in the form of a spray or sprinkle, without erosive force in sufficient amounts that will keep the grass in a living and growing condition.

END OF SECTION 32 92 23

SECTION 33 05 51 - DUCTILE IRON PIPING & DUCTILE IRON & CAST IRON FITTINGS

PART 1 - GENERAL

1.1 SCOPE

- A. The work covered by this section includes furnishing all labor, equipment, and materials required to furnish, install, and test ductile iron piping, including all fittings, wall pipe and sleeves, couplings, toppings, anchor blocks, and accessories, as specified herein and/or shown on the Drawings.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 31 00 00 - Earthwork

1.3 QUALITY ASSURANCE

- A. The Contractor shall submit to the Engineer written evidence that the pipe furnished under this specification is in conformance with the material and mechanical requirements specified herein. Certified copies of independent laboratory test results or mill test results from the pipe supplier may be considered evidence of compliance provided such tests are performed in accordance with the appropriate ASTM or AWWA testing standards by experienced, competent personnel. In case of doubt as to the accuracy or adequacy of mill tests, the Engineer may require that the Contractor furnish test reports from an independent testing laboratory on samples of pipe materials.
- B. Each ductile iron pipe length and fitting and cast iron fitting shall be clearly marked with the pressure rating, metal thickness class, heat mark, net weight (excluding lining or coating) and name of manufacturer. In addition, each item of piping shall be marked with an identifying mark corresponding to the appropriate mark on the shop drawings for that particular item of piping.

1.4 SHOP DRAWINGS AND ENGINEERING DATA

- A. Complete shop drawings and engineering data on all piping and accessories shall be submitted to the Engineer in accordance with the requirements of the section entitled "Submittals" of these Specifications.

1.5 STORAGE AND PROTECTION

- A. All pipe and fitting shall be stored under cover.

- B. All pipe and accessories shall be stored above-ground and fully supported so as not to bend or deflect excessively under its own weight. Height of stacked pipe shall not exceed 4 feet. Bundled pipe shall not be stacked more than two (2) bundles high.
- C. Kinked, flattened, buckled, broken, or otherwise defective pipe and fittings shall not be used and shall be removed from the site.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All pipe shall be manufactured in the United States. All pipe and fittings shall be either new or refurbished by the original manufacturer who shall certify them equivalent to new.
- B. No broken, cracked, deformed, misshapened, imperfectly coated, or otherwise damaged or defective pipe or fittings shall be used. All such material shall be removed from the site of the work.
- C. Unless otherwise shown on the Drawings or directed by the Engineer, the minimum pipe wall thickness and thickness class of pipe shall be as follows:

| Pipe Size (in.) | Metal Wall | |
|------------------------|-----------------------|------------------------|
| | Pressure Class | Thickness (in.) |
| 4 | 350 | 0.25 |
| 6 | 350 | 0.25 |
| 8 | 350 | 0.25 |
| 10 | 350 | 0.26 |
| 12 | 350 | 0.28 |
| 16 | 250 | 0.30 |
| 18 | 250 | 0.31 |
| 20 | 250 | 0.33 |
| 24 | 200 | 0.33 |
| 30 | 150 | 0.34 |

2.2 DUCTILE IRON PIPE

- A. Ductile iron pipe shall be designed in accordance with ANSI A21.50, Thickness Design of Ductile Iron Pipe, using 60,000 psi tensile strength, 42,000 psi yield strength, and 10 percent elongation.
- B. Ductile iron pipe shall be manufactured in accordance with ANSI A21.51, Ductile Iron Pipe Centrifugally Cast in Metal Molds or Sand-Lined Molds for Water or Other Liquids, and shall be made of ductile iron having a minimum tensile strength of 60,000 psi, a minimum yield strength of 42,000 psi and 10 percent minimum elongation.

2.3 CAST IRON AND DUCTILE IRON FITTINGS

- A. All fittings 2 inch through 48 inch shall conform in every respect to ANSI A21.10 or A21.53 or AWWA C153 or C110.
- B. Unless otherwise shown on the Drawings, directed or specified, all fittings shall be for pressure rating of 250 psi.
- C. In general, fittings shall be any ANSI pattern. Long radius elbows shall be used where shown on the drawings. Special fittings and cast iron and ductile iron wall pipes and sleeves shall conform to the dimensions and details shown on the Drawings.

2.4 JOINTS FOR DUCTILE IRON PIPE AND FITTINGS AND CAST IRON FITTINGS

A. General

- 1. Joints for ductile iron pipe and fittings and cast iron fittings shall be mechanical joints, flanged joints, or push-on joints, as shown on the Drawings or specified herein.
- 2. Unless otherwise shown on the Drawings, specified or directed, all ductile iron pipe laid underground shall be joined using mechanical joints or push-on type joints and all pipe installed above-ground shall be joined using flanged joints.

B. Mechanical Joints

- 1. Mechanical joints shall consist of a bolt joint of the stuffing box type as detailed in ANSI A21.10 and described in ANSI A21.11.
- 2. Mechanical joints shall be thoroughly bolted in accordance with the manufacturer's recommendations with Tee Head Bolts and bolts of high strength, heat treated cast iron containing 0.50 copper or high strength low-alloy steel having a minimum yield point strength of 40,000 pounds per square inch and an ultimate tensile strength of 70,000 pounds per square inch.
- 3. Gaskets and bolts and nuts shall conform to ANSI A21.11. Gaskets shall be of neoprene or rubber of such quality that they will not be damaged by the liquid or gases with which they will come into contact.
- 4. Glands shall be of high strength cast iron.

C. Flanged Joints

- 1. Flanged joints shall conform to ANSI B 16.1, Class 125, and in accordance with Table 10.23 of ANSI A21.10.
- 2. Flanged joints shall be bolted with through stud or tap bolts of required size as directed. Bolts and nuts shall conform in dimensions to the American Standard heavy series. Nuts shall be hexagonal, cold pressed. Bolts and nuts shall be cadmium plated, cold pressed, steel machine bolts, conforming to ASTM A 307, Grade B. Cadmium plating shall be by an approved process and shall be between 0.003- to 0.0005-inch thick. After each joint has been made, all bolts, heads, and nuts shall be coated with two coats of heavy asphaltum or other approved coating.
- 3. Gaskets of "Cranite," red rubber, asbestos composition, or other approved quality shall be used in all flanged joints. Gaskets shall conform to the requirements of ANSI B16.21.
- 4. Flanged ductile iron pipe approximately 12 inches or less in length shall have flanges cast solidly to the pipe barrel. Flanges on ductile iron pipe longer than 12 inches may be of the screw type. Pipe threads shall be of such length that the flanges screwed home, the end of the pipe shall project beyond the face line of the flange. Flange and pipe shall

then be machined to give a flush finish to the pipe and the flange and surface shall be normal to the axis of the pipe. Ductile iron flanges shall be of such design that the flange neck completely covers the threaded portion of the pipe to protect same against corrosion. Flange faces on cast iron fittings shall be coated with white lead immediately after they have been faced and drilled. All pipe with screw type flanges shall be assembled, faced, and drilled at the point of manufacture, unless otherwise approved by the Engineer.

5. Where tap or stud bolts are required, flanges shall be drilled and tapped accordingly.

D. Push-On Joints

1. Push-on joints shall conform to ANSI 21.10 and ANSI 21.11 or AWWA C110 and AWWA C111. Push-On fittings shall conform to ANSI 21.10 or ANSI 21.53 or AWWA C110 or AWWA C153. Details of the joint design shall be in accordance with the manufacturer's standard practice such as "Fastite," "Bell-Tite," or "Tyton" joints.
2. Gaskets shall be in accordance with ANSI A21.11 and shall be of such quality that they will not be damaged by the liquid or gases with which they will come into contact.

2.5 COATING AND LINING

- A. Lining for Wastewater: Intentionally Omitted

- B. Lining for Water: Interior of pipe and fittings to receive a cement mortar lining of standard thickness in accordance with ANSI A21.4.

- C. Coating: Coat exterior of pipe and fittings to be buried with an asphaltic material approximately 1 mil thick in accordance with AWWA C151/ANSI A21.51, AWWA C110/ANSIA 21.10, and AWWA C153/ANSI A 21.53. Coat exterior of all exposed ductile iron pipe and fittings with a primer as specified in paragraph 3.6.

- D. Color Identification: Pipe shall have four (4) each, 2-inch wide stripes painted at 90-degree angles around the pipe exterior. Color of stripes shall be blue for water and green for sewer.

2.6 PIPE COUPLINGS

- A. Pipe couplings shall be installed where shown on the Drawings, required for installation, or directed by the Engineer.

2.7 WALL PIPE AND WALL SLEEVES

- A. Contractor shall furnish and install cast iron wall pipe or wall sleeves where ductile iron piping connects with or passes through concrete walls or floors and in locations where small piping and electric wiring and conduits connect with or pass through concrete walls or floors.

- B. Where wall pipes or sleeves are to be installed flush with the wall or slab, the flange or bell shall be tapped for studs. Where the flange or bell will project beyond the wall, the projection shall be sufficient to allow for installation of connecting bolts.

PART 3 - EXECUTION

3.1 LAYING

- A. Proper and suitable tools and appliances for safe and convenient handling and laying of pipe and fittings shall be used. Great care shall be taken to prevent the pipe coating from being damaged, particularly cement linings on the inside of the pipes and fittings. Any damage shall be remedied as directed by the Engineer.
- B. All pipe and fittings shall be carefully examined by the Contractor for defects just before laying and no pipe or fitting shall be laid which is defective. If any defective pipe or fitting is discovered after having been laid, it shall be removed and replaced in a satisfactory manner with a sound pipe or fitting by the Contractor at his own expense.
- C. All pipes and fittings shall be thoroughly cleaned before they are laid and shall be kept clean until they are used in the completed work. Open ends of pipe shall be kept plugged with a bulkhead during construction.
- D. Pipe laid in trenches shall be laid true to line and grade on a firm and even bearing for its full length at depths and grades as shown on the Drawings. Adequate precautions shall be taken to prevent floatation of pipelines prior to backfilling. Installation of ductile iron pipe in underground pressure piping systems shall conform to the requirements of AWWA C600. Excavation of trenches and backfilling around pipes shall conform to the requirements of the section entitled "Earthwork" of these Specifications.
- E. All bends, tees, branches, crosses, plugs, caps, fire hydrants, and reducers in pressure piping systems shall be adequately restrained against thrust. Underground pressure piping containing unharnessed push-on or mechanical joints or expansion joints shall be restrained by thrust blocks. Thrust blocks shall consist of concrete having a minimum 28-day compressive strength of 2,500 psi and shall be of the size and shape as shown on the Drawings. The Contractor may use forms or earth walls to mold the thrust blocks. When earth walls are used, they shall be cut true to shape and all excess earth removed. The work shall be conducted so that no loose earth will become mixed with the concrete. At the end of 24 hours, damp earth may be placed over the concrete to retain moisture.
- F. Wall pipe and wall sleeves shall be accurately located and securely fastened in place before concrete is poured. All wall pipe and wall sleeves shall have wall collars properly located to be in the center of the wall where the respective pipes are to be installed.
- G. Wall pipe and wall sleeves shall be installed when the wall or slab is constructed. Blocking out or breaking of the wall for later insertion shall not be permitted.
- H. Cutting or weakening of structural members to facilitate pipe installation shall not be permitted. All piping shall be installed in place without springing or forcing.
- I. Sufficient couplings and flanged joints shall be provided to facilitate equipment installation and removal.
- J. Exposed ductile iron piping shall be supported as shown on the Drawings.

3.2 CUTTING

- A. Whenever pipe requires cutting to fit the lines, the work shall be done in such manner as to leave a smooth end at right angles to the axis of the pipe. When a piece of pipe is cut to fit into the line, no payment will be made for the portion cut off and not used.
- B. Whenever existing pipe requires cutting to install new fittings, the work shall be done in such manner as to leave a smooth end at right angles to the axis of the pipe and special care shall be exercised to guard against breaking or splitting the existing piping.
- C. All cutting of ductile iron pipe shall be done with a cutting saw. All burrs shall be removed from the inside and outside edges of all cut pipe.

3.3 JOINING

A. Mechanical Joints

- 1. The successful operation of the mechanical joint specified requires that the spigot be centrally located in the bell and that adequate anchorage shall be provided where abrupt changes in direction and dead ends occur.
- 2. The surfaces with which the rubber gasket comes in contact shall be brushed thoroughly with a wire brush just prior to assembly to remove all loose rust or foreign material which may be present and to provide clean surfaces which shall be brushed with a liberal amount of soapy water or other approved lubricant just prior to slipping the gasket over the spigot end and into the bell. Lubricant shall be brushed over the gasket prior to installation to remove loose dirt and lubricate the gasket as it is forced into its retaining space.
- 3. Joint bolts shall be tightened by the use of approved wrenches and to a tension recommended by the pipe manufacturer. When tightening bolts, it is essential that the gland be brought up toward the pipe flange evenly, maintaining approximately the same distance between the gland and the face of the flange at all points around the socket. This may be done by partially tightening the bottom bolt first, then the top bolt, next the bolts at either side and last, the remaining bolts. This cycle shall be repeated until all bolts are within the range of acceptable torques. If effective sealing is not attained at the maximum torque indicated above, the joint shall be disassembled and reassembled after thorough cleaning. Overstressing of bolts to compensate for poor installation shall not be permitted.
- 4. After installation, bolts and nuts in buried or submerged piping shall be given two (2) heavy coats of a bituminous paint.

B. Flanged Joints

- 1. All flanges shall be true and perpendicular to the axis of the pipe. Flanges shall be cleaned of all burrs, deformations, or other imperfections before joining. Flanged joints shall be installed so as to ensure uniform gasket compression. All bolting shall be pulled up to the specified torque by crossover sequence. Where screwed flanges are used, the finished pipe edge shall not extend beyond the face of the flange, and the flange neck shall completely cover the threaded portion of the pipe.
- 2. Connections to equipment shall be made in such a way that no strain is placed on the equipment flanges. Connecting flanges must be in proper position and alignment and no external force may be used to bring them together properly.

3. After installation, bolts and nuts in buried or submerged piping shall be given two (2) heavy coats of a bituminous paint.

C. Push-On Joints

1. The inside of the bell and the outside of the pipe from the plain end to the guide stripe must be wiped clean immediately before assembling the pipe joint. Then the rubber gasket shall be inserted into a groove or shaped recess in the bell. Both the bell and spigot ends to be jointed shall be wiped again to ensure they are thoroughly clean. A liberal coating of special lubricant furnished by the pipe manufacturer shall be applied to the outside of the pipe from the plain end to the yellow guide stripe and to the inside of the gasket. The plain end shall be centered in the bell and the spigot pushed home. Wherever possible the pipe shall be socketed by hand; however, jacking may be required to push the spigot in place on the larger sizes of pipe. The completed joint shall be permanently sealed and watertight.
2. Whenever the pipe is cut in the field, the cut end shall be conditioned so it can be used in making up a joint by filing or grinding the cut end to remove burrs or sharp edges that might damage the gasket.

D. Permissible Deflection of Joints

1. Deflection of ductile iron pipe at joints for long radius curves or for avoiding obstacles shall be permitted only upon approval of the Engineer.
2. Where deflection of joints is permitted, such deflection shall be made in accordance with and shall not exceed limits provided in Section 9b.5 and Section 9c.4 as applicable, of the AWWA C600.

E. Joints of Dissimilar Metals

1. When a flanged joint consists of a ductile iron flange mated to a steel or alloy flange, the steel flanges shall be flat faced and furnished with full-faced gaskets, insulating bushings, and stainless steel bolts.

3.4 THRUST RESTRAINT

- A. General: Plugs, caps, tees bends deflecting $11\frac{1}{4}^\circ$ or more, and fire hydrants shall be provided with thrust blocking and/or retainer glands or metal tie rods as directed. Valves shall be security anchored or provided with thrust blocking to prevent movement.
- B. Concrete Thrust Blocks: Concrete having a minimum 28 day strength of 2,500 psi shall be placed between the fitting and undisturbed ground. The thrust and bearing sides of the blocks shall be poured directly against the fitting and undisturbed earth. The sides of the blocking not subject to thrust may be poured against form. Blocking shall be placed so that the fitting will be accessible for repair. The minimum area of bearing shall be as shown however actual area of bearing shall be increased to provide sufficient bearing area when low strength soils are encountered.
- C. Retainer Gland: Retainer glands shall be used on ductile iron pipe only and be designed and manufactured in accordance with DIPRA-01. The gland shall be rated for 350 psig by Underwriters Laboratories. Restraining shall be accomplished by wedge acting lugs tightened by bolts with break-away heads to provide uniform pressure.

- D. Metal Tie Rods: Tie rod joints shall consist of threaded tie rods connected to joints with eye bolts or lugs or lugged fittings. All rods, eyebolts, couplings and nuts shall be ¾-inch high strength ASTM A242-81 (CorTen) corrosion resistant steel. The minimum number of rods used on 4 inch and 6 inch joints shall be two (2), three (3) rods for 8 inch pipe, four (4) for 10 inch pipe and six (6) rods for 12 inch pipes.
- E. Megalug Joint Restraint: Mechanical joint restraint shall include a restraining mechanism which, when actuated, imparts multiple wedging action against the pipe, increasing its resistance as the pressure increases. Flexibility of the joint shall be maintained after burial. Gland body, wedges, and wedge actuating components shall be manufactured of ductile iron conforming to ASTM A536-84. Restraining devices shall be of ductile iron heat treated to a minimum hardness of 370 BHN. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to ANSI/AWWA C111/A21.11 and ANSI/AWWA C153/A21.53 of latest revision. Twist-off nuts shall be used to insure proper actuating of the restraining devices.
 - 1. The mechanical joint restraint device shall have a working pressure of at least 250 psi with a minimum of safety factor of 2:1 and shall be EBAA Iron, Inc. MEGALUG or equal.

3.5 FIELD TESTING

- A. After all piping has been placed and backfilled between the joints, each run of newly laid pipe, or any valved section thereof, shall be tested by the Contractor in the presence of the Engineer, and tests shall be continued until all leaks have been made tight to the satisfaction of the Engineer.
- B. All piping shall be subject to hydrostatic gauge pressure of 150 psi and the leakage determined. No buried pipe shall be accepted until the leakage is less than 10 U.S. gallons per 24 hours per mile of pipe per inch nominal pipe diameter. All visible leaks are to be repaired regardless of quantity. Where the joints and fittings are exposed, the duration of the test shall be a minimum of 2 consecutive hours or until all joints and fittings are inspected for leakage, whichever is greater. The duration for backfilled or partially backfilled pipelines, where the joints and fittings are not exposed, shall be at least 6 consecutive hours. No above-ground pipe shall be accepted until there are no visible leaks.
- C. The Contractor shall take all precautions necessary to protect any equipment that might be damaged by the pressures used in the tests. Delicate equipment shall be valved off, removed, or otherwise protected.
- D. All piping shall be securely anchored and restrained against movement prior to application of test pressures. Prior to the pressure test, pipe laid in trenches shall be partially backfilled adequately to secure the pipe during the test. All joints, fittings, and valves will be left exposed. All exposed pipe, fittings, valves, and joints shall be carefully examined during the pressure test.
- E. Before applying the specified test pressure, all air shall be expelled from the pipe. If hydrants, blow-offs, or air release valves are not available at the high places, the Contractor shall make the necessary taps at points of highest elevation before the test is made and insert plugs after the test has been completed.

- F. Any excessive leakage revealed during the test shall be corrected at the Contractor's expense. If the defective portion cannot be located, the Contractor, at his expense, shall remove and reconstruct as much of the original work as necessary to obtain a facility meeting the specified leakage limits.
- G. After all tests on any section have been completed to the satisfaction of the Engineer, the Contractor shall carefully clean, blow out, and drain the line of all water to prevent the freezing of the same. The Contractor shall also demonstrate to the satisfaction of the Engineer that any and all lines are free from obstructions and foreign material.
- H. The Contractor shall bear the complete cost of the tests, including set-up, labor, temporary piping, blocking, gauges, bulkheads, water, air, soap solutions, and any other materials required to conduct the tests.

3.6 DISINFECTION

- A. After installation and testing and before placing into service all new water distribution systems, or extensions to existing systems, or any valved section of such extension or any replacement in the existing water distribution system shall be disinfected in accordance with the requirements of AWWA C651.
- B. Any of the following methods of procedure shall be followed, subject to the approval of the Engineer.
 - 1. Liquid Chlorine gas-water mixture
 - 2. Direct Chlorine feed
 - 3. Calcium Hypochlorite and water mixture
- C. Preliminary Flushing: Prior to chlorination, all dirt and foreign matter shall be removed by a thorough flushing through the hydrants, or by other approved means. Each valved section of newly laid pipe shall be flushed independently. This shall be done after the pressure test is completed. All water mains shall be flushed at a velocity greater than or equal to 3.0 feet per second.

3.7 FIELD PAINTING

- A. After installation and testing, all exposed piping shall be field painted in accordance with the following requirements.
 - 1. Clean all pipe to be painted. The applicator shall inspect the pipe and notify the Engineer of any unsuitability of any surface to be painted.
 - 2. Touch up factory primer coat with Tnemec Series N140-1211 Pota-Pox Plus or equal and allow to dry.
 - 3. Apply intermediate coat of Tnemec Series 66 Epoxoline or equal applied at 3.0-5.0 mils dry film thickness and allow to dry.
 - 4. Apply finish coat of Tnemec Series 1095 Endura-Shield or equal applied at a rate of 2.0-3.0 mils dry film thickness.

END OF SECTION 33 05 51

SECTION 40 05 51 - VALVES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section contains general information required to furnish and install valves and related components.
- B. Related Work Specified Elsewhere:
 - 1. Section 33 05 51 - Ductile Iron Piping & Ductile Iron & Cast Iron Fittings

1.2 SUBMITTALS

- A. Submit product data sheets showing materials, operating characteristics, construction, and dimensions on all proposed valves and associated components in accordance with Section 01 33 00.

1.3 QUALITY ASSURANCE

- A. The supplier of all valves and accessories furnished under this section shall be responsible for all coordination between valves and actuators and other accessories to provide properly operating valves.

PART 2 - PRODUCTS

2.1 GATE VALVES

- A. Resilient Seat: Resilient seat gate valves shall be single solid wedge disc type with the disc fully encapsulated with a resilient rubber seat. The stem nut shall be integrally cast and the stem shall ride on an antifriction washer. The inside of the valve shall be fusion bonded epoxy coated complying with AWWA C550 and applied prior to assembly. The valve shall be certified to provide zero leakage at 200 psi. Valve shall meet AWWA Specification C-509 or C-515.
 - 1. Unless otherwise specified or shown on the drawings, valves shall have mechanical joint bell connections.
- B. Tapping Valves and Tees: Tapping valves shall meet the requirements of AWWA C-509 or C-515 gate valves indicated above and be designed for making taps to existing mains under pressure. Valves, tees, and boring equipment used shall be mutually compatible. Tapping tees unless otherwise indicated shall be constructed of cast or ductile iron with non-corrosive accessories.
 - 1. All stainless steel fabricated tees may be used when indicated or directed by the engineer. All nuts and bolts shall be noncorrosive and be compatible with fitting materials.

2.2 VALVE BOXES

- A. Cast iron valve boxes shall be provided on all buried valves and shall consist of a base covering the operating nut and valve head, an adjustable vertical shaft at least 5-1/4 inches in diameter and a top section extending to a point even with the finished ground surface, provided with a cast iron cover placed concentrically over the operating nut.

2.3 PRESSURE GAUGES

- A. Pressure gages shall be a 4½ inch industrial grade gage, temperature compensated with a 1% full scale accuracy. The tube shall be constructed of phosphor bronze and the socket shall be brass. Connection shall be made by ¼-inch NPT male fitting. The gage shall have a 0-200 psi range. A snubber shall be furnished to provide steady state pressure readings and a brass and/or stainless steel ball valve shall be installed at the mainline connection.

2.4 SILENT TYPE CHECK VALVES

- A. The silent type check valves shall be a single disc type with a semi-steel body, bronze trim and a stainless steel spring and bushing, flanged and drilled per ANSI B16.1, Class 125 bolting. The valve shall be center guided and shall have a resilient seat. The flow area shall be approximately 10 percent greater than the pipe size. The valve shall be designed to open at 1/4 to 1/2 PSI and close completely while there is still a positive head on the discharge side at approximately 1/2 PSI. The valve shall be as manufactured by APCO (600 Series), Val-Matic or approved equal.

2.5 BUTTERFLY VALVES (ABOVE GROUND)

- A. General: Butterfly valves shall have one piece, ductile iron bodies and shall be flanged, configuration. Flanged valves shall be drilled to match standard 125 pound ANSI flange bolts. All valves shall be capable of withstanding bi-directional line hydrostatic pressure of 225 psi without leaking.
- B. Valve Seats: The seat shall be constructed either by bonding a resilient elastomer inside a rigid plastic backing ring which is slip-fitted in the valve body or molded in and vulcanized to the body. Seat shall be field replaceable without disassembly of the disc and shaft. The seat shall be Buna-N.
- C. Valve Discs: The disc seating edge shall be full radius polished for proper seating with the valve seat. The disc shall be ductile iron and shall be securely attached to the valve stem in such a way that it is easily field removable. The disc stems shall be 316 SS and shall have seals to prevent leakage. O-ring seals are not acceptable.
- D. Valve Actuator: All manually operated valves 6-inch and smaller shall be equipped with a lever operator with 10 locking positions unless shown otherwise. All manually operated valves 8-inch and larger shall be equipped with a gear actuator and handwheel. All gearing shall be enclosed suitable for running in oil with seals provided on all shafts to prevent entry of dirt and water into the actuator.

1. All actuators shall clearly indicate valve position and shall be provided with an adjustable stop.
- E. Painting: All surfaces of the valve shall be clean, dry and free from grease before painting. The valve interior and exterior surfaces, except for the seats, shall be coated with 10 mil epoxy. A rubber lining vulcanized to the body is also acceptable.
- F. Testing: Each valve and actuator shall be assembled, adjusted, and tested as an unit by the valve manufacturer. Valves with actuators mounted outside of the valve manufacturing facility are not acceptable. Shop leakage tests shall be performed at the factory and follow the requirements of AWWA C504 except that the test pressure shall be 225 psi.
- G. Valves shall be Demco, DeZurik, Pratt or equal.

2.6 BALL VALVES (0.25" TO 2")

- A. PVC ball valves shall be two piece body construction of Type I PVC with CPVC ball and stem, Teflon seats and viton stem seal.

2.7 WATER AIR RELEASE VALVES

- A. Water air release valves shall be designed for releasing entrained air in water in lines under pressure and shall be automatic and infinitely variable for potable water with NSF certification. The valve shall be a combination air/vacuum – double orifice automatic air release valve. The valve shall have one 2" orifice and one 1" orifice for allowing air to escape and enter in the event of a vacuum condition. The valve shall be of two piece body design with a threaded 2" FNPT inlet. The valve shall be of corrosion free materials. Body shall be made of 316 stainless steel. Float shall be expanded Polypropylene. The valve sealing shall be rubber made of EPDM. The valve shall have an outlet elbow of Polyethylene with insect protection screen of stainless steel. Valves shall be H-TEC Model 993; HaVent.
- B. A tapping saddle shall be installed on the pipe to receive the air release valve. Saddles shall be specifically sized for the O.D. of the pipe on which it is to be installed and shall be rated at a minimum of 250 psig. The body shall be equipped with a Buna-N rubber "O" ring gasket to produce a water tight seal. The saddle body shall be constructed of AWWA brass ASTM B62 with stainless steel accessories and straps. Saddles for PVC pipe shall be double-strap or double wide-strap design.

PART 3 - EXECUTION

3.1 INSTALLATION OF VALVES

- A. Valves shall be located and oriented as shown on the plans.
- B. The Contractor shall perform all work as required by the manufacturer's installation instructions unless otherwise directed by the Engineer.

- C. All shafts, columns, and equipment shall be installed in such a manner that will provide a neat and workmanlike job.
- D. All valves shall be properly supported.
- E. All valves shall be thoroughly cleaned prior to installation.

3.2 SETTING VALVES, VALVE BOXES, FITTINGS, AND BLOW OFFS

- A. Examination of Material: Prior to installation, valves shall be inspected for direction of opening, freedom of operation, tightness of pressure-containing bolting, cleanliness of valve ports and surfaces, handling damage and cracks.
- B. General: Gate valves shall be set and jointed to new pipe in the manner specified for cleaning, laying, and jointing pipe.
- C. Valve Boxes: Cast iron valve boxes shall be firmly supported and maintained centered and plumb over the wrench nut of the gate valve, with box cover flush with the surface of the finished pavement or at such other level as may be directed. Unless otherwise directed, valve boxes set in unpaved areas shall be equipped with a 2 foot by 2 foot by 6 inch poured in place concrete slab reinforced with 6 x 6 x w1.4/w1.4 wwm. The top of slab shall be flush with finished grade and base shall be placed on a well compacted subgrade.
- D. Back Siphonage to be Prevented: Drainage branches or blow offs shall not be connected to any sewer or submerged in any stream or be installed in any other manner that will permit back siphonage into the distribution system.

END OF SECTION 40 05 51

SECTION 40 71 13.13 - ELECTROMAGNETIC FLOW MEASURING SYSTEM

PART 1 - GENERAL

1.1 SCOPE

- A. Scope Includes: One (1) flanged-body magnetic flow meter for permanent installation as shown on the drawings.

1.2 PROJECT CONDITIONS

- A. The Contractor shall provide magnetic flow meter for measuring potable water.
- B. As described in this specification, each flow meter shall have the operating features and include the appurtenant equipment listed below. The Manufacturer shall supply any equipment necessary to set up the meter in working order.

1.3 SUBMITTALS

- A. Furnish complete Product Data, Shop Drawings, Test Reports, Operating Manuals, Manufacturer's certifications, Manufacturer's Field Reports in accordance with Section 01 33 00.
- B. Product Data:
 - 1. Dimensional Drawings.
 - 2. Materials of Construction:
 - a. Metering Tube.
 - b. Liner.
 - c. Electrodes.
 - d. Flanges.
 - 3. Measurement accuracy.
 - 4. Range and range ability.
 - 5. Enclosure Rating.
 - 6. Classification Rating.
 - 7. Power:
 - a. Voltage.
 - b. Wattage.
 - 8. Output options.

1.4 QUALITY ASSURANCE

- A. Manufacture instruments in facilities certified to the quality standards of ISO Standard 9001 - Quality Systems - Model for Quality Assurance in Design/Development, Production, Installation, and Servicing.

- B. Factory Calibration:
 - 1. Magnetic flow meters shall be factory calibrated on an approved test stand with certified accuracy traceable to NIST, compliant with the ISO 17025 standard and third party accreditation by a national verification agency such as A2LA.
- C. Each flow meter shall be McCrometer Ultra Mag UMO6 with remote converter to match existing County units. (NO SUBSTITUTIONS)

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store all instruments in a dedicated structure with space conditioning to meet the recommended storage requirements provided by the Manufacturer.
- B. Any instruments that are not stored in strict conformance with the Manufacturer's recommendation shall be replaced.

1.6 PROJECT OR SITE CONDITIONS

- A. Provide instruments suitable for the installed site conditions including, but not limited to, material compatibility, site altitude, process and ambient temperature, and humidity conditions.

1.7 CALIBRATION AND WARRANTY

- A. Magnetic flow meters shall be factory calibrated on an approved test stand with certified accuracy traceable to NIST, compliant with the ISO 17025 standard and third party accreditation by a national verification agency such as A2LA.
- B. Each meter shall ship with a certificate of a 3-point calibration report exceeding stated accuracy of 0.5%.
- C. The meter shall have data stored in the microprocessor which enables field verification of the meter parameters at any time in the service life of the meter. A report shall be generated to prove reliability of the meter accuracy.
- D. The meter shall be commissioned by a factory certified technician and shall have a two year warranty from date of shipment.

1.8 MAINTENANCE

- A. Provide all parts, materials, fluids, etc. necessary for maintenance and calibration purposes throughout the warranty period. Deliver all of these supplies before project substantial completion.

PART 2 - PRODUCTS

2.1 GENERAL

- A. The meters shall utilize bipolar pulse DC coil excitation to measure voltage induced by the flow of water through a magnetic flux.
- B. The voltage shall be linearly proportional to flow velocity from 0.2 to 32 feet per second. Standard accuracy shall be $\pm 0.5\%$ of rate for all meters. Each meter shall measure at this accuracy throughout ninety per cent of the flow range and with 1 pipe diameter of straight pipe on the upstream side of the meter and no straight pipe on the downstream side of the meter.
- C. The flow meters shall consist of a flanged metering tube and a converter which will be mounted remotely.
 - 1. The flow metering system shall be microprocessor based and both the sensor and transmitter shall have chips to store and process data. The electronics shall be interchangeable for meters from 6" to 24".
 - 2. The metering tube sensors shall be of the proper sizes to measure the design flow rate of the piping and shall be noted in the instrument schedule.
 - 3. The sensor shall consist of a stainless steel tube with carbon steel flanges. Liner and electrodes shall be chosen to be compatible with the process fluid. Include four Stainless Steel electrodes and two magnetic coils. Mag Shield shall enclose the coil assemblies and internal wiring and the full exterior of the housing shall be painted with high quality epoxy paint.
 - 4. The tube shall be lined with Ultraliner NSF approved, fusion bonded epoxy.
 - 5. There shall be two measuring electrodes, a grounding electrode, and one for empty pipe detection. All electrodes shall be stainless steel.
- D. The converter shall be a three stage microprocessor mounted remotely. The power supply to the transmitter shall be 120 VAC 60 Hz. Converter shall be in a sealed IP67 rated enclosure.
 - 1. The flowmeter shall have key pad programming. The flowmeter shall have a 2-line LCD display used for programming as well as for simultaneous display of flow rate and total flow in user-selectable engineering units, and readout of diagnostic error messages. The microprocessor shall safeguard against entering of invalid data for the particular meter size, and all programming parameters shall be access-code protected.
 - 2. The electronics shall automatically perform internal temperature drift compensation and shall periodically perform self-diagnostics and display the resulting error messages.
 - 3. Upon any power failure, the unit shall retain all setup parameters and accumulated measurements internally in non-volatile memory. All units shall be protected against voltage spikes from the power source with internal transient protection.
 - 4. The converter shall output two 4-20 mA DC signals directly proportional to flow rate. The electronics shall include an adjustable low flow cutoff.

2.2 ACCESSORIES

- A. Provide stainless steel grounding rings, as per manufacturer's recommendations.

2.3 SOURCE QUALITY CONTROL

- A. Magnetic flow meters shall be factory calibrated on an approved test stand with; certified accuracy traceable to NIST, compliant with the ISO 17025 standard, and third party accreditation by a national verification agency such as A2LA.
- B. A real-time computer generated printout of the actual calibration data points indicate apparent and actual flows. The flow calibration data points will be confirmed by the manufacturer and will be confirmed with shipment of the meters to the project site.
- C. Provide complete documentation covering the traceability of all calibration instruments.
- D. Provide complete documentation covering the traceability of all calibration instruments.

2.4 SAFETY

- A. All electrical equipment shall meet the requirements of ANSI/NFPA 70, NATIONAL ELECTRIC CODE, latest addition.
- B. All devices shall meet UL 61010-1.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine the complete set of plans, the process fluids, pressures, and temperatures and furnish instruments that are compatible with installed process condition.
- B. Examine the installation location for the instrument and verify that the instrument will work properly when installed.

3.2 INSTALLATION

- A. As shown on installation details and Drawings.
- B. As recommended by the manufacturer's installation and operation manual.
- C. Specific attention should be given to the following technical requirements:
 - 1. Verify ground rings have been installed according to the Manufacturer's recommendations.

3.3 FIELD QUALITY CONTROL

- A. Demonstrate the performance of all instruments to the OWNER before commissioning.
- B. OWNER to witness all instrument calibration verification in the field.

- C. Each instrument shall be tested before commissioning and the OWNER shall witness the response in the PLC control system and associated registers.
- D. Manufacturer's Field Services:
 - 1. Manufacturers' representative shall verify installation of all installed flow tubes and transmitters.
 - 2. Notify the ENGINEER in writing of any problems or discrepancies and proposed solutions.
 - 3. Provide minimum of 2 hours on-site training to OWNER.

3.4 ADJUSTING

- A. Verify factory calibration of all instruments in accordance with the Manufacturer's instructions.

3.5 PROTECTION

- A. All instruments shall be fully protected after installation and before commissioning. Replace any instruments damaged before commissioning.

END OF SECTION 40 71 13.13

SECTION 40 75 21 - CHLORINE RESIDUAL ANALYZER

PART 1 - GENERAL

1.1 SUMMARY

- A. The chlorine residual analyzer shall be based on an amperometric type Chlorine sensor, providing continuous measurement of residual chlorine without the use of any reagents or buffers in the sample stream. A membrane shall protect the electrodes from flow, pressure, and conductivity-based interferences.
- B. The chlorine residual analyzer shall be the standard equipment of the supplier involved in the manufacture of similar type equipment and shall be as manufactured by ProMinent Fluid Controls, Inc.

1.2 RELATED DOCUMENTS

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

1.3 REFERENCE STANDARDS

- A. The latest published edition of a reference shall apply to this Project unless identified by a specific edition date.
- B. All reference amendments adopted before the effective date of this Contract shall apply to this Project.
- C. All materials, installation, and workmanship shall comply with the applicable requirements and standards addressed within the following references:
 - 1. American National Standard Institute (ANSI)
 - 2. Occupational Safety and Health Administration (OSHA)
 - 3. National Electrical Manufacturers Association (NEMA)
 - 4. National Electrical Code (NEC)
 - 5. NSF International
 - 6. The revision in effect at the time of bid opening shall apply when referencing one of the above standards.

1.4 Related work specified elsewhere

- A. Section 46 31 11 – Chlorination Equipment

1.5 SUBMITTALS

- A. Contractor shall provide all submittals including product data and dimensional drawings in accordance with the requirements of Section 01 33 00, Submittal Procedures.
- B. Record Documents:
 - 1. Operation and Maintenance Manuals: Provide complete operation and maintenance manuals for all equipment, in accordance with the requirements of Section 01 77 00, Closeout Procedures.

1.6 QUALITY ASSURANCE

- A. The Contractor's attention is directed to the fact that the chlorination system, including the chlorine residual analyzer specified in this section and the chlorination equipment specified in Section 46 31 11, is an integrated system and, as such, shall be furnished by a single system supplier, who shall provide all of the equipment and appurtenances and be responsible to the Contractor for satisfactory operation of the entire system.
- B. The system supplier shall be responsible for the detailed design and proper functioning of the system to be furnished, the preparation of required submittal data to be provided, conducting all tests including calibration and operational demonstrations to be performed and providing technical supervision for installation and connections to equipment.
- C. System supplier shall be Aqua Products, Inc. or other approved supplier.
- D. The chlorine residual analyzer shall be the product of a manufacturer that has designed and manufactured similar equipment.
- E. Before shipment, the manufacturer shall inspect the equipment for quality of construction verifying all components and fasteners and fittings are tight, all wires are secure, and connections are whisker-free. The manufacturer shall repair any equipment not conforming to the requirements outlined herein and shall conduct a follow-up test to confirm compliance.
- F. The manufacturer, to ensure quality and unit responsibility, must assemble and test the equipment at its facility. The equipment shall be a standard regularly marketed product of that manufacturer. The manufacturer must have a physical plant, technical and design staff and fabricating personnel to complete the work specified.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All materials shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.

- B. The vendor shall supply all components necessary for a functional system including but not limited to the sensor(s), sensor holder with a flow meter, flow control valve, pressure regulator, pressure gauge and mounting brackets, chlorine monitor, and all required cables and spare parts. The sensor, holder, and monitor shall all be made by the same manufacturer to ensure compatibility and provide sole source responsibility.

2.2 CHLORINE RESIDUAL ANALYZERS REQUIRED

| | | | | |
|---------------------------------|-----|---------|--|--|
| System Tag No. | | 01 | | |
| Qty | | 1 | | |
| Measured Parameter | | Free CL | | |
| Normal Monitored Concentration | ppm | 1.0 | | |
| Maximum Monitored Concentration | ppm | 5.0 | | |
| Minimum Monitored Concentration | ppm | 0.05 | | |
| Standard Process Communication | | 4-20mA | | |

2.3 SYSTEM DESCRIPTION

- A. The chlorine residual analyzer shall be a diaLog DACb analyzer package as manufactured by ProMinent Fluid Controls, Pittsburgh, PA. as supplied by Aqua Products Inc. to match existing County equipment. (NO SUBSTITUTIONS.)

2.4 TECHNICAL DATA

- A. Analyzer
 1. The analyzer shall be microprocessor-based, with illuminated LCD indicator of measured value, status, and error annunciation. Unit shall feature non-volatile memory to retain settings in the event of power failure: menu-driven calibration, limit and control settings; sensor monitoring to alarm upon sensor failure or loss of sensitivity; programmable access code allowing calibration but not the unauthorized adjustment of limits and outputs.
 2. The device shall have the provision to be configured with two (2) additional independent channels for control of additional application parameters.
 3. The unit shall have the ability to control via proportional or PID loop control functions.

4. The controller shall have the provision as a standard feature of saving data (data logging) to an SD card. Logged data shall include event, calibration and measured data logs.
5. The unit shall be able to accept a process flow rate disturbance variable and shall adjust its corresponding chemical feed output based on this variable.
6. In addition to the above requirements the analyzer shall have the following capabilities and specifications:
 - a. Resolution – 0.01 ppm (Chlorine)
 - b. Accuracy – 0.3% based on the full-scale reading
 - c. pH Compensation Range for Chlorine (when specified) – 6.5 to 8.5
 - d. Process Disturbance Signal Input – Water flow rate via mA or frequency (pulse) input
 - e. Current Input – Remote external input to adjust the process setpoint for Channel 1 (Chlorine) via 4-20mA signal
 - f. Digital Inputs – Five (5) remote dry contact inputs for the remote pause of control, level input from supply tanks, water flow rate or similar input applications
 - g. Current Outputs – Three (3) 0/4-20mA electrically isolated customer configured signals for measured value, correction value or control variable output
 - h. Digital Outputs –
 - 1) Two (2) Pulse Frequency Outputs for metering pump pacing with PID loop control
 - 2) Two (2) Relays (limit value, 3-point step or pulse length control)
 - i. Alarm Relay – 250 Volt, 3 Amp, 700 VA (maximum)
 - j. Communication Options (as specified in 2.02 above) – LAN Browser with web server, PROFIBUS®-DP, or Modbus RTU
 - k. Enclosure – IP67
 - l. Tests and Approvals – CE, MET (Corresponding to UL according to IEC 61010)

B. Sensor

1. The chlorine sensor shall be an amperometric type, providing continuous measurement of residual chlorine without the use of any reagents or buffers in the sample stream. A membrane shall protect the electrodes from flow, pressure, and conductivity-based interferences.
2. The measured value shall be free chlorine as specified in 2.02 above. Specific sensor model selection shall be per the best recommendation of the analyzer manufacturer or their Authorized Manufacturer's Representative. Selection shall be made to best meet the application requirements.
3. Signal response time to 90% of measured value shall be better than two minutes. Drift shall be less than 2% per month.
4. The sensor shall include integral automatic temperature compensation. The signal to the monitor shall be 4-20mA via 2-wire technology. The sensor shall feature a terminal block with watertight cable gland for field connection of any length cable to the monitor.
5. For applications calling for Free Chlorine measurement, automatic pH compensation shall be provided employing a double junction pH sensor with a signal converter to provide 4-20mA signal to the monitor via 2-wire technology. The signal converter shall feature a terminal block with watertight cable gland for field connection of any length cable to the monitor.

C. Sensor Holder

1. The sensor holder shall be transparent PVC material with integral flow control valve and rotameter for setting the sample flow rate between 8 and 15 gph. The flow shall be directed at the sensor membrane to provide a continuous cleaning action. Mounting brackets for wall mounting shall be included.
 2. A flow switch shall be provided as part of the rotameter. This switch shall be wired to the controller that shall be able to initiate a pause to chemical feed if a loss of sample flow is detected.
 3. The sample flow shall be controlled via a control valve, pressure regulator and an installed pressure gauge
- D. The analyzer, sensor, and sensor holder specified herein shall be installed on a single back panel and shall be fully wired and ready for installation with sample tubing or piping connections as specified by the customer. The analyzer back panel shall be made of Polyethylene/Polypropylene sheet material of at least 3/8" thickness and shall be UV resistant.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Installation shall meet or exceed all applicable federal, state and local requirements, referenced standards and conform to codes and ordinances of authorities having jurisdiction.
- B. The Contractor shall install the specified equipment per the contract documents and manufacturer's printed instructions.
 1. The Contractor shall obtain and provide a manufacturer's certificate showing the satisfactory calibration and testing of the equipment.
 2. An authorized manufacturer's representative shall inspect the installation of all work furnished under this section and shall provide a certificate of proper installation.

3.2 MANUFACTURER'S SERVICES

- A. The manufacturer or manufacturer's authorized distributor or representative shall provide the following:
 1. Services of an experienced, Authorized Representative who shall be present at the job site or classroom designated by the County for the minimum person-days listed for the services shown below
 2. One-half person-day per site for inspection, start-up, functional testing and certificate of proper installation
 3. One-half person-day per site for training and commissioning

END OF SECTION 40 75 21

SECTION 40 76 26 – CHLORINE GAS DETECTORS

PART 1 - GENERAL

1.1 SUMMARY

- A. The chlorine gas detector shall sense chlorine gas and display the concentration on a digital display. It shall also generate two alarms – WARNING and DANGER – each set at a different concentration.
- B. The chlorine gas detector(s) shall be the standard equipment of the supplier involved in the manufacture of similar type equipment and shall be Series 3000 as manufactured by Chlorinators, Inc. or approved equal.

1.2 RELATED DOCUMENTS

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

1.3 REFERENCE STANDARDS

- A. The latest published edition of a reference shall apply to this Project unless identified by a specific edition date.
- B. All reference amendments adopted before the effective date of this Contract shall apply to this Project.
- C. All materials, installation, and workmanship shall comply with the applicable requirements and standards addressed within the following references:
 - 1. Chlorine Institute
 - 2. American National Standard Institute (ANSI)
 - 3. Occupational Safety and Health Administration (OSHA)
 - 4. National Electrical Manufacturers Association (NEMA)
 - 5. National Electrical Code (NEC)
 - 6. NSF International
 - 7. The revision in effect at the time of bid opening shall apply when referencing one of the above standards.

1.4 SUBMITTALS

- A. Contractor shall provide all submittals including product data and dimensional drawings in accordance with the requirements of Section 01 33 00, Submittal Procedures.
- B. Record Documents:

1. Operation and Maintenance Manuals: Provide complete operation and maintenance manuals for all equipment, in accordance with the requirements of Section 01 77 00, Closeout Procedures.

1.5 QUALITY ASSURANCE

- A. The chlorine gas detector shall be the product of a manufacturer that has designed and manufactured similar equipment.
- B. Before shipment, the manufacturer shall inspect the equipment for quality of construction verifying all wires are secure and connections are whisker-free. The manufacturer shall repair any equipment not conforming to the requirements outlined herein and shall conduct a follow-up test to confirm compliance.
- C. Under this specification section, all equipment provided is to be from a single supplier or manufacturer that shall assume full responsibility for the completeness and proper installation of the chlorine gas detector.
- D. The manufacturer, to ensure quality and unit responsibility, must assemble and test the chlorine gas detector at its facility. The equipment shall be a standard regularly marketed product of that manufacturer. The manufacturer must have a physical plant, technical and design staff and fabricating personnel to complete the work specified.

PART 2 - PRODUCTS

2.1 CHLORINE GAS DETECTOR

- A. The gas detector's (monitor's) main power supply from the monitor shall provide a regulated voltage of 24 VDC over a two wire shielded cable to the sensor. The sensor transmitter board shall convert the sensor cell output, which is representative of the chlorine gas concentration, to a 4-20 milliamp, DC output signal for transmission to the receiver board. The receiver board shall convert the analog current signal to a continuous pulse train for processing by the micro controller.
- B. The monitor shall scan the active sensor at a rate of 1 reading each 5 seconds and shall indicate the sensor presently being scanned on a single digit readout. The gas concentration for the displayed sensor shall be indicated both on a multicolored bar graph and on a 3 digit direct readout of gas concentration.
- C. When the detector (monitor) is subjected to varying concentrations of chlorine gas (up to 10 PPM), the detector (monitor) shall display the actual concentration on the 3-digit display. As the concentration of gas increases and exceeds 1.0 PPM chlorine (WARNING POINT), the appropriate bar graph LED's shall "blink", the internal audible alarm horn shall sound, and the appropriate WARNING relays shall engage. If the concentration of gas increases to the 3-PPM (DANGER) point for chlorine, the 3 digit display shall begin to "blink," the internal alarm horn shall sound, and the appropriate DANGER relays shall latch into the alarm state. The bar graph LED representing the highest detected level MUST stay lit even as the gas concentration

decreases to let the user know that a leak occurred (and the magnitude of the leak) even if the chlorine concentration has dropped back below 1.0 PPM.

- D. The alarms shall be acknowledged and reset using the keypad on the face of the monitor unit. The bar graph LED's and the digital display shall continue to "blink" until the gas concentration decreases to less than 1.0 PPM and the system is manually reset by the operator.
- E. The gas detector (monitor) shall include the optional back-up battery module, and during primary power failures, all display illumination shall automatically be turned off to conserve battery power except for a single LED in the bar graph to indicate the system is still functioning. All detection, alarm, and relay functions shall continue to operate normally. The monitor MUST include a keypad button which when pressed, will illuminate the display for a period of just over one full scan sequence, then again automatically blank the display to continue conserving battery power.
- F. The detector (monitor) shall include a program to simplify calibrating the gas detector (monitor) system. This program shall be used in conjunction with three sensor status LED's located on the face of the detector (monitor). Once a calibrated gas source equal to the span value of the gas detector (monitor) is applied to the sensor input, calibration shall be accomplished by simply pressing two of the keypad buttons simultaneously. The program shall include a means to disable all alarm relay operations by the simultaneous pressing of two keypad buttons for a fifteen-minute period during the calibration process.
- G. The three-sensor status LEDs shall visually indicate remaining sensor life as follows:
 - 1. With all three-sensor status LEDs lit, the sensor has between 75% and 100% of useful life remaining.
 - 2. With two-sensor status LEDs lit, the sensor has between 50% and 75% of useful life remaining.
 - 3. With one sensor status LED lit, the sensor has between 25% and 50% of useful life remaining.
 - 4. With no sensor status LEDs lit, the sensor's life is below 25% and is nearing time for replacement.

2.2 CHLORINE GAS GENERATOR

- A. Manufacturer shall supply a chlorine gas generator to be used in calibration of the chlorine gas detector.

2.3 KEY FEATURES THAT MUST BE INCLUDED

- A. The chlorine gas detector MUST be capable of single or dual chlorine sensor configurations as standard.
- B. The chlorine gas detector MUST include a digital display on the face of the detector (monitor) to continuously display the chlorine gas concentration being detected by the sensor in PPM (Parts Per Million).

- C. The chlorine gas detector MUST be capable of displaying and transmitting sensor or signal conversion failures via an LED, a designated relay and a flashing “FFL” indication on the digital display.
- D. The gas concentration digital display shall flash “OFL” for readings in excess of the full scale value of 10 PPM for chlorine.
- E. The chlorine gas detector MUST be capable of transmitting digital information for computerized data logging via an internal RS232 port within the detector (monitor) enclosure.
- F. The chlorine gas detector MUST include two SPDT 5 amp warning relays and two DPDT 10 amp danger relays. The relays MUST be field configurable for either normal or fail-safe relay operation.
- G. Sensor cable lengths shall be 25’ standard. Cable length shall be capable of being extended up to 1000’ with no pre-amplification required.
- H. All circuit board connections for customer interface shall be via polarized plugs.
- I. The chlorine gas detector MUST be completely stabilized and have the ability of generating correct and accurate readings within two to three minutes after the detector (monitor) is first powered up.
- J. Pressing the “TEST” keypad button shall initiate a test of the internal audible alarm horn and the electrical relay circuitry by SEQUENTIALLY latching each relay to its alarm state and then SEQUENTIALLY unlatching each relay back to its normal state.
- K. If chlorine gas is detected, the highest level bargraph LED MUST remain lit (until manually reset) to let the operator know he had a leak (and the magnitude of the leak) even if the leak had cleared itself.
- L. The chlorine gas detector MUST include a program to simplify calibrating the detector (monitor) by simply pressing two keypad buttons simultaneously once a calibrated gas source equal to the units span value is applied to the sensor.
- M. The chlorine gas detector MUST include three (3) sensor status LEDs on the face of the detector (monitor) to provide a visual indication of remaining sensor life.
- N. The detector (monitor) MUST automatically enter an energy conservation mode which turns off all visual displays (except power indication) to conserve battery power whenever AC power is lost.
- O. The chlorine gas detector MUST include a single pushbutton to enable the operator to momentarily turn on all faceplate visual displays at any time during the power outage then again automatically blank the display to continue conserving battery power.
- P. The chlorine gas detector MUST include a single LED on the face of the detector (monitor) that will “blink” whenever the back-up battery is recharging.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Installation shall meet or exceed all applicable federal, state and local requirements, referenced standards and conform to codes and ordinances of authorities having jurisdiction.
- B. The Contractor shall install the specified equipment per the contract documents and manufacturer's printed instructions.
 - 1. The Contractor shall obtain and provide a manufacturer's certificate showing the satisfactory calibration and testing of the equipment.
 - 2. An authorized manufacturer's representative shall inspect the installation of all work furnished under this section and shall provide a certificate of proper installation.

3.2 MANUFACTURER'S SERVICES

- A. The manufacturer or manufacturer's authorized distributor or representative shall provide the following:
 - 1. Services of an experienced, Authorized Representative who shall be present at the job site or classroom designated by the County for the minimum person-days listed for the services shown below.
 - 2. One-half person-day per site for inspection, start-up, functional testing and certificate of proper installation.
 - 3. One-half person-day per site for training and commissioning.

END OF SECTION 40 76 26

SECTION 41 22 23 - HOISTS

PART 1 - GENERAL

1.1 SCOPE

- A. This section contains information necessary to furnish and install the hoists on this project.
- B. Related Work Elsewhere:
 - 1. Section 05 12 00: Structural Steel

1.2 DESCRIPTION OF WORK

- A. The numbers and types of hoists and accessories required in the contract are:
 - 1. One mechanically operated overhead bridge crane sized to lift up to 2 tons. Hoist shall move longitudinally along the axis of the pumps as well as perpendicularly across the axis of the pumps.

1.3 SUBMITTALS

- A. Shop drawings and product data shall be submitted to the Engineer in accordance with Section 01 33 00. Shop drawings shall show all pertinent details of construction and connections to other work. Submit quality control records specified below after completion of installation.

1.4 QUALITY CONTROL

- A. The Contractor shall establish and maintain quality control for operations under this section to assure compliance with contract requirements and maintain records of his quality control for materials, equipment, and construction operation, including but not limited to the following:
- B. Preparatory Inspection: (To be conducted prior to commencing work).
 - 1. Check all materials, including dual I-beam rails, for conformance to approved shop drawing.
 - 2. Check all materials for damage.
 - 3. Determine erection procedure for all materials.
- C. Initial Inspection: (To be conducted after a representative sample of the work is complete).
 - 1. Check to see that runway joints are flush and true, and that running treads and web are aligned properly.
 - 2. Check for proper supporting of rails, proper bolts, hangers, bracing, and security type fasteners.
 - 3. Check for proper end stops.
- D. Follow-up Inspections: (To be conducted daily to assure compliance with results of initial inspection).
 - 1. Check all items listed in preparatory and initial inspections.

2. Check for damage and defects.
- E. A copy of these records showing inspections and any corrective action taken shall be furnished to the Engineer when the hoist installation is completed.

PART 2 - PRODUCTS

2.1 MANUAL HOISTS

- A. Each manual hoist shall be a geared trolley type chain hoist designed to operate on the beams supplied with the system as shown on the drawings. Hoist shall have lifting distance capabilities as necessary to comply with the intent of the Plans. The trolley and hoist shall be designed with a factor of safety of not less than 3 based on the yield strength of the materials involved. Equal to Yale Model LTG.

2.2 BRIDGE MONORAIL

- A. Monorail bridge beam shall be structural steel conforming to the requirements of Section 05 12 00. Steel shall be special straight sections.
- B. All hanger bolts, bracing and necessary structural framing shall be provided to support suitably the bridge rail and fully loaded hoist. All attachments shall be secured with lock washers or approved security type fasteners which will prevent loosening of connections. Where holes are required in structural steel, templates shall be furnished to the fabricator to permit punching such holes in the shop.
- C. Ends of runway shall be protected by suitable end stops of sufficient strength to withstand the impact of a fully loaded trolley moving at normal travel speed.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Hoists and related equipment shall be installed according to approved shop drawings and manufacturer's written instructions and as directed by the Engineer.

END OF SECTION 41 22 23

SECTION 42 21 03.10 - VERTICAL CLOSE-COUPLED SPLIT CASE PUMPS

PART 1 - GENERAL

1.1 DESCRIPTION

The work covered by this section consists of furnishing and installing a pumping system including pumps and controls, including VFDs, from a single source.

The pumping system shall include 3 pumps in appropriate metallurgy with premium efficiency electric motors, variable frequency drive units and controllers as needed. All components, materials/coatings shall be certified to NSF61 safe for Drinking Water.

The manufacturer shall provide start-up and training through a factory trained authorized representative.

1.2 WORK INCLUDED

- A. One Pumping System consisting of:
 - 1. Three (3) centrifugal pumps manufactured by the pumping system manufacturer.
 - 2. Pump Controls
 - a. Control Panel
 - b. Variable Frequency Drives
 - c. Microprocessor based controller
 - d. Sequence of Operation Programming
 - e. Low Flow Stop Function
 - 3. Pressure gauge on suction and discharge nozzle of each pump
 - 4. Sensors, transducers, and other gauges as needed

1.3 REFERENCE STANDARDS

The work in this section is subject to the requirements of applicable portions of the following standards:

- A. AWWA – American Water Works Association Hydraulic Institute
- B. ANSI – American National Standards Institute

- C. ASTM – American Society for Testing and Materials
- D. HI – Hydraulic Institute
- E. ASME – American Society of Mechanical Engineers
- F. IEEE – Institute of Electrical and Electronics Engineers
- G. NEMA – National Electrical Manufacturers Association
- H. NEC – National Electrical Code
- I. ISO – International Standards Organization
- J. UL – Underwriters Laboratories, Inc.
- K. IEC – International Electrotechnical Commission
- L. NSF – NSF International

1.4 SUBMITTALS

- A. Shop drawings, schematics, technical data and all other information necessary to evaluate compliance with the specifications, including pump curves and dimensions. Submit in accordance with Section 01 33 00.
- B. Submittals shall include the following:
 - 1. General Arrangement Drawing
 - 2. Electrical One-Line Diagram
 - 3. Equipment Approval Check Lists
 - 4. Control Wiring Diagrams
 - 5. Sequence of Operations Description
 - 6. Pump Data Sheets or Catalog Sheets
 - 7. Motor Data Sheets or Catalog Sheets
 - 8. Instrumentation Data Sheets or Catalog Sheets
- C. Submittals must be specific to this project. Generic submittals will not be accepted.

1.5 QUALITY ASSURANCE

- A. The pumping system shall be manufactured by the pump manufacturer. The manufacturer shall assume "Unit Responsibility" for the complete pumping system. Unit responsibility

shall be defined as responsibility for interface and successful operation of all project system components supplied by the pumping system manufacturer, to include the pumps, the control panel with controller, the VFD's and all controls.

- B. The manufacturer shall have a minimum of 10 years' experience in the design and construction such pumps and pumping systems.
- C. The pumping system manufacturer shall construct the equipment in an ISO 9001-2008 certified facility.
- D. The pumping system manufacturer shall have a NSF61 certificate on the system.
- E. The pumps, variable frequency drives and controls shall be manufactured by Grundfos or equal.

1.6 STORAGE AND HANDLING

All pumps, motors and controls shall be stored in a vertical position in a covered storage area and wrapped to prevent entry of sand or other debris.

PART 2 - PRODUCTS

2.1 CAPACITY

- A. Each pump shall be capable of delivering at design condition 2,500 GPM at a total dynamic head (TDH) of 40 Feet at 1200 maximum rpm. Pumped liquid will be water at a temperature of 68 Deg F.

2.2 PUMPS

- A. The pumps shall be close-coupled, vertical mounted, single stage, double suction, between bearing, axial split case design, in cast iron or ductile iron bronze fitted construction specifically designed for smooth and quiet operation.
- B. Pumps shall have the casing divided on the vertical centerline. The casing halves shall be accurately machined, bolted and doweled together. A non-asbestos type gasket material shall be furnished between the casing halves. The casing material shall be close-grained cast iron ASTM A48 - Class 35 with a minimum tensile strength of 35,000 P.S.I. or ASTM A536-80 ductile iron with a minimum tensile strength of 80,000 P.S.I. Pumps shall be fitted with lead-free bronze renewable case wear rings indexed with a dowel pin for fixed positioning. Removal of the upper casing half and bearing housings shall permit removal of the complete rotating assembly without disturbing piping connections or motor. Volute shall have integrally cast support feet, gauge ports at nozzles, and vent and drain ports. Pumps shall be of the double volute design extending to both upper and lower half of the casing. Casings shall be designed for scheduled working pressure and shall be hydrostatically tested at 150% of the maximum working pressure under which the pump could operate at design speed. Suction and discharge flanges shall be drilled to ANSI

- Standards and be machined flat face. Flanges shall be extra heavy-duty design and will be of 250# thickness while capable of being drilled for 125# ANSI flat face use.
- C. Case wear rings shall be provided and shall be lead-free bronze, ASTM B584-90500.
 - D. Pumps shall be provided with removable upper and lower bearing housings which will permit inspection and/or replacement of the mechanical seal and bearing without removing the rotating assembly or upper half of the casing. Straightening vanes shall be cast in both the bearing housings and casing to reduce pre-rotation of fluid prior to entry into the impeller.
 - E. The upper and lower bearing housings shall be removable and supply support for the sleeve bearing, with required provision for purging or flushing. The pump shaft shall be adequately supported by the pump bearings to limit the shaft deflection to 0.008 inches. Sleeve bearings shall be Vesconite or Graphalloy material. Each bearing housing shall be bolted to the upper and lower casing halves for a full 360-degree support registered fit to insure positive alignment.
 - F. The pump shaft shall be of solid AISI 416 stainless steel without sleeves.
 - G. The pump manufacturer shall recommend the proper mechanical seal based on the pressure, temperature and liquid outlined on the equipment schedule. Mechanical seals, at a minimum, shall have ceramic stationary seats, carbon rotating seats, Buna elastomers and stainless steel hardware. The mechanical seal and bearings shall have external flushing lines. Seals shall be capable of being inspected and easily replaced without removing the upper half of the casing. The pump shall have no mechanical seal at the bottom, for easy maintenance.
 - H. Impeller shall be of the enclosed Francis Vane type, double suction design, made of silicon bronze, ASTM B584 C87600, both hydraulically and dynamically balanced to ISO 1940-1:2003 balance grade G6.3 and keyed to the shaft. The impeller shall be trimmed to meet the specific hydraulic requirements.
 - I. Pump shall be connected to the drive motor by a rigid, aluminum, axially split coupling capable of withstanding all torsional, radial and axial loads. The coupling design shall facilitate alignment of the motor and pump shaft.
 - J. The pump shall be supported from below by a cast iron or ductile iron mounting stand, which shall be bolted directly to the bottom of the casing and fully support the weight of the complete pump and motor. Supporting the casing from the side or top shall not be required, nor allowed.
 - K. Pump shall be of a maintainable design for ease of maintenance and should use machine fit parts, which are easily disassembled.
 - L. The pump(s) vibration limits shall conform to Hydraulic Institute ANSI/HI 1.1-1.5, section 1.4.6.1.1 for recommended acceptable unfiltered field vibration limits (as measured per HI 1.4.6.5.2, Figure 1.108).
 - M. Each pump shall be painted with one coat of high quality factory approved paint and name-plated before shipment from the factory.

- N. Pump manufacturer shall be ISO-9001 certified.

2.3 MOTORS

- A. The motor horse power shall be non-overloading for the entire operating range of the curve for selected impeller size exclusive of motor service factor. The motor shall be 30 hp, 480 volt, 3 phase, 60hz but not more than 1200 rpm, premium efficiency, NEMA Motor Design.
 - 1. Motors shall meet scheduled horsepower, speed, voltage, and enclosure design. Pump and motors shall be factory aligned.
 - 2. Motors shall be suitably sized per ISO5199 and shall meet NEMA specifications and conform to the standards outlined in EISA 2007.

2.4 CONTROL PANEL AND PUMP SYSTEM CONTROLS

- A. Control Panel:
 - 1. The pump system controller shall be mounted in a UL Type 12 rated STAINLESS STEEL enclosure. A self-certified NEMA enclosure rating shall not be considered equal. The entire control panel shall be UL 508 listed as an assembly and warranted by the pump system manufacturer. All equipment and wiring shall be mounted within the enclosure and each device shall be labeled for proper identification. A complete wiring circuit diagram and legend with terminals, components, and wiring completely identified shall be provided. The control panel shall include a main disconnect, branch circuit protection for each pump-motor and the control circuit and control relays for alarm functions.
 - 2. Control panel shall include as standard:
 - a. Main Disconnect Switch
 - b. Service Disconnect Switches (Lockable for Each Pump)
 - c. HOA Switch for Each Pump
 - d. Manual Speed Control Device for Each Pump
 - e. Alarm Circuit
 - f. System Fault Light
 - g. Pump Run Light
 - h. Surge Arrestor
 - i. Variable Frequency Drive for Each Pump
 - 3. The Control Panel shall include a contact to provide the following digital output signals:
 - a. Pump #1 HOA switch in AUTO position
 - b. Pump #2 HOA switch in AUTO position
 - c. Pump #3 HOA switch in AUTO position
 - d. Pump #1 Running
 - e. Pump #2 Running

- f. Pump #3 Running
 - g. Spare Contact
 - h. Spare Contact
 4. The Control Panel shall include contacts to accept the following digital input signals:
 - a. Pump #1 Start
 - b. Pump #2 Start
 - c. Pump #3 Start
 - d. Pump #1 Stop
 - e. Pump #2 Stop
 - f. Pump #3 Stop
 5. The Control Panel shall include terminals for the following analog inputs:
 - a. Pump #1 Suction Pressure
 - b. Pump #2 Suction Pressure
 - c. Pump #3 Suction Pressure
 - d. Pump #1 Discharge Pressure
 - e. Pump #2 Discharge Pressure
 - f. Pump #3 Discharge Pressure
- B. Pump System Controller
 1. The pump system controller shall be a standard product developed and supported by the pump manufacturer.
 2. The controller shall be microprocessor based capable of having software changes and updates via personal computer (notebook). The controller user interface shall have a color display with a minimum screen size of 3-1/2" x 4-5/8" for easy viewing of system status parameters and for field programming. The display shall have a back light with contrast adjustment. Password protection of system settings shall be standard.
 3. The controller shall provide internal galvanic isolation to all digital and analog inputs as well as all fieldbus connections.
 4. The control panel shall have a real-time clock with battery backup for adding time stamps to events.
 5. The control panel shall have an editable home-view to allow for different customer configurations.
 6. The controller shall be connected to a battery sized to maintain power on controller during periods of loss of supply power for up to 24 hours.
 7. The controller shall have built in data logging capability. Logged values shall be graphically displayed on the controller and able to be exported to computer via standard connection. A minimum of 3600 samples shall be logged for each logged parameter with the following parameters available for logging:

- a. Speed of pumps
 - b. Inlet pressure
 - c. Discharge pressure
 - d. Controlling parameter (process value)
8. The controller shall display the following status readings continuously:
- a. Current value of the control parameter, (typically discharge pressure)
 - b. Most recent alarm which has not been cleared
 - c. System status with current operating mode
 - d. Status of each pump with current operating mode and rotational speed as a percentage (%)
9. The controller shall have as a minimum the following hardware inputs and outputs:
- a. Three analog inputs (4-20mA or 0-10VDC)
 - b. Three digital inputs
 - c. Two digital outputs
 - d. Ethernet connection
 - e. Field Service connection to PC for advanced programming and data logging
10. Pump system programming (field adjustable) shall include as a minimum the following:
- a. Water shortage protection (analog or digital)
 - b. Transducer Settings (Suction and Discharge Analog supply/range)
 - c. PI Controller (Proportional gain and Integral time) settings
 - d. High system pressure indication and shut-down
 - e. Low system pressure indication and shut-down
 - f. Low suction pressure/level shutdown (via digital contact)
 - g. Low suction pressure/level warning (via analog signal)
 - h. Low suction pressure/level shutdown (via analog signal)
 - i. Flow meter settings (analog signal)
11. The system controller shall be able to accept up to seven programmable set-points via a digital input.
12. The controller shall have advanced water shortage protection. When analog sensors (level or pressure) are used for water shortage protection, there shall be two indication levels. One level is for warning indication only (indication that the water

- level/pressure is getting lower than expected levels) and the other level is for complete system shut-down (water or level is so low that pump damage can occur). System restart after shut-down shall be manual or automatic (user selectable).
13. The system pressure set-point shall be capable of being automatically adjusted by using an external set-point influence. The set-point influence function enables the user to adjust the control parameter (typically pressure) by measuring an additional parameter. (Example: Lower the system pressure set-point based on a flow measurement to compensate for lower friction losses at lower flow rates).
 14. The controller shall be capable of receiving a remote analog set-point (4-20mA or 0-10 VDC) as well as a remote system on/off (digital) signal.
 15. The controller shall be able to adjust the ramp time of a change in set point on both an increase or decrease change in set point.
 16. The pump system controller shall store up to 24 warning and alarms in memory. The time, date and duration of each alarm shall be recorded. A potential-free relay shall be provided for alarm notification to the SCADA system. The controller shall display the following alarm conditions:
 - a. High System Pressure
 - b. Low system pressure
 - c. Low suction pressure (warning and alarm)
 - d. Pump failure alarm
 - e. Loss of sensor signal (4-20 mA)
 - f. Loss of remote set-point signal (4-20mA)
 17. The controller shall be capable of receiving a redundant sensor input to function as a backup to the primary sensor (typically discharge pressure).
 18. The controller shall have a pump "Test Run" feature such that pumps are switched on during periods of inactivity (system is switched to the "off" position but with electricity supply still connected). The inoperative pumps shall be switched on for a period of two to three (3-4) seconds every 24 hours, 48 hours or once per week and at specific time of day (user selectable).
 19. The controller shall be capable of changing the number of pumps available to operate or have the ability limit the maximum power consumption by activation of a digital input for purposes of limited generator supplied power.
 20. The actual pump performance curves (5th order polynomial) shall be loaded (software) into the pump system controller or be able to input manually into controller based on three points on pump curve of pumps controlled.
 21. The controller shall have the ability to compensate for pipe friction loss by decreasing pressure set-point at lower flow-rates and increasing pressure set-point at higher flow-rates without the requirement of a flow meter.

22. The controller shall have the ability to communicate common field-bus protocols (BACnet, Modbus, Profibus, or Ethernet IP and LON), via optional communication expansion card installed inside controller.
23. The controller shall have a built in Ethernet connection allowing controller to be connected to network and access of controller via web browser and internet anywhere around the world where internet communication is available.
24. The controller shall have a programmable Service Contact Field that can be populated with service contact information including: contact name, address, phone number(s) and website.

C. Variable Frequency Drives

1. Each VFD shall be a ACQ580-01-044A-4 water/wastewater drive for 480 VAC, three phase power supply sized for the specific pump motor (minimum 44 rated output amps). VFD shall be UL NEMA Type 1 with R3 frame size.

D. Sequence of Operation

1. Automatic Operation

- a. The system controller shall operate equal capacity variable speed pumps to maintain a constant discharge pressure (system set-point). The system controller shall receive an analog signal [4-20mA] from the factory installed pressure transducer on the discharge manifold, indicating the actual system pressure. As flow demand increases the pump speed shall be increased to maintain the system set-point pressure. When the operating pump(s) reach 96% of full speed (adjustable), an additional pump will be started and will increase speed until the system set-point is achieved. When the system pressure is equal to the system set-point all pumps in operation shall reach equal operating speeds. As flow demand decreases the pump speed shall be reduced while system set-point pressure is maintained. When all pumps in operation are running at low speed the system controller shall switch off pumps when fewer pumps are able to maintain system demand.
- b. The system controller shall be capable of switching pumps on and off to satisfy system demand without the use of flow switches, motor current monitors or temperature measuring devices.
- c. All pumps in the system shall alternate automatically based on demand, time and fault. If flow demand is continuous (no flow shut-down does not occur), the system controller shall have the capability to alternate the pumps every 24 hours, every 48 hours or once per week. The interval and actual time of the pump change-over shall be field adjustable.
- d. The system controller shall be able to control a pressure maintenance pump, (jockey pump), in the system. The set point of the pressure maintenance pump shall be able to be any value above or below the pump system's set point. The pressure maintenance pump shall be able to be staged on as back-up pump when capacity of pump system is exceeded.

2. Manual Operations

- a. An operator shall be capable of turning each pump on and off and varying the speed of each pump in operation by using the VFD. All safeguards shall operate as if the controls are in the automatic operation mode. In the manual mode, the system controller shall accept remote start and stop signals for each pump from the SCADA system and shall alternate pumps each on-off cycle.

E. Low Flow Stop Function

1. The system controller shall be capable of stopping pumps during periods of low-flow or zero-flow without wasting water or adding unwanted heat to the liquid. Temperature based no flow shut-down methods that have the potential to waste water and add unwanted temperature rise to the pumping fluid are not acceptable.
2. The pump system controller shall be capable receiving a digital signal from a flow switch or an analog signal from a flow meter to indicate a low flow condition. When low flow is detected (signal from flow switch or meter), the system controller shall increase pump speed until the discharge pressure reaches the stop pressure. The pump shall remain off until the discharge pressure reaches the start pressure. When low flow is no longer present (low flow indication ceases), the pump(s) shall resume constant pressure operation.

2.5 SENSORS AND GAUGE

- A. A pressure transducer shall be factory installed on the suction and discharge nozzle of each pump. Pressure transducers shall be made of 316 stainless steel. Transducer accuracy shall be +/- 1.0% full scale with hysteresis and repeatability of no greater than 0.1% full scale. The output signal shall be 4-20 mA with a supply voltage range of 9-32 VDC.
- B. A bourdon tube pressure gauge, 2.5 inch diameter, shall be placed on the suction and discharge nozzle of each pump. The gauge shall be liquid filled and have copper alloy internal parts in a stainless steel case. Gauge accuracy shall be 2-1/2 %. The gauge shall be capable of a pressure of 30% above its maximum span without requiring recalibration.
- C. Transducers and Gauges shall include isolation shut-off valves to permit isolation and replacement of the component.

2.6 COATINGS

- A. All equipment that is provided within the pumping system shall be supplied with the respective manufacturer's standard coating, unless otherwise noted.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. The Contractor shall perform all work as required by the manufacturer's written installation instructions and approved shop drawings unless otherwise directed by the Owner. The installation shall generally follow the following:
1. Erect pumps on the foundations aligned with suction and discharge piping in a manner that will prevent any stress on the pumps.
 2. Level pump with machinist's level by using nuts on all anchor bolts under the pumps.
 3. Verify that pumps are aligned such that the connected piping will not result in any stress on the pumps.
 4. Grout between pump base and foundation using non-shrink, non-metallic grout.
 5. Check for correct voltage to pump.
 6. Connect to electric power and check for proper rotation.
 7. Ensure liquid being pumped is available in adequate quantity.
 8. Start pump and check flow rate, head, amp draw and vibration. Ensure all are acceptable before placing onto operation.

3.2 MANUFACTUER'S SERVICES

- A. The manufacturer or manufacturer's authorized distributor or representative shall provide the following:
1. Services of an experienced, Authorized Representative who shall be present at the job site or classroom designated by the County for the minimum person-days listed for the services shown below.
 2. One person-day for inspection, start-up, functional testing and certificate of proper installation.
 3. One person-day for training and commissioning.

END OF SECTION 42 21 03.10

SECTION 46 31 11.03 – CALCIUM HYPOCHLORITE TABLET CHLORINATION EQUIPMENT

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Chlorination equipment shall be as shown on the drawings and specified.
- B. Related Work Specified Elsewhere:
 - 1. Section 11 00 00: Mechanical Equipment - General Requirements
 - 2. Section 40 75 21: Residual Chlorine Analyzer

1.2 QUALITY ASSURANCE

- A. The Contractor's attention is directed to the fact that the chlorination system, including the chlorination equipment specified in this section and the chlorine residual analyzer specified in Section 40 75 21, is an integrated system and, as such, shall be furnished by a single system supplier, who shall provide all of the equipment and appurtenances and be responsible to the Contractor for satisfactory operation of the entire system.
- B. The system supplier shall be responsible for the detailed design and proper functioning of the system to be furnished, the preparation of required submittal data to be provided, conducting all tests including calibration and operational demonstrations to be performed and providing technical supervision for installation and connections to equipment.
- C. System supplier shall be Aqua Products, Inc. or other approved supplier.
- D. The chlorination equipment shall be the product of a manufacturer that has designed and manufactured similar equipment.
- E. Before shipment, the manufacturer shall inspect the equipment for quality of construction verifying all components and fasteners and fittings are tight, all wires are secure, and connections are whisker-free. The manufacturer shall repair any equipment not conforming to the requirements outlined herein and shall conduct a follow-up test to confirm compliance.
- F. The manufacturer, to ensure quality and unit responsibility, must assemble and test the chlorination equipment at its facility. The chlorination equipment shall be a standard regularly marketed product of that manufacturer. The manufacturer must have a physical plant, technical and design staff and fabricating personnel to complete the work specified.

1.3 SUBMITTALS

- A. Submit complete shop drawings and product data sheets on all equipment in accordance with Section 01 33 00.

1.4 STANDARDS

- A. All chlorination equipment and installation shall be in accordance with the requirements of the NFPA and the Chlorine Institute.

PART 2 - PRODUCTS

2.1 CALCIUM HYPOCHLORITE TABLET CHLORINATION SYSTEM

A. General Description.

- 1. The system shall be designed to feed low concentrations of calcium hypochlorite in solution intermittently or continuously as required for treatment applications. The system shall be a single pre-assembled, package unit in a welded aluminum frame consisting of chlorinator, electrical box, discharge pump, and balance tank for ease of installation and operation. The system shall be the Accu-Tab Model 2150P by Axiall Corporation to match other County equipment (NO SUBSTITUTES).

B. System Features.

- 1. A maximum chlorine solution level of 0.05% (500 ppm) shall be maintained to prevent calcification in system components. Systems producing chlorine concentrations higher than 0.05% shall not be acceptable.
- 2. Delivery shall be by erosion feed technology to control accurate and consistent concentration limits in the chlorine treatment solution. Spray and/or vortex technology systems shall not be acceptable.
- 3. The chlorinator shall automatically and continuously feed a limited quantity of chlorine in solution as needed. Batch systems preparing excess quantities of solution for delivery over an extended period shall not be acceptable.
- 4. A centrifugal pump wired to the system electrical box shall feed freshly mixed chlorine treatment solution only as required for maximum efficiency. Batch systems requiring pumps to feed pre-prepared standing solution shall not be acceptable.
- 5. All external piping in the system shall be Schedule 80 PVC for durability. Systems with flexible tubing shall not be acceptable.

C. Standard System Components.

- 1. Tablet Chlorinator. Tablets are stacked inside the chlorinator; as water flows across the tablets, they erode at a rate proportional to the flow rate.
- 2. Inlet Water Supply Connection.
 - a. 1-1/2" Socket
- 3. Inlet Filter. An inlet filter with 60 mesh screen shall be supplied; 1-1/2" PVC socket connections.
- 4. Flow Meter. A 8-40 gpm flow meter shall be utilized to monitor flow through the Chlorinator.
- 5. Solution Tank. Fabricated of 18" PVC pipe. Capacity of 20 gallons.
- 6. Primary Solution Tank Level Control. Made from Schedule 80 PVC and 316L stainless steel, this float valve shall maintain the level in the tank.

7. Secondary Low Level Solution Tank Control. On low level the pump shall shut down to prevent cavitation and pump failure.
8. Solution Delivery Pump. Delivers chlorinated solution into a pressurized stream. A centrifugal pump designed to pump 40 gpm @ 30 PSIG; 240-volt, 3-phase electrical service.
9. Discharge Check Valve. Required to prevent back flow into the system when it shuts down.
10. Flow Control Valve. PVC gate valve mounted in the discharge line shall be furnished to allow the operator to adjust flow of chlorine solution.
11. Outlet Connection.
 - a. 1-1/2" socket
12. Nema 4X Electrical Enclosure. UL Listed components required. System can operate in HAND mode. Normally, a run signal is used to start/stop the system in an AUTO mode. The run signal may be either 110v or dry contact, field wired to the terminal block.
13. Aluminum Frame, Type 6061-T.

D. Optional Equipment required:

1. Inlet Pressure Regulator and gauge. Pressure regulator installed to restrict water inlet pressure to 50 PSIG.
2. Spare Solution Discharge Pump. Provide a spare Grundfos CR 3-8 pump.
3. Weight Scale. A weight scale between the chlorinator and the solution tank must be supplied to weigh the amount of tablets.
4. 2000 Series Controller. A separate touch screen process controller that will allow residual, flow pace or compound loop control is required.
5. Provide a stacking cart for the inside of the storage hopper.
6. Provide six (6) 60# Pails of Accu-Tab SI calcium hypochlorite tablets by Axiall Corporation.

E. Electrical Requirements.

1. One electrical circuit is required for operation. System shall operate on 240 VAC Single Phase Power.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Installation shall meet or exceed all applicable federal, state and local requirements, referenced standards and conform to codes and ordinances of authorities having jurisdiction.
- B. The Contractor shall install the specified equipment per the contract documents and manufacturer's printed instructions.
 1. The Contractor shall obtain and provide a manufacturer's certificate showing the satisfactory calibration and testing of the equipment.
 2. An authorized manufacturer's representative shall inspect the installation of all work furnished under this section and shall provide a certificate of proper installation.

3.2 MANUFACTURER'S SERVICES

- A. The manufacturer or manufacturer's authorized distributor or representative shall provide the following:
1. Services of an experienced, Authorized Representative who shall be present at the job site or classroom designated by the County for the minimum person-days listed for the services shown below
 2. One person-day per site for inspection, start-up, functional testing and certificate of proper installation
 3. One person-day per site for training and commissioning

END OF SECTION 46 31 11.03

Structural Specifications

SECTION 033000 - BUILDING CONCRETE WORK

PART 1 - GENERAL

1.01 **QUALITY ASSURANCE**

- A. **Codes and Standards:** Comply with provisions of following codes, specifications and standards, except where more stringent requirements are shown or specified:

ACI 301 "Specifications for Structural Concrete for Buildings."

ACI 318 "Building Code Requirements for Reinforced Concrete."

ACI 347 "Recommended Practice for Concrete Formwork."

Concrete Reinforcing Steel Institute, "Manual of Standard Practice."

- 1.02 **SUBMITTALS:** Submit manufacturer's product data with installation instructions for proprietary materials including reinforcement and forming accessories, admixtures, joint materials, hardeners, curing materials and others as requested by Architect.

- A. **Submit design mixes** of each individual type of concrete to be used on the project prior to the start of concrete work. Tests shall be made for compressive strength, slump and air entrainment. Proportion mixes in compliance with mix design procedures specified in ACI 301 and requirements stated on the plans.
- B. **Submit shop drawings** for fabrication, bending, and placement of concrete reinforcement. Comply with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar schedules, stirrup spacing, diagrams of bent bars, arrangement of concrete reinforcement. Include special reinforcement required for openings through concrete structures.
- C. **Concrete Testing Service:** The Contractor shall employ, at his sole expense, an independent testing agency acceptable to the Architect/Engineer to perform sampling and testing during concrete placement as follows. Refer to Section 01400 for additional requirements for Testing Agency.
1. **Sampling:** ASTM C 172.
 2. **Slump:** ASTM C 143, one of test for each load at **point of discharge**.
 3. **Air Content:** ASTM C 173, one for each set of compressive strength specimens.
 4. **Compressive Strength:** ASTM C 39, Three sets for each 25 cu. yds. or fraction thereof of each class of concrete; one specimen tested at 7 days, two specimens tested at 28 days, and one retained for later testing if required. When the total quantity of a given class of concrete is less than 25 cu. yds., strength tests may be waived by Architect if field experience indicates evidence of satisfactory strength.
 5. **Test Results** will be reported in writing to Architect, Contractor, and concrete producer within 24 hours after tests are made.

PART 2 - PRODUCTS

2.01 FORM MATERIALS

- A. Forms for Exposed Finish Concrete: Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal-framed plywood faced or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings. Provide form material with sufficient thickness to withstand pressure of newly-placed concrete without bow or deflection.
1. Use plywood complying with U.S. Product Standard PS-1 "B-B (Concrete Form) Plywood," Class I, Exterior Grade or better, mill-oiled and edge-sealed, with each piece bearing legible inspection trademark.
- B. Forms for Unexposed Finish Concrete: Form concrete surfaces which will be unexposed in finished structure with plywood, lumber, metal or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.
- C. Cylindrical Columns and Supports: Form round-section members with metal, fiberglass reinforced plastic, or paper or fiber tubes. Construct paper or fiber tubes of laminated plies using water-resistant adhesive with wax-impregnated exterior for weather and moisture protection. Provide units with sufficient wall thickness to resist loads imposed by wet concrete without deformation.
- D. Form Coatings: Provide commercial formulation form-coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.

2.02 REINFORCING MATERIALS

- A. Reinforcing Bars: ASTM A 615, Grade 60, deformed.
- B. Supports for Reinforcement: Provide supports for reinforcement including bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars and welded wire fabric in place. Use wire bar type supports complying with CRSI specifications, unless otherwise acceptable.

2.03 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I, unless otherwise acceptable to Architect.
- Use one brand of cement throughout project, unless otherwise acceptable to Architect.
- B. Normal Weight Aggregates: ASTM C 33, and as herein specified. Provide aggregates from a single source for exposed concrete.
1. Local aggregates not complying with ASTM C 33 but which have shown by special test or actual service to produce concrete of adequate strength and durability may be used when acceptable to Architect.
 2. The aggregate shall not exceed 1" in its maximum dimensions for foundation and slab work nor 3/8" (pea gravel) for concrete block lintels and filled cells.
 3. Lightweight Aggregates: ASTM C 330.
 4. Water: Drinkable.
 5. Air-Entraining Admixture: ASTM C 260.
 - a. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to the following:

"Sika Aer"; Sika Corp
"MB-VR or MB-AE"; Master Builders
"Dorex AEA"; W.R. Grace
"Edoco 2001 or 2002"; Edoco Technical Product

2.04 RELATED MATERIALS: Submit any product not specifically listed in this specification to Architect for approval.

A. Vapor Barrier: Provide vapor barrier cover over prepared base material where indicated. Use only materials which meet ASTM 1745-09, not less than 15 mils thick, and are resistant to decay when tested in accordance with ASTM E154. Product must maintain a permeance of less than 0.01 perms after mandatory conditioning tests include in ASTM E 1745-09, Section 7.12, 7.1.3, 7.1.4 and 7.1.5. Install material according to ASTM E 1643-09. Lap vapor barrier a minimum of 6" at all locations.

B. Non-Shrink Grout: CRD-C 621, factory pre-mixed grout.

1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:

a. Non-metallic

"Masterflow 713"; Master Builders
"Euco-NS"; Euclid Chemical Co.

C. Liquid Membrane Forming Curing Compound: Liquid type membrane-forming curing compound complying with ASTM C 309, Type I, Class A unless other type acceptable to Architect. Moisture loss not more than 0.055 gr./sq. cm. when applied at 200 sq. ft./gal.

1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:

"Masterseal"; Master Builders
"Ecocure"; Euclid Chemical Co.
"Clear Seal"; A. C. Horn
"Kure-N-Seal"; Sonneborn-Contech

D. Cure, Sealer and Dustproofer: ASTM C-309, containing 250% solids. "Day-Chem Cure & Seal" (J-22) by Dayton Superior OR approved equal. Surface shall have a high gloss finish.

2.05 PROPORTIONING AND DESIGN OF MIXES

A. Prepare design mix for each type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301. If trial batch method is used, use an independent testing facility acceptable to Architect for preparing an reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing unless otherwise acceptable to Architect.

B. Submit written reports to Architect of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed by Architect.

C. Design mixes to yield normal weight concrete with the following properties, as indicated on drawings and schedules:

Concrete in slabs and footings shall have a minimum compressive strength of 3000 strength psi and in beams and columns a minimum compressive strength of 4000 psi at 28-days; the maximum W/C ratio shall be 0.46 maximum (air-entrained).

BUILDING CONCRETE WORK

033000 - 3

RETEMPERING OR ADDING WATER AT THE JOBSITE IS PROHIBITED.

- D. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Architect. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Architect before using in work.
- E. Admixtures: Use air-entraining admixture in exterior exposed concrete, unless otherwise indicated. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having total air content with a tolerance of plus-or-minus 1-1/2% within following limits:
- Concrete structures and slabs exposed to freezing and thawing, deicer chemicals, or subjected to hydraulic pressure:
- 4.5% (moderate exposure); 5.5% (severe exposure) 1-1/2" max. aggregate.
5.0% (moderate exposure); 6.0% (severe exposure) 3/4" max. aggregate.
- Other Concrete: 2% to 4% air.
- F. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows:
- Ramps, slabs, and sloping surfaces: 4" (+/-1").
- Reinforced foundation systems: 4" (+/-1").
- Pea gravel pump mix for filled masonry cells (3000 psi) — 8" to 11".
- Other concrete: Not more than 4", except when slump is increased by use of super plasticizers.

2.06 CONCRETE MIXES

- A. Ready-Mix Concrete: Comply with requirements of ASTM C 94, and as herein specified.
- During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required.
- When air temperature is between 85°F (30°C) and 90°F (32°C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90°F (32°C), reduce mixing and delivery time to 60 minutes.
- Exposed concrete slab concrete shall not be pumped unless it contains super plasticizers, and "Recover" admixture as manufactured by W.R.Grace Co.
- B. The following are strictly prohibited:
- a. Partially hardened concrete.
 - b. Contaminated concrete.
 - c. Re-tempered concrete.
 - d. Concrete that has been re-mixed after it has taken its initial set.

2.07 CONCRETE TOPPING

- A. Provide Level-Right Self-Leveling Floor Underlayment by Maxxon Corporation in locations indicated on drawings. Comply with manufacturer's requirements and the following:
1. Compressive Strengths: Modified ASTM C 109; up to 3000 psi (3 day).
 2. Tensile Strength: ASTM C 190; 720 psi (28 day).
 3. Surface Buring Characteristic: Flame Spread - 0.
Fuel Contribution - 0.
Smoke Development - 0. (ASTM E 84).
 4. Fire Ratings: U.L. Design #J919, L514, L528, L530

2.08 CONCRETE TOPPING OVER PRECAST HOLLOW CORE CONCRETE PLANKS

- A. Provide structural normal weight concrete topping in locations indicated on drawings. Comply with manufacturer's requirements and the following:
1. Compressive Strengths: Modified ASTM C 109; 3500 psi, 28 days.
 2. Tensile Strength: ASTM C 190; 720 psi, 28 days.
 3. Comply with water/cement ratios, blended aggregate mixes and curing requirements specified elsewhere in this section.

PART 3 - EXECUTION

3.01 FORMS

- A. Design, erect, support, brace and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation and position.
- B. Design formwork to be readily removable without impact, shock or damage to cast-in-place concrete surfaces and adjacent materials.
- C. Construct forms to sizes, shapes, lines and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, keyways, recesses, blocking, screeds, bulkheads, anchorages and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide back-up at joints to prevent leakage of cement paste.
- D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.
- E. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set time to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.
- F. Chamfer exposed corners and edges as indicated, using wood, metal, PVC or rubber chamfer strips fabricated to product uniform smooth lines and tight edge joints.
- G. Provisions for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms.

BUILDING CONCRETE WORK

033000 - 5

- H. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Retighten forms and bracing after concrete placement is required to eliminate mortar leaks and maintain proper alignment.

3.02 PLACING REINFORCEMENT: Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars," for details and methods of reinforcement placement and supports, and as herein specified.

- A. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete. Reinforcing must also be free of non-shop bends or kinks.
- B. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.
- C. Place reinforcement to obtain at least minimum coverage's for concrete protection and lap as specified by ACI. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.
- D. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.
- E. Reinforcing bars shall be free of kinks and non-shop bends. Field bends shall only be installed as directed by the Architect.

3.03 JOINTS

- A. Construction Joints: Locate and install keyed construction joints as indicated or, if not indicated, locate so as not to impair strength and appearance of the structure, as acceptable to Architect.
- B. Provide keyways at least 1-1/2" deep in construction joints in walls, slabs and between walls and footings; accepted bulkheads designed for this purpose may be used for slabs.
- C. Place construction joints perpendicular to main reinforcement. Continue reinforcement across construction joints.
- D. Isolation Joints in Slabs-on-Ground: Construct isolation joints in slabs-on-ground at points of contact between slabs on ground and vertical surfaces, such as column pedestals, foundation walls, grade beams and elsewhere as indicated.
- Joint filler and sealant materials are specified in Division-7 sections of these specifications.
- E. Contraction (Control) Joints in Slabs-on-Ground: Construct contraction joints in slabs-on-ground to form panels of patterns as shown. If not shown, provide joints recommended by ACI Standards. Use inserts 1/8" to 1/4" wide x 1/4 of slab depth, unless otherwise indicated.
- F. Form contraction joints by inserting premolded plastic, hardboard or fiberboard strip into fresh concrete until top surface of strip is flush with slab surface. Tool slab edges round on each side of insert. After concrete has cured, remove inserts and clean groove of loose debris.

Contraction joints may be formed by saw cuts as soon as possible after slab finishing and without dislodging aggregate. Depth of saw cut to be 1/4 of slab thickness.

- G. Joint sealant material is specified in Division-7 sections of these specifications.
- H. Clean construction joints prior to placement of concrete including removal of all laitance. Immediately before concrete is placed, wet all construction joints and remove all standing water.

3.04 INSTALLATION OF EMBEDDED ITEMS: Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in- place concrete. Use setting drawings, diagrams, instructions and directions provided by suppliers of items to be attached thereto.

- A. Edge Forms and Screed Strips for Slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface. Provide and secure units sufficiently strong to support types of screed strips by use of strike-off templates or accepted compacting type screeds.

3.05 PREPARATION OF FORM SURFACES

- A. Clean re-used forms of concrete matrix residue, repair and patch as required to return forms to acceptable surface condition.
- B. Coat contact surfaces of forms with a form-coating compound before reinforcement is placed.
- C. Thin form-coating compounds only with thinning agent of type, and in amount, and under conditions of form-coating compound manufacturer's directions. Do not allow excess form-coating material to accumulate in forms or to come into contact with in-place concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions.

3.06 CONCRETE PLACEMENT

- A. Preplacement Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast- in. Notify other crafts to permit installation of their work, cooperate with other trades in setting such work. Moisten wood forms immediately before placing concrete where form coatings are not used.
- B. Coordinate the installation of joint materials and moisture barriers with placement of forms and reinforcing steel.
- C. General: Comply with ACI 304 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete," and as herein specified.
- D. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation.
- E. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 24" and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic, to avoid cold joints. Concreting operations shall be carried on at such a rate that the concrete is at all times plastic.

- F. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand- spading, Roding or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI recommended practices.
- G. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than visible effectiveness of machine. Place vibrators to rapidly penetrate placed layer and at least 6" into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing segregation of mix.
- H. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.
- I. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.
- J. Bring slab surfaces to correct level with straightedge and strikeoff. Use bull floats or darbies to smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.
- K. Maintain reinforcing in proper position during concrete placement operations.
- L. Cold Weather Placing: Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306.
- M. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
- N. Do not use calcium chloride, salt and other materials containing antifreeze agents or chemical accelerators, unless otherwise accepted in mix designs.
- O. Hot Weather Placing: When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305.
- P. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedment in concrete.
- Q. Concrete is prohibited from being placed if the concrete is partially hardened, contaminated, re-tempered, or if it has been re-mixed after its initial set.

3.07 FINISH OF FORMED SURFACES

- A. Rough Form Finish: For formed concrete surfaces not exposed-to-view in the finish work or by other construction, unless otherwise indicated. This is the concrete surface having texture imparted by form facing material used, with tie holes and defective areas repaired and patched and fins and other projections exceeding 1/4" in height rubbed down or chipped off.
- B. Smooth Form Finish: For formed concrete surfaces exposed to view, or that are to be covered with a coating material applied directly, to concrete, or a covering material applied directly to concrete, such as waterproofing, damp-proofing, painting or other similar system. This is as-cast concrete surface obtained with selected form facing material, arranged orderly and symmetrically with a minimum of seams. Repair and patch defective areas with fins or other projections completely

removed and smoothed.

- C. Grout Cleaned Finish: Provide grout cleaned finish to cylindrical column surfaces which have received smooth form finish treatment.

Combine one part portland cement to 1-1/2 parts fine sand by volume, and mix with water to consistency of thick paint. Proprietary additives may be used at Contractor's option. Blend standard portland cement and white portland cement, amounts determined by trial patches, so that final color of dry grout will match adjacent surfaces.

Thoroughly wet concrete surfaces and apply grout to coat surfaces and fill small holes. Remove excess grout by scraping and rubbing with clean burlap. Keep damp by fog spray for at least 36 hours after rubbing.

3.08 MONOLITHIC SLAB FINISHES

- A. Trowel Finish: Apply trowel finish to monolithic slab surfaces to be exposed-to-view, and slab surfaces to be covered with resilient flooring, carpet, ceramic or quarry tile, paint or other thin film finish coating system.

After floating, begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand- troweling operation, free of trowel marks, uniform in texture and appearance, and with a level surface plane so that depressions between high spots do not exceed 1/8" under a 10' straightedge. Grind smooth surface defects which would telegraph through applied floor covering system.

- B. Non-Slip Broom Finish: Apply non-slip broom finish to exterior concrete sidewalks, steps and ramps, and elsewhere as indicated.

Immediately after trowel finishing, slightly roughen concrete surface by brooming with fiber bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

3.09 CONCRETE CURING AND PROTECTION: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Keep continuously moist for not less than 7 days at 50°F. minimum temperature. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least 7 days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.

- A. Curing Methods: Perform curing of concrete by curing and sealing compound, by moist curing, by moisture-retaining cover curing, and by combinations thereof, as herein specified.

Where sealed concrete is the "finish floor", moist curing is required. Where interior slabs are to be covered with VCT, resilient flooring, or carpet, etc., curing method is Contractor's Option.

- B. Provide moisture curing by following methods.

Keep concrete surface continuously wet by covering with water.

Covering concrete surface with specified absorptive cover, thoroughly saturating cover with water and keeping continuously wet. Place absorptive cover to provide coverage of concrete surfaces

and edges, with 4" lap over adjacent absorptive covers.

C. Provide moisture-cover curing as follows:

Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3" and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

D. Provide curing and sealing compound to interior slabs with resilient flooring, carpet over cushion; and to exterior slabs, walks, and curbs, as follows:

Applied specified curing and sealing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours). Apply uniformly in continuous operation by power-spray or roller in accordance with manufacturer's directions. Recoat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during curing period.

E. After moist curing of exposed concrete floor areas, provide two (2) coats of sealing compound.

Do not use membrane curing compounds on surfaces which are to be covered with coating material applied directly to concrete, liquid floor hardener, waterproofing, damp-proofing, membrane roofing, flooring (such as ceramic or quarry tile, glue-down carpet), painting, and other coatings and finish materials, unless otherwise acceptable to Architect.

F. Curing Formed Surfaces: Cure formed concrete surfaces, including undersides of beams, supported slabs and other similar surfaces by moist curing with forms in place for full curing period or until forms are removed. If forms are removed, continue curing by methods specified above, as applicable.

G. Curing Unformed Surfaces: Cure unformed surfaces, such as slabs, floor topping, and other flat surfaces by application of appropriate curing method.

Final cure concrete surfaces to receive liquid floor hardener or finish flooring by use of moisture-retaining cover, unless otherwise directed.

H. Sealer and Dustproofer: Apply a second coat of specified curing and sealing compound only to surfaces given a first coat.

3.10 REMOVAL OF FORMS AND SHORING

A. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50° F (10° C) for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.

B. Formwork or shoring supporting weight of concrete, such as beam soffits, joints, slabs and other structural elements, may not be removed in less than 14 days and until concrete has attained design minimum compressive strength at 28-days. Determine potential compressive strength of in place concrete by testing field-cured specimens representative of concrete location or members.

C. Form facing material may be removed 4 days after placement, only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or

disturbing shores and supports.

3.11 RE-USE OF FORMS: Clean and repair surfaces of forms to be re-used in work. Split, frayed, delaminated or otherwise damaged from facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new formwork.

3.12 MISCELLANEOUS CONCRETE ITEMS

- A. Filling-In: Fill-in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and steel-troweling surfaces to a hard, dense finish with corners, intersections and terminations slightly rounded.
- C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations, as shown on drawings. Set anchor bolts for machines and equipment to template at correct elevations, complying with certified diagrams or templates of manufacturer furnishing machines and equipment.
- D. Grout base plates and foundations as indicated, using specified non-shrink grout. Use non-metallic grout for exposed conditions, unless otherwise indicated.
- E. Reinforced Masonry: Provide concrete for reinforced masonry lintels and bond beams where indicated on drawings and as scheduled. Maintain accurate location of reinforcing steel during concrete placement.

3.13 CONCRETE SURFACE REPAIRS

- A. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to Architect.

Cut out honeycomb, rock pockets, voids over 1/4" in any dimension, and holes left by tie rods and bolts, down to solid concrete but, in no case to a depth of less than 1". Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water and brush- coat the area to be patched with specified bonding agent. Place patching mortar after bonding compound has dried.
- B. For exposed-to-view surfaces, blend white portland cement and standard portland cement so that, when dry, patching mortar will match color surrounding. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.
- C. Repair of Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Architect. Surface defects, as such, include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets; fins and other projections on surface; and stains and other discolorations that cannot be removed by cleaning; flush out form tie holes, fill with dry pack mortar, or precast cement cone plugs secured in place with bonding agent.
- D. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.

- E. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for trueness of slope, in addition to smoothness using a template having required slope.
- F. Repair finished unformed surfaces that contain defects which affect durability of concrete. Surface defects, as such, include crazing, cracks in excess of 0.01" wide or which penetrate to reinforcement of completely through non-reinforced sections regardless of width, spalling, pop-outs, honeycomb, rock pockets and other objectionable conditions.
- G. Correct high areas in unformed surfaces by grinding, after concrete has cured at least 14 days.
- H. Correct low areas in unformed surfaces during, or immediately after completion of surface finishing operations by cutting out low areas and replacing with fresh concrete. Finish repaired areas to blend into adjacent concrete. Proprietary patching compounds may be used when acceptable to Architect.
- I. Repair defective areas, except random cracks and single holes not exceeding 1" diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4" clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding compound. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact and finish to blend with adjacent finish concrete. Cure in same manner as adjacent concrete.
- J. Repair isolated random cracks and single holes not over 1" in diameter by dry-pack method. Groove top of cracks and cut-out holes to sound concrete and clean of dust, dirt and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Mix dry-pack, consisting of one part portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing. Place dry-pack after bonding compound has dried. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for not less than 72 hours.
- K. Perform structural repairs with prior approval of Architect or method and procedure, using specified epoxy adhesive and mortar.
- L. Repair methods not specified above may be used, subject to acceptance of Architect.

3.14 QUALITY CONTROL TESTING DURING CONSTRUCTION

- A. The Contractor will employ a testing laboratory to perform tests and to submit test reports.
- B. Sampling and testing for quality control during placement of concrete includes the following, as directed by Architect.
- C. Sampling Fresh Concrete: ASTM C172, except modified for slump to comply with ASTM C94.
 - 1. Slump: ASTM C143; one test at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed.
 - 2. Air Content: ASTM C 173; volumetric method for lightweight or normal weight concrete; ASTM C 231 pressure method for normal weight concrete; one for each day's

pour of each type of air- entrained concrete.

3. Concrete Temperature: Test hourly when air temperature is 40°F (4°C) and below, and when 80°F (27°C) and above; and each time a set of compression test specimens made.
4. Compression Test Specimen: ASTM C31; one set of 4 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens.
5. Compressive Strength Tests: ASTM C39; one set for each day's pour exceeding 5 cu. yds. plus additional sets for each 25 cu. yds. over and above the first 25 cu. yds. of each concrete class placed in any one day; one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required.

When frequency of testing will provide less than 2 strength tests for a given class of concrete, conduct testing from each batch.

6. Acceptance of Concrete Strength:
The concrete strength will be considered satisfactory if both the following requirements are met:
 - A. Every arithmetic average of any three consecutive strength tests equals or exceeds $f'c$.
 - B. No individual strength test (average of two cylinders) falls below the $f'c$ by more than 500 psi.
- D. Test results will be reported in writing to Architect. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, compressive breaking strength and type of break for both 7-day tests and 28-day tests.
- E. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Architect. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42, or by other methods as directed. Contractor shall pay for such tests conducted, and any other additional testing as may be required when unacceptable concrete is verified.

END OF SECTION 033000

SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.01 QUALITY ASSURANCE

- A. Single Source Responsibility for Masonry Units: Obtain exposed masonry units of uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from one manufacturer for each different product required for each continuous surface or visually related surfaces.
- B. Single Source Responsibility for Mortar Materials: Obtain mortar ingredients of uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source and producer for each aggregate.
- C. Preconstruction Tests by Unit Test Methods: Test the following materials by methods indicated:
 - 1. Concrete Masonry Units: Test each type, class and grade of concrete masonry unit per ASTM C 140.
 - 2. Mortar Tests: Test each mortar type per ASTM C780.
- D. Preconstruction Tests by Prism Methods: For each type of wall construction indicated for testing, test masonry prisms per ASTM E 447, Method B and as follows:
 - 1. Prepare one set of prisms for testing at 7 days and one set for testing at 28 days.
 - 2. Fabricate concrete masonry prisms with height-to-thickness ratio of not less than 1.33 nor more than 3.0.
 - 3. Flexural Bond Strength Tests: Where indicated, also test prisms per ASTM C 518; place prisms with tooled joints facing downward.

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product data for each type of masonry unit, accessory, and other manufactured products, including certifications that each type complies with specified requirements.

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Deliver masonry materials to project in undamaged condition.
- B. Store and handle masonry units to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion or other causes.
 - 1. Limit moisture absorption of concrete masonry units during delivery and until time of installation to the maximum percentage specified for Type I units for the average annual relative humidity as reported by the U.S. Weather Bureau Station nearest project site.
 - 2. Store cementitious materials off the ground, under cover and in dry location.
 - 3. Store aggregates where grading and other required characteristics can be maintained.
 - 4. Store masonry accessories including metal items to prevent deterioration by corrosion and accumulation of dirt.

1.04 PROJECT CONDITIONS

- A. Protection of Work: During erection, cover top of walls with waterproof sheeting at end of each day's work. Cover partially completed structures when work is not in progress.
- B. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.

UNIT MASONRY

042000 - 1

- C. Do not apply uniform floor or roof loading for at least 12 hours after building masonry walls or columns.
- D. Do not apply concentrated loads for at least 3 days after building masonry walls or columns.
- E. Staining: Prevent grout or mortar or soil from staining the face of masonry to be left exposed or painted. Remove immediately grout or mortar in contact with such masonry.
- F. Protect base of walls from rain-splashed mud and mortar splatter by means of covering spread on ground and over wall surface.
- G. Protect sills, ledges and projections from droppings of mortar.
- H. Cold Weather Protection:
 - 1. Do not lay masonry units which are wet or frozen.
 - 2. Remove any ice or snow formed on masonry bed by carefully applying heat until top surface is dry to the touch.
 - 3. Remove masonry damaged by freezing conditions.

PART 2 - PRODUCTS

- 2.01 CONCRETE MASONRY UNITS: Comply with referenced standards and other requirements indicated below applicable to each form of concrete masonry unit required.
- A. Provide special shapes where required for lintels, corners, jambs, sash, control joints, headers, bonding and other special conditions. Use 45° block at all locations where walls intersect at a 45° angle.
 - B. Provide square-edged units for outside corners, except where indicated as bullnose.
 - C. Grade N except Grade S may be used above grade in exterior walls with weather protective coatings and in walls not exposed to weather.
 - D. Typical Size: Manufacturer's standard units with nominal face dimensions of 16" long x 8" high (15-5/8" x 7-5/8" actual) x thicknesses indicated.
 - E. Block Shapes:
 - 1. Standard Block: 8" x 8" x 16" standard gray.
 - 2. 45° Block: 8" x 8" x 8" - 16".
 - 3. Bull Nose Block: 8" x 8" x 16".
 - 4. Pre-Cast Water Table: 4" x 8" x 16". With outside corner and top horizontal edge chamfered.
 - F. Type II, non-moisture controlled units.
 - G. Exposed Faces: Manufacturer's standard color and texture, unless otherwise indicated.

Note: All CMU, visible to view and not designated to receive a finish on Finish Schedule or elsewhere in the documents, shall receive block filler and paint as specified in Section 09900, except mechanical chases. Mechanical chases are not to be painted.

- H. Hollow Loadbearing Block: Requirements for block when delivered to job site. ASTM C 90 and as follows:
1. Weight Classification: Light weight.
 2. Minimum Compressive Strength: 1900 psi (average of 3 units).
 3. Maximum Percent with Slight Cracks and Chips: 5%.

2.02 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C 150, Type I, except Type III may be used for cold weather construction. Provide natural color or white cement as required to produce required mortar color.
- B. Water: Clean and potable.

2.03 JOINT REINFORCEMENT, TIES, AND ANCHORING DEVICES:

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:
- Dur-O-Wall, Inc.
Masonry Reinforcing Corp. of America
National Wire Products Corp.
- B. Materials: Comply with requirements indicated below for basic materials and with requirements indicated under each form of joint reinforcement, tie and anchor for size and other characteristics:
1. Hot-Dip Galvanized Steel Wire: ASTM A 82 for uncoated wire and ASTM A 153 for zinc coated wire.
 2. Application: Use for masonry exposed to exterior and in contact with earth.
- C. Joint Reinforcement: Provide welded-wire units prefabricated with deformed continuous side rods and plain cross rods into straight lengths of not less than 10', with prefabricated corner and tee units, and complying with requirements indicated below:
1. Width: Fabricate joint reinforcements in units with widths of approximately 2" less than nominal width of walls and partitions as required to provide mortar coverage of not less than 5/8" on joint faces exposed to exterior and 1/2" elsewhere.
 2. Wire Size for Side Rods: 9 gauge.
 3. Wire Size for Cross rods: 9 gauge.
 4. For single-wythe masonry provide type as follows with single pair of side rods:
Ladder design spaced not more than 16" o.c.
- D. Anchor Bolts: Provide steel bolts with hex nuts and flat washers complying with ASTM A 307, Grade A, hot-dip galvanized to comply with ASTM C 153, Class C, in sizes and configuration indicated.

2.04 MASONRY CLEANERS

- A. Job-Mixed Detergent Solution: Solution of trisodium phosphate (1/2 cup dry measure) and laundry detergent (1/2 cup dry measure) dissolved in one gallon of water. **Verify with block manufacturer.**

- 2.05 MORTAR AND GROUT MIXES: Do not add admixtures including coloring pigments, air-entraining agents, accelerators, retarders, water repellent agents, anti-freeze compounds or other admixtures, unless otherwise indicated.

Do not use calcium chloride in mortar or grout.

UNIT MASONRY

042000 - 3

- A. Mixing: Combine and thoroughly mix cementitious, water and aggregates in a mechanical batch mixer; comply with referenced ASTM standards for mixing time and water content.
 - B. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification, for types of mortar required, unless otherwise indicated.
 - 1. Use Type S mortar for reinforced masonry and where indicated.
 - 2. Use Type N mortar for exterior, above-grade non-loadbearing walls; for interior non-loadbearing walls; and for other non-loadbearing applications where another type is not indicated.
 - C. Grout (Pea Gravel Conc.) for Unit Masonry: Comply with ASTM C 476 for grout for use in construction of reinforced and nonreinforced unit masonry. Use grout of consistency indicated or if not otherwise indicated, of consistency (fine or coarse) at time of placement which will completely fill all spaces intended to receive grout. Concrete used as block fill for reinforced masonry cells shall have a minimum 28 day compressive strength of 3000 psi.
 - 1. Use coarse grout in grout spaces 4" or more in least horizontal dimension, unless otherwise indicated.
- 2.06 VERTICAL EXPANSION JOINTS: Provide "Slot Seal Wide Flange 2016-3" expansion joints by Williams Products, Inc. OR approved equal, unless detailed on drawings otherwise.

PART 3 - EXECUTION

3.01 INSTALLATION, GENERAL

- A. Do not wet concrete masonry units.
- B. Cleaning Reinforcing: Before placing, remove loose rust, ice and other coatings from reinforcing.
- C. Thickness: Build cavity and composite walls, floors and other masonry construction to the full thickness shown. Build single-wythe walls (if any) to the actual thickness of the masonry units, using units of nominal thickness indicated.
- D. Leave openings for equipment to be installed before completion of masonry work. After installation of equipment, complete masonry work to match work immediately adjacent to the opening.
- E. Cut masonry units using motor-driven saws to provide clean, sharp, unchipped edges. Cut units as required to provide continuous pattern and to fit adjoining work. Use full-size units without cutting where possible.

Use dry cutting saws to cut concrete masonry units.
- F. Minimum length of masonry lintels is 16" longer than the required opening (8" minimum bearing each end).
- G. Vertical wall reinforcing steel terminating in tie beams should extend to within 2" of top surface of tie beam and terminate using a standard 90-degree ACI hook.

3.02 CONSTRUCTION TOLERANCES

- A. Variation from Plumb: For vertical lines and surfaces of columns, and walls, do not exceed 1/4" in 10', or 3/8" in a story height not to exceed 20', nor 1/2" in 40' or more. For external corners, expansion joints, control joints and other conspicuous lines, do not exceed 1/4" in any story or 20' maximum, nor 1/2" in 40' or more. For vertical alignment of head joints do not exceed plus or minus 1/4" in 10', 1/2" maximum.
- B. Variation from Level: For bed joints and lines of exposed lintels, sills, parapets, horizontal grooves and other conspicuous lines, do not exceed 1/4" in any bay or 20' maximum, nor 1/2" in 40' or more. For top surface of bearing walls do not exceed 1/8" between adjacent floor elements in 10' or 1/16" within width of a single unit.
- C. Variation of Linear Building Line: For position shown in plan and related portion of columns, walls and partitions, do not exceed 1/2" in any bay or 20' maximum, nor 3/4" in 40' or more.
- D. Variation in Cross-Sectional Dimensions: For columns and thickness of walls, from dimensions shown, do not exceed minus 1/4" nor plus 1/2".
- E. Variation in Mortar Joint Thickness: Do not exceed bed joint thickness indicated by more than plus or minus 1/8", with a maximum thickness limited to 1/2". Do not exceed head joint thickness indicated by more than plus or minus 1/8".

3.03 LAYING MASONRY WALLS

- A. Layout walls in advance for accurate spacing of surface bond patterns with uniform joint widths and to accurately locate openings, movement-type joints, returns and offsets. Avoid the use of less-than-half-size units at corners, jambs and wherever possible at other locations.
- B. Lay-up walls to comply with specified construction tolerances, with courses accurately spaced and coordinated with other work.
- C. Pattern Bond: Lay exposed masonry in running bond with vertical joint in each course centered on units in courses above and below. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 2". Bond and interlock each course of each wythe at corners. do not use units with less than nominal 4" horizontal face dimensions at corners or jambs.
- D. Stopping and Resuming Work: Rack back 1/2-unit length in each course; do not tooth. Clean exposed surfaces of set masonry, wet units lightly (if required) and remove loose masonry units and mortar prior to laying fresh masonry.
- E. Built-in Work: As the work progresses, build-in items specified under this and other sections of these specifications. Fill in solidly with masonry around built-in items.
 - 1. Fill space between hollow metal frames and masonry solidly with mortar, unless otherwise indicated.
 - 2. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath in the joint below and rod mortar or grout into core.
 - 3. Fill cores in hollow concrete masonry units with grout under bearing plates, beams, lintels, posts and similar items, unless otherwise indicated.
- F. Inspection and clean out holes shall be utilized when grouting height exceeds five (5) feet. Clean out holes shall be the width of the masonry cell and a minimum of 3" high. Grout space requirements for various pour heights shall conform to Table 7, ACI 530-08.

3.04 MORTAR BEDDING AND JOINTING

- A. Lay hollow concrete masonry units with full mortar coverage on horizontal and vertical face shells. Bed webs in mortar in starting course on footings and in all courses of piers, columns and pilasters, and where adjacent to cells or cavities to be reinforced or filled with concrete or grout. For starting course on footings where cells are not grouted, spread out full mortar bed including areas under cells.
- B. Maintain joint widths shown, except for minor variations required to maintain bond alignment. If not shown, lay walls with 3/8" joints.
- C. Cut joints flush for masonry walls which are to be concealed or to be covered by other materials, unless otherwise indicated.
- D. Tool exposed joints slightly concave using a jointer larger than joint thickness, unless otherwise indicated.
- E. Remove masonry units disturbed after laying; clean and reset in fresh mortar. Do not pound corners or jambs to shift adjacent stretcher units which have been set in position. If adjustments are required, remove units, clean off mortar and reset in fresh mortar.

3.05 HORIZONTAL JOINT REINFORCEMENT: Provide continuous horizontal joint reinforcement at 16" C-C. Install longitudinal side rods in mortar for their entire length with a minimum cover of 5/8" on exterior side of walls 1/2" elsewhere. Lap reinforcing a minimum of 6".

- A. Cut or interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.
- B. Provide continuity at corners and wall intersections by use of prefabricated "L" and "T" sections. Cut and bed reinforcement units as directed by manufacturer for continuity at returns, offsets, column fireproofing, pipe enclosures and other special conditions.

Space continuous horizontal reinforcement as follows:

For single-wythe walls, space reinforcement at 16" o.c. vertically, unless otherwise indicated.

- C. Reinforce masonry openings greater than 1'-0" wide, with horizontal joint reinforcement placed in 2 horizontal joints approximately 8" apart, immediately above the lintel and immediately below the sill. Extend reinforcement a minimum of 2'-0" behind jambs of the opening except at control joints.

3.06 CONTROL AND EXPANSION JOINTS

- A. Vertical Control Joints: Provide control joints in CMU walls to allow for movement resulting from shrinkage and creep. Provide control joints as detailed and at locations shown on drawings, or if not shown, as indicated below. Provide control joints in both exterior and interior walls, and in both loadbearing and non-loadbearing conditions.
 - 1. At maximum spacing of 50 feet on center.
 - 2. At all abrupt changes in wall height.
 - 3. At all changes in wall thickness, such as those at pipe or duct chases and those adjacent to columns or pilasters.
 - 4. Above joints in foundations and floors.
 - 5. Below joints in roofs and floors that bear on the wall.
 - 6. At a distance of not over one-half the allowable joint spacing from bonded intersections

- or corners.
7. At one or both sides of all door and window openings unless other crack control measures are used such as joint reinforcement or bond beams.

- B. Vertical Expansion Joints: Provide sheer lugs at expansion joints in exterior masonry veneer to allow for movement resulting from changes in temperature, moisture expansion, etc. Provide expansion joints as detailed and at locations shown on drawings, or as indicated below.

Wall/building expansion joints shall be aligned thru entire wall construction.

Control joints in veneer masonry need not be aligned with back-up masonry in cavity wall construction.

**CONTROL JOINT SPACING FOR MOISTURE CONTROLLED
TYPE I
CONCRETE MASONRY UNITS**

| Recommended Spacing of Control Joints | Vertical Spacing of Joint Reinforcement | | | |
|--|---|-------|-----|-----|
| | None | 24" | 16" | 8" |
| Expressed as ratio of Panel length to height L/H | 2 | 2-1/2 | 3 | 4 |
| With Panel Length (l) Not to Exceed: | 40' | 45' | 50' | 60' |

3.07 FIELD QUALITY CONTROL

- A. Contractor shall employ, at his own expense, a testing laboratory experienced in performing types of masonry field quality control tests for masonry indicated. Comply with requirements for qualification and acceptance of testing laboratory specified in Part 1 for preconstruction testing service.
- B. Remove and replace masonry units which have cracked do to shrinkage or settlement problems. Provide new units to match adjoining units and install in fresh mortar, pointed to eliminate evidence of replacement.
- C. Unit Test Method:
1. Concrete Masonry Unit Tests: For each type, class and grade of concrete masonry unit indicated, test units by method of sampling and testing of ASTM C 140.
 2. Mortar Tests: For each type indicated, test mortar by methods of sampling and testing of ASTM C 780. Conduct tests no less frequently than that required to evaluate mortar used to install each increment of masonry units indicated above from which samples are taken for testing.
- D. Prism Test Method:
1. Compression Test: For each type of wall construction indicated for testing, test masonry prisms by methods of sampling and testing of ASTM E 447, Method B, and as follows:

Prepare one set of prisms for testing at 7 days and one set for testing at 28 days.
- E. Report test results in writing and in form specified under each test method, to Architect and

Contractor, on same day tests are made.

- F. Evaluation of Quality Control Tests: Masonry work, in absence of other indications of noncompliance with requirements, will be considered satisfactory if results from construction quality control tests comply with minimum requirements indicated.

3.08 REPAIR, POINTING AND CLEANING

- A. Remove and replace masonry units which are loose, chipped, broken, stained or otherwise damaged, or if units do not match adjoining units as intended. Provide new units to match adjoining units and install in fresh mortar or grout, pointed to eliminate evidence of replacement.
- B. Remove and replace masonry units which have cracked do to shrinkage or settlement problems. Provide new units to match adjoining units and install in fresh mortar, pointed to eliminate evidence of replacement.
- C. Pointing: During the tooling of joints, enlarge any voids or holes, except weep holes, and completely fill with mortar. Point-up all joints, including corners, openings, and adjacent work, to provide a neat, uniform appearance, prepared for application of sealants.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean masonry as follows:
1. Remove large mortar particles by hand with wooden paddles and non-metallic scrape hoes or chisels.
 2. Test cleaning methods on sample wall panel; leave 1/2 panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
 3. Clean concrete unit masonry to comply with masonry manufacturer's directions and applicable NCMA "Tek" bulletins.
 4. Do not use acid or abrasives on finish surfaces of ground faced accent block.
- E. Protection: Provide final protection and maintain conditions in a manner acceptable to Installer, which ensures unit masonry work being without damage and deterioration at time of substantial completion.

END OF SECTION 04200

SECTION 051200 - STRUCTURAL STEEL

PART 1 - GENERAL

1.01 **RELATED DOCUMENTS:** Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.02 **DESCRIPTION OF WORK:**

- A. **Extent of structural steel** work is shown on drawings, including schedules, notes and details to show size and location of members, typical connections, and type of steel required.
- B. **Structural steel** is that work defined in AISC "Code of Standard Practice" and as otherwise shown on drawings.
- C. **Miscellaneous Metal Fabrications** are specified elsewhere in Division 5.

1.03 **QUALITY ASSURANCE**

A. **Codes and Standards:** Comply with provisions of following, except as otherwise indicated:

- 1. AISC "Code of Standard Practice for Steel Buildings and Bridges"
- 2. **Paragraph 4.2.1** of the above code is hereby modified by deletion of the following sentence: "This approval constitutes the Design Builder's acceptance of all responsibility for the decision adequacy of any connections designed by the fabricator as a part of his preparation of these shop drawings."
- 3. AISC "Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings," including "Commentary" and Supplements thereto as issued.
- 4. AISC "Specifications for Structural Joints using ASTM A 325 or A 490 Bolts" approved by the Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation.
- 5. AWS D1.1 "Structural Welding Code"
- 6. ASTM A6 "General Requirements for Delivery of Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use"

B. **Qualifications for Welding Work:** Qualify welding processes and welding operators in accordance with AWS "Standard Qualification Procedure." Provide certification that welders to be employed in work have satisfactorily passed AWS qualification tests. Certification must be current (less than 1 year old). If recertification of welders is required, retesting will be Contractor's responsibility. Contractor must furnish a copy of each welders current certification prior to welder performing work on the project.

C. **Installer Qualifications:** Engage an experienced installer who has completed structural steel work similar in material, design, and extent to that indicated for this project and with a record of successful in-service performance.

D. **Fabricator Qualifications:** Engage a firm experienced in fabricating structural steel similar to that indicated for this project and with a record of successful in-service performance, as well as

STRUCTURAL STEEL

051200 - 1

sufficient production capacity to fabricate structural steel without delaying the work.

1. Fabricator must participate in the AISC Quality Certification Program and be designated an AISC-Certified Plant as follows:
 - a. Category: Category I, conventional steel structures.
 - b. Fabricator shall be registered with and approved by authorities having jurisdiction.
- E. Firms wishing to bid the work, but not participating in the AISC Certification, may seek pre-qualification by making submittals as listed in paragraph 1.04 Submittals, Para. D. of this section.
- F. Whether by Certification or by Pre-Qualification, the steel fabricator shall have in their employ a specialty Engineer responsible for designing and detailing all structural connections and have responsible charge of shop drawing preparation. Fabricator shall anticipate and include in his bid all miscellaneous plates, angles, welds, or bolts necessary to accomplish the connection. Specialty Engineer shall sign and seal shop drawings indicating responsibility for connections only, and certifying that main members are as indicated on the contract documents. Connections shall be capable of resisting forces equal to the strength of the member being connected, when such forces are not shown on the plans.

1.04 SUBMITTALS

- A. Product Data: Submit producer's or manufacturer's specifications and installation instructions for following products. Include laboratory test reports and other data to show compliance with specifications (including specified standards).
 1. Structural steel (each type).
 2. High-strength bolts (each type), including nuts and washers.
 3. Structural steel primer paint.
 4. Shrinkage-resistant grout.
- B. Shop Drawings: Submit shop drawings, including complete details and schedules for fabrication and assembly of structural steel members procedures and diagrams. Include details of cuts, connections, camber, holes, and other pertinent data. Indicate welds by standard AWS symbols, and show size, length, and type of each weld. Provide setting drawings, templates, and directions for installation of anchor bolts and other anchorages to be installed by others.

Shop drawings relating to the connections shall be signed and sealed by the fabricators engineer, who is registered in the project state.

Any submittal or RFI shall be incorporated as part of the shop drawings. The first and all shop drawing submittals shall include the signature and seal of the Specialty Engineer, noting the purpose of the submittal.
- C. Test Reports: Submit copies of reports of tests conducted on shop and field bolted and welded connections. Include data on type(s) of tests conducted and test results.
- D. Qualification data for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project name and address, name and address of Architect and Design Builder, and the name and address of the Specialty Engineer proposed for the work.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to site at such intervals to insure uninterrupted progress of work.
- B. Deliver anchor bolts and anchorage devices, which are to be embedded in cast-in-place concrete or masonry, in ample time to not to delay work.
- C. Store materials to permit easy access for inspection and identification. Keep steel members off ground, using pallets, platforms, or other supports. Protect steel members and packaged materials from erosion and deterioration.
- D. Do not store materials on structure in a manner that might cause distortion or damage to members or supporting structures. Repair or replace damaged materials or structures as directed.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Metal Surfaces, General: For fabrication of work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, rolled trade names and roughness. Remove such blemishes by grinding, or by welding and grinding, prior to cleaning, treating and application of surface finishes.
- B. Structural Steel Shapes, Plates and Bars: ASTM A 572, except channels, angles, bars, plates and other miscellaneous items shall be ASTM A36.
- C. Cold-Formed Steel Tubing: ASTM A 500, Grade B.
- D. Steel Pipe: ASTM A 53, Type E or S, Grade B.
- E. Anchor Bolts: ASTM A 307, nonheaded type unless otherwise indicated.
- F. High-Strength Threaded Fasteners: Heavy hexagon structural bolts, heavy hexagon nuts, and hardened washers, as follows:
 - 1. Quenched and tempered medium-carbon steel bolts, nuts and washers, complying with ASTM A 325.
 - 2. Direct tension indicator washers may be used at Contractor's option.
- G. Electrodes for Welding: Comply with AWS Code.
- H. Structural Steel Primer Paint: Fabricator's standard rust-inhibiting primer.
- I. Non-metallic Shrinkage-Resistant Grout: Pre-mixed, non-metallic, non-corrosive, non-staining product containing selected silica, sands, portland cement, shrinkage compensating agents, plasticizing and water reducing agents, complying with CRD-C621.

Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:

Euco N.S.; Euclid Chemical Co.

Masterflow 713; Master Builders
Five Star Grout; U.S. Grout Corp.

2.02 FABRICATION

- A. Shop Fabrication and Assembly: Fabricate and assemble structural assemblies in shop to greatest extent possible. Fabricate items of structural steel in accordance with AISC Specifications and as indicated on final shop drawings. Provide camber in structural members where indicated. Properly mark and match-mark materials for field assembly. Fabricate for delivery sequence which will expedite erection and minimize field handling of materials.
- B. Connections: Weld or bolt shop connections, as indicated. Weld field connections, except where bolted connections or other connections are indicated.
1. Provide high-strength threaded fasteners for principal bolted connections, except where unfinished bolts are indicated.
 2. Provide unfinished threaded fasteners for only bolted connections of secondary framing members to primary members (including purlins, girts, and other framing members taking only nominal stresses) and for temporary bracing to facilitate erection.
- C. High-Strength Bolted Construction: Install high-strength threaded fasteners in accordance with AISC "Specifications for Structural Joints using ASTM A 325 or A 490 Bolts" (RCRBSJ).
- D. Welded Construction: Comply with AWS Code for procedures, appearance and quality of welds, and methods used in correcting welding work. Build up welded door frames attached to structural steel framing. Weld exposed joints continuously and grind smooth. Plug weld steel bar stops to frames, except where shown removable. Secure removable stops to frames with countersunk, cross-recessed head machine screws, uniformly spaced not more than 10" o.c., unless otherwise indicated.
- E. Holes for Other Work: Provide holes required for securing other work to structural steel framing, and for passage of other work through steel framing members, as shown on final shop drawings. Provide threaded nuts welded to framing, and other specialty items as indicated to receive other work. Cut, drill, or punch holes perpendicular to metal surfaces. Do not flame cut holes or enlarge holes by burning. Drill holes in bearing plates.

2.03 SHOP PAINTING

- A. General: Shop paint structural steel, except those members or portions of members to be embedded in concrete or mortar or that is scheduled to receive sprayed on fireproofing. Paint embedded steel which is partially exposed on exposed portions and initial 2" of embedded areas only.
1. Do not paint surfaces which are to be welded or high-strength bolted with friction-type connections.
 2. Apply 2 coats of paint to surfaces which are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.
- B. Surface Preparation: After inspection and before shipping, clean steel work to be painted. Remove loose rust, loose mill scale, and spatter, slag or flux deposits. Clean steel in accordance with Steel Structures Painting Council (SSPC) as follows:

STRUCTURAL STEEL

051200 - 4

1. SP-2 "Hand Tool Cleaning"
 2. SP-3 "Power Tool Cleaning"
- C. Painting: Immediately after surface preparation, apply structural steel primer paint in accordance with manufacturer's instructions and at a rate to provide dry film thickness of not less than 1.5 mils. Use painting methods which result in full coverage of joints, corners, edges and exposed surfaces.

PART 3 - EXECUTION

3.01 ERECTION

- A. Temporary Shoring and Bracing: Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads. Remove temporary members and connections when permanent members are in place and final connections are made. Provide temporary guy lines to achieve proper alignments of structures as erection proceeds.
- B. Temporary Planking: Provide temporary planking and working platforms as necessary to effectively complete work.
- C. Anchor Bolts: Furnish anchor bolts and other connectors required for securing structural steel to foundations and other in-place work. Furnish templates and other devices as necessary for presetting bolts and other anchors to accurate locations. Refer to Division 3 of these Specifications for anchor bolt installation requirements in concrete, and Division 4 for masonry installation.
- D. Setting Bases and Bearing Plates: Clean concrete and masonry bearing surfaces of bond-reducing materials and roughen to improve bond to surfaces. Clean bottom surface of base and bearing plates. Set loose and attached base plates and bearing plates for structural members on wedges or other adjusting devices.
- E. Tighten anchor bolts after supported members have been positioned and plumbed. Do not remove wedges or shims, but if protruding, cut off flush with edge of base or bearing plate prior to backing with grout.
- F. Pack grout solidly between bearing surfaces and bases or plates to ensure that no voids remain. Finish exposed surfaces, protect installed materials, and allow to cure. For proprietary grout materials, comply with manufacturer's instructions.
- G. Field Assembly: Set structural frames accurately to lines and elevations indicated. Align and adjust various members forming part of complete frame or structure before permanently fastening. Clean bearing surfaces and other surfaces which will be in permanent contact before assembly. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
1. Level and plumb individual members of structure within specified AISC tolerances. Employ surveyor to plumb columns with transit.
 2. Splice members only where indicated and accepted on shop drawings.
- H. Erection Bolts: On exposed welded construction, remove erection bolts, fill holes with plug welds and grind smooth at exposed surfaces.
- I. Comply with AISC Specifications for bearing, adequacy of temporary connections, alignment, and

STRUCTURAL STEEL

051200 - 5

removal of paint on surfaces adjacent to field welds. Do not enlarge unfair holes in members by burning or by use of drift pins, except in secondary bracing members. Ream holes that must be enlarged to admit bolts.

- J. Gas Cutting: Do not use gas cutting torches in field for correcting fabrication errors in primary structural framing. Cutting will be permitted only on secondary members which are not under stress, as acceptable to Architect. Finish gas-cut sections equal to a sheared appearance when permitted.
- K. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint. Apply paint to exposed areas using same material as used for shop painting. Apply by brush or spray to provide minimum dry film thickness of 1.5 mils.

3.02 QUALITY CONTROL

- A. Engage an independent testing and inspection agency to inspect high-strength bolted connections and welded connections and to perform tests and prepare test reports. Testing agency shall conduct and interpret tests and state in each report whether test specimens comply with requirements, and specifically state any deviations therefrom. Provide access for testing agency to places where structural steel work is being fabricated or produced so that required inspection and testing can be accomplished.
- B. Shop Bolted Connections: Inspect in accordance with AISC specifications.
- C. Shop Welding: Inspect and test during fabrication of structural steel assemblies, as follows:
 - 1. Use Current Certified welders (certifications not over 1 year old) and conduct inspections and tests as required. Record types and locations of defects found in work. Record work required and performed to correct deficiencies.
 - 2. Perform visual inspection of all welds.
- D. Field Bolted Connections: Inspect in accordance with AISC specifications.
- E. Field Welding: Inspect and test during erection of structural steel as follows:
 - 1. Use Current Certified welders and conduct inspections and tests as required. Record types and locations of defects found in work. Record work required and performed to correct deficiencies.
- F. Completion Certification: Upon completion of erection, fabricator engineer shall certify that all connections have been completed in accordance with the shop drawings and contract documents.

END OF SECTION 051200

SECTION 061920 - PREFABRICATED WOOD TRUSSES

PART 1 - GENERAL

Standards: Comply with N.F.P.A. National Design Specification and with TPI standards including "Quality Standard for Metal Plate Connected Wood Trusses", "Commentary and Recommendations for Handling and Erecting Wood Trusses", "Commentary and Recommendations for Bracing Wood Trusses" and "Design Specification for Metal Plate Connected Wood Trusses".

Submittals: Submit shop drawings showing sizes, design values, materials, and dimensional relationships of components as well as bearing and anchorage details. Shop drawings shall be signed and sealed by a Professional Engineer registered in the project state.

Single-Source Engineering Responsibility: Provide trusses engineered by the metal plate connector manufacturer to support superimposed dead and live loads indicated, with design approved and certified by a professional engineer legally authorized to practice in jurisdiction where Project is located.

Handle and store trusses with care and to comply with TPI recommendations to avoid damage from bending, overturning or other cause.

PART 2 - PRODUCTS

Lumber: Provide lumber S4S, S-Dry unless otherwise indicated grade marked, complying with PS 20 and requirements indicated.

Lumber Species: All wood truss members shall be Southern Yellow Pine, No. 2 Grade or better. No. 3 Grade lumber **will not** be accepted.

Stress Rating: Provide lumber which has been graded or tested and certified to comply with required stress ratings. Trusses shall be designed for live load indicated on structural drawings.

Metal Connector Plates: Metals and thickness not less than thickness indicated below:

Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792, Coating Designation AZ 50, with structural quality equivalent to ASTM A 446, Grade A; minimum coated metal thickness of 0.036".

Fasteners and Anchorages: Of size, type, material and finish suited to application shown. Provide a hurricane clip at each end of each truss as required by Code and as required by truss engineer. Fasteners and anchorages to be designed and provided by Truss Manufacturer.

Hurricane Ties: Simpson Strong-Tie Connectors OR Equal. Size as shown on structural drawings.

PART 3 - EXECUTION

Fabrication: Fabricate and assemble trusses to provide units of configuration indicated, with closely fitted joints and connector plates securely fastened to wood members. Coordinate truss configuration with mechanical.

Install trusses to comply with TPI referenced standards and other indicated requirements.

END OF SECTION 061920

Architectural Specifications

SECTION 055213 - PIPE AND TUBE RAILINGS

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. Aluminum railings.

1.3 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

1.4 ACTION SUBMITTALS

- A. Product Data:
 - 1. Manufacturer's product lines of mechanically connected railings.
 - 2. Fasteners.
 - 3. Post-installed anchors.
 - 4. Handrail brackets.
 - 5. Metal finishes.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Samples for Initial Selection: For products involving selection of color, texture, or design, including mechanical finishes.
- D. Samples for Verification: For each type of exposed finish required.
 - 1. Sections of each distinctly different linear railing member, including handrails, top rails, posts, and balusters, including finish.
 - 2. Fittings and brackets.

3. Assembled Sample of railing system, made from full-size components, including top rail, post, handrail, and infill. Sample need not be full height.
 - a. Show method of connecting and finishing members at intersections.

1.5 INFORMATIONAL SUBMITTALS

- A. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.

1.6 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel in accordance with the following:
 1. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect mechanical finishes on exposed surfaces of railings from damage by applying a strippable, temporary protective covering before shipping.

1.8 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with railings by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
 1. Handrails and Top Rails of Guards:
 - a. Uniform load of 50 lbf/ ft. applied in any direction.
 - b. Concentrated load of 200 lbf applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.
 2. Infill of Guards:
 - a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft..
 - b. Infill load and other loads need not be assumed to act concurrently.
- B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
- B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.
 1. Provide type of bracket with predrilled hole for exposed bolt anchorage and that provides 1-1/2-inch clearance from inside face of handrail to finished wall surface.

2.3 ALUMINUM RAILINGS

- A. Basis of Design: Superior Aluminum Products, Inc. – Series 500 Aluminum Pipe Railing or equal project.
- B. Source Limitations: Obtain each type of railing from single source from single manufacturer.
- C. Aluminum, General: Provide alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than the strength and durability properties of alloy and temper designated below for each aluminum form required.
- D. Extruded Tubing: ASTM B221, Alloy 6063-T5/T52.
- E. Extruded Structural Pipe: ASTM B429/B429M, Alloy 6063-T6.
 1. Provide Standard Weight (Schedule 40) pipe unless otherwise indicated.
- F. Drawn Seamless Tubing: ASTM B210/B210M, Alloy 6063-T832.
- G. Plate and Sheet: ASTM B209, Alloy 6061-T6.
- H. Die and Hand Forgings: ASTM B247, Alloy 6061-T6.
- I. Castings: ASTM B26/B26M, Alloy A356.0-T6.

2.4 FASTENERS

- A. Fastener Materials:
 1. Stainless Steel Railing Components: Type 304 stainless steel fasteners.
- B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction and capable of withstanding design loads.
- C. Fasteners for Interconnecting Railing Components:

1. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless exposed fasteners are unavoidable or are the standard fastening method for railings indicated.
 2. Provide square or hex socket flat-head machine screws for exposed fasteners unless otherwise indicated.
- D. Post-Installed Anchors: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC193 or ICC-ES AC308.
1. Material for Interior Locations: Carbon-steel components zinc-plated to comply with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, unless otherwise indicated.
 2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 stainless steel bolts, ASTM F593, and nuts, ASTM F594.

2.5 MISCELLANEOUS MATERIALS

- A. Handrail Brackets: Cast aluminum, center of handrail 2-1/2 inches from face of railing.
- B. Welding Rods and Bare Electrodes: Select in accordance with AWS specifications for metal alloy welded.
1. For aluminum railings, provide type and alloy as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.
- C. Bituminous Paint: Cold-applied asphalt emulsion, complying with ASTM D1187/D1187M.
- D. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout, complying with ASTM C1107/C1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.6 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.
- B. Shop assemble railings to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations.
1. Clearly mark units for reassembly and coordinated installation.
 2. Use connections that maintain structural value of joined pieces.
- C. Cut, drill, and punch metals cleanly and accurately.
1. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated.
 2. Remove sharp or rough areas on exposed surfaces.

- D. Form work true to line and level with accurate angles and surfaces.
- E. Fabricate connections that are exposed to weather in a manner that excludes water.
 - 1. Provide weep holes where water may accumulate.
 - 2. Locate weep holes in inconspicuous locations.
- F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
- G. Connections: Fabricate railings with nonwelded connections unless otherwise indicated.
- H. Welded Connections for Aluminum Pipe: Fabricate railings to interconnect members with concealed internal welds that eliminate surface grinding, using manufacturer's standard system of sleeve and socket fittings.
- I. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
 - 1. Fabricate splice joints for field connection, using an epoxy structural adhesive, if this is manufacturer's standard splicing method.
- J. Form changes in direction as follows:
 - 1. As detailed.
 - 2. By radius bends of radius indicated or by inserting prefabricated elbow fittings of radius indicated.
 - 3. By bending to smallest radius that will not result in distortion of railing member.
- K. Bend members in jigs to produce uniform curvature for each configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- L. Close exposed ends of hollow railing members with prefabricated cap and end fittings of same metal and finish as railings.
- M. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is 1/4 inch or less.
- N. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.
 - 1. At brackets and fittings fastened to plaster or gypsum board partitions, provide crush-resistant fillers or other means to transfer loads through wall finishes to structural supports and prevent bracket or fitting rotation and crushing of substrate.
- O. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work.
 - 1. Fabricate anchorage devices capable of withstanding loads imposed by railings.
 - 2. Coordinate anchorage devices with supporting structure.

- P. For railing posts set in concrete, provide stainless steel sleeves not less than 6 inches long with inside dimensions not less than 1/2 inch greater than outside dimensions of post, with metal plate forming bottom closure.
- Q. For removable railing posts, fabricate slip-fit sockets from stainless steel tube or pipe whose ID is sized for a close fit with posts; limit movement of post without lateral load, measured at top, to not more than one-fortieth of post height.
 - 1. Provide socket covers designed and fabricated to resist being dislodged.
 - 2. Provide chain with eye, snap hook, and staple across gaps formed by removable railing sections at locations indicated. Fabricate from same metal as railings.
- R. Toe Boards: Where indicated, provide toe boards at railings around openings and at edge of open-sided floors and platforms. Fabricate to dimensions and details indicated.

2.7 ALUMINUM FINISHES

- A. Clear Anodic Finish: AAMA 611, AA-M12C22A41.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine plaster and gypsum board assemblies, where reinforced to receive anchors, to verify that locations of concealed reinforcements are clearly marked for Installer. Locate reinforcements and mark locations if not already done.

3.2 INSTALLATION, GENERAL

- A. Perform cutting, drilling, and fitting required for installing railings.
 - 1. Fit exposed connections together to form tight, hairline joints.
 - 2. Install railings level, plumb, square, true to line; without distortion, warp, or rack.
 - 3. Set railings accurately in location, alignment, and elevation; measured from established lines and levels.
 - 4. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 - 5. Set posts plumb within a tolerance of 1/16 inch in 3 feet.
 - 6. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.
- B. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
 - 1. Coat concealed surfaces of aluminum that will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

- C. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- D. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.3 RAILING CONNECTIONS

- A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Use wood blocks and padding to prevent damage to railing members and fittings. Seal recessed holes of exposed locking screws, using plastic cement filler colored to match finish of railings.
- B. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve, extending 2 inches beyond joint on either side; fasten internal sleeve securely to one side; and locate joint within 6 inches of post.

3.4 ANCHORING POSTS

- A. Anchor posts to surfaces with flanges, angle type, or floor type, as required by conditions, connected to posts and to metal supporting members as follows:
 - 1. For aluminum railings, attach posts as indicated, using fittings designed and engineered for this purpose.
- B. Install removable railing sections, where indicated, in slip-fit stainless steel sockets cast in concrete.

3.5 ATTACHING RAILINGS

- A. Anchor railing ends to concrete and masonry with flanges connected to railing ends and anchored to wall construction with anchors and bolts.
- B. Anchor railing ends to metal surfaces with flanges bolted to metal surfaces and connected to railing ends, using nonwelded connections.
- C. Attach handrails to walls with wall brackets, except where end flanges are used. Provide brackets with 1-1/2-inch clearance from inside face of handrail and finished wall surface.
 - 1. Use type of bracket with predrilled hole for exposed bolt anchorage.
 - 2. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
- D. Secure wall brackets and railing end flanges to building construction as follows:
 - 1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.
 - 2. For hollow masonry anchorage, use toggle bolts.

3. For wood stud partitions, use hanger or lag bolts set into studs or wood backing between studs. Coordinate with carpentry work to locate backing members.

3.6 CLEANING

- A. Clean aluminum by washing thoroughly with clean water and soap and rinsing with clean water.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas, and repair galvanizing to comply with ASTM A780/A780M.

3.7 PROTECTION

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.
- B. Restore finishes damaged during installation and construction period, so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

END OF SECTION 055213

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Framing with dimension lumber.
 - 2. Plywood backing panels.
- B. Related Requirements:
 - 1. Section 061920 "Prefabricated Wood Trusses" for wood trusses made from dimension lumber.

1.2 DEFINITIONS

- A. Boards or Strips: Lumber of less than 2 inches nominal size in least dimension.
- B. Dimension Lumber: Lumber of 2 inches nominal size or greater but less than 5 inches nominal size in least dimension.
- C. Exposed Framing: Framing not concealed by other construction.
- D. OSB: Oriented strand board.
- E. Timber: Lumber of 5 inches nominal size or greater in least dimension.
- F. Lumber grading agencies, and abbreviations used to reference them, include the following:
 - 1. NLGA: National Lumber Grades Authority.
 - 2. SPIB: The Southern Pine Inspection Bureau.
 - 3. WWPA: Western Wood Products Association.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.

3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D5664.
4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

B. Fastener Patterns: Full-size templates for fasteners in exposed framing.

1.4 INFORMATIONAL SUBMITTALS

A. Material Certificates:

1. For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.

B. Reports: For the following, from ICC-ES:

1. Wood-preservative-treated wood.
2. Fire-retardant-treated wood.
3. Engineered wood products.
4. Shear panels.
5. Power-driven fasteners.
6. Post-installed anchors.
7. Metal framing anchors.
8. Sill sealer gasket/termite barrier.

C. Qualification Statements: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: Comply with DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece.
3. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry wood products.
4. Dress lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber:

1. Boards: 15 percent.

C. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.

1. Allowable design stresses, as published by manufacturer, shall meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 PRESERVATIVE TREATMENT

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.

D. Application: Treat all rough carpentry unless otherwise indicated.

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
4. Wood framing members that are less than 18 inches above the ground in crawlspaces or unexcavated areas.
5. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 DIMENSION LUMBER FRAMING

A. Non-Load-Bearing Interior Partitions by Grade: Construction or No. 2 grade.

1. Application: Partitions noted as wood framed.
2. Species:
 - a. Hem-fir (north); NLGA.
 - b. Southern pine or mixed southern pine; SPIB.
 - c. Spruce-pine-fir; NLGA.
 - d. Hem-fir; WCLIB, or WWPA.
 - e. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
 - f. Northern species; NLGA.
 - g. Eastern softwoods; NeLMA.
 - h. Western woods; WCLIB or WWPA.

B. Load-Bearing Partitions by Grade: No. 2 grade.

1. Application: Partitions noted as wood framed.
2. Species:
 - a. Hem-fir (north); NLGA.
 - b. Southern pine; SPIB.
 - c. Douglas fir-larch; WCLIB or WWPA.
 - d. Southern pine or mixed southern pine; SPIB.
 - e. Spruce-pine-fir; NLGA.
 - f. Douglas fir-south; WWPA.
 - g. Hem-fir; WCLIB or WWPA.
 - h. Douglas fir-larch (north); NLGA.
 - i. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

C. Ceiling Joists: Construction or No. 2 grade.

1. Species:
 - a. Hem-fir (north); NLGA.
 - b. Southern pine; SPIB.
 - c. Douglas fir-larch; WCLIB or WWPA.
 - d. Douglas fir-larch (north); NLGA.
 - e. Southern pine or mixed southern pine; SPIB.
 - f. Spruce-pine-fir; NLGA.
 - g. Hem-fir; WCLIB or WWPA.
 - h. Douglas fir-south; WWPA.
 - i. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
 - j. Northern species; NLGA.
 - k. Eastern softwoods; NeLMA.
 - l. Western woods; WCLIB or WWPA.

D. Joists, Rafters, and Other Framing by Grade: Select Structural grade.

1. Species:

- a. Hem-fir (north); NLGA.
- b. Southern pine; SPIB.
- c. Douglas fir-larch; WCLIB or WWPA.
- d. Southern pine or mixed southern pine; SPIB.
- e. Spruce-pine-fir; NLGA.
- f. Douglas fir-south; WWPA.
- g. Hem-fir; WCLIB or WWPA.
- h. Douglas fir-larch (north); NLGA.
- i. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

2.4 MISCELLANEOUS LUMBER

- A. Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 1. Blocking.
 2. Nailers.
 3. Rooftop equipment bases and support curbs.
 4. Cants.
 5. Furring.
 6. Grounds.
 7. Utility shelving.
- B. Dimension Lumber Items: Construction or No. 2 grade lumber of
 1. Hem-fir (north); NLGA.
 2. Mixed southern pine or southern pine; SPIB.
 3. Spruce-pine-fir; NLGA.
 4. Hem-fir; WCLIB or WWPA.
 5. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
 6. Western woods; WCLIB or WWPA.
 7. Northern species; NLGA.
 8. Eastern softwoods; NeLMA.

2.5 METAL FRAMING ANCHORS

- A. Allowable design loads, as published by manufacturer, shall meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. Framing anchors shall be punched for fasteners adequate to withstand same loads as framing anchors.
- B. Stainless Steel Sheet: ASTM A240/A240M or ASTM A666, Type 304.
 1. Use for exterior locations and where indicated.
- C. Joist Hangers: U-shaped joist hangers with 2-inch-long seat and 1-1/4-inch-wide nailing flanges at least 85 percent of joist depth.

1. Thickness: 0.050 inch.
- D. I-Joist Hangers: U-shaped joist hangers with 2-inch-long seat and 1-1/4-inch-wide nailing flanges full depth of joist. Nailing flanges provide lateral support at joist top chord.
 1. Thickness: 0.050 inch.
- E. Top Flange Hangers: U-shaped joist hangers, full depth of joist, formed from metal strap with tabs bent to extend over and be fastened to supporting member.
 1. Strap Width: 1-1/2 inches.
 2. Thickness: 0.050 inch.
- F. Bridging: Rigid, V-section, nailless type, 0.050 inch thick, length to suit joist size and spacing.
- G. Post Bases: Adjustable-socket type for bolting in place with standoff plate to raise post 1 inch above base and with 2-inch-minimum side cover, socket 0.062 inch thick, and standoff and adjustment plates 0.108 inch thick.
- H. Joist Ties: Flat straps, with holes for fasteners, for tying joists together over supports.
 1. Width: 3/4 inch.
 2. Thickness: 0.050 inch.
 3. Length: 16 inches.
- I. Rafter Tie-Downs: Bent strap tie for fastening rafters or roof trusses to wall studs below, 1-1/2 inches wide by 0.050 inch thick. Tie fastens to side of rafter or truss, face of top plates, and side of stud below.
- J. Rafter Tie-Downs (Hurricane or Seismic Ties): Bent strap tie for fastening rafters or roof trusses to wall studs below, 2-1/4 inches wide by 0.062 inch thick. Tie fits over top of rafter or truss and fastens to both sides of rafter or truss, face of top plates, and side of stud below.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- C. Set work to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- D. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels.

- E. Install shear wall panels to comply with manufacturer's written instructions.
- F. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- G. Do not splice structural members between supports unless otherwise indicated.
- H. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
 - 1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches o.c.
- I. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- J. Comply with AWWA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- K. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- L. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
- M. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.
- N. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced, and with adjacent rows staggered.
 - 1. Comply with approved fastener patterns where applicable.
 - 2. Use common nails unless otherwise indicated. Drive nails snug but do not countersink nail heads.

3.2 INSTALLATION OF WOOD BLOCKING AND NAILERS

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.3 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

SECTION 072100 - THERMAL INSULATION

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. Glass-fiber blanket insulation.

1.3 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Glass-fiber blanket insulation.

1.4 INFORMATIONAL SUBMITTALS

- A. Installer's Certification: Listing type, manufacturer, and R-value of insulation installed in each element of the building thermal envelope.
 - 1. For blown-in or sprayed fiberglass and cellulosic-fiber loose-fill insulation, indicate initial installed thickness, settled thickness, settled R-value, installed density, coverage area, and number of bags installed.
 - 2. Sign, date, and post the certification in a conspicuous location on Project site.
- B. Product Test Reports: For each product, for tests performed by a qualified testing agency.
- C. Research Reports: For foam-plastic insulation, from ICC-ES.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect insulation materials from physical damage and from deterioration due to moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

PART 2 - PRODUCTS

2.1 GLASS-FIBER BLANKET INSULATION

- A. Glass-Fiber Blanket Insulation, Unfaced: ASTM C665, Type I; passing ASTM E136 for combustion characteristics.
 - 1. Flame-Spread Index: Not more than 25 when tested in accordance with ASTM E84.
 - 2. Smoke-Developed Index: Not more than 50 when tested in accordance with ASTM E84.
 - 3. Labeling: Provide identification of mark indicating R-value of each piece of insulation 12 inches and wider in width.

- B. Glass-Fiber Blanket Insulation, Kraft Faced: ASTM C665, Type II (nonreflective faced), Class C (faced surface not rated for flame propagation); Category 1 (membrane is a vapor barrier).
 - 1. Labeling: Provide identification of mark indicating R-value of each piece of insulation 12 inches and wider in width.

2.2 ACCESSORIES

- A. Insulation for Miscellaneous Voids:
 - 1. Glass-Fiber Insulation: ASTM C764, Type II, loose fill; with maximum flame-spread and smoke-developed indexes of 5, per ASTM E84.
 - 2. Spray Polyurethane Foam Insulation: ASTM C1029, Type II, closed cell, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E84.
 - 3. Polyurethane Pour-In-Place Insulation: Closed cell, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E84, specifically formulated for pour-in-place applications.

- B. Eave Ventilation Troughs: Preformed, rigid fiberboard or plastic sheets designed and sized to fit between roof framing members and to provide ventilation between insulated attic spaces and vented eaves.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean substrates of substances that are harmful to insulation, including removing projections capable of puncturing insulation or vapor retarders, or that interfere with insulation attachment.

3.2 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and applications.

- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.
- C. Install insulation with manufacturer's R-value label exposed after insulation is installed.
- D. Extend insulation to envelop entire area to be insulated. Fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- E. Provide sizes to fit applications and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units unless multiple layers are otherwise shown or required to make up total thickness or to achieve R-value.

3.3 INSTALLATION OF INSULATION IN FRAMED CONSTRUCTION

- A. Blanket Insulation: Install in cavities formed by framing members according to the following requirements:
 - 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
 - 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 - 3. Maintain 3-inch clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
 - 4. Attics: Install eave ventilation troughs between roof framing members in insulated attic spaces at vented eaves.
 - 5. For wood-framed construction, install blankets according to ASTM C1320 and as follows:
 - a. With faced blankets having stapling flanges, lap blanket flange over flange of adjacent blanket to maintain continuity of vapor retarder once finish material is installed over it.
 - 6. Vapor-Retarder-Faced Blankets: Tape joints and ruptures in vapor-retarder facings, and seal each continuous area of insulation to ensure airtight installation.
- B. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:
 - 1. Glass-Fiber Insulation: Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft..
 - 2. Spray Polyurethane Insulation: Apply according to manufacturer's written instructions.

3.4 PROTECTION

- A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes.

- B. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 072100

SECTION 074113.16 - STANDING-SEAM METAL ROOF PANELS

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. Standing-seam metal roof panels.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Meet with Owner, Architect, Owner's insurer if applicable, metal panel Installer, metal panel manufacturer's representative, structural-support Installer, and installers whose work interfaces with or affects metal panels, including installers of roof accessories and roof-mounted equipment.
 - 2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 3. Review methods and procedures related to metal panel installation, including manufacturer's written instructions.
 - 4. Examine support conditions for compliance with requirements, including alignment between and attachment to structural members.
 - 5. Review structural loading limitations of deck during and after roofing.
 - 6. Review flashings, special details, drainage, penetrations, equipment curbs, and condition of other construction that affect metal panels.
 - 7. Review governing regulations and requirements for insurance, certificates, and tests and inspections if applicable.
 - 8. Review temporary protection requirements for metal panel systems during and after installation.
 - 9. Review procedures for repair of metal panels damaged after installation.
 - 10. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.
 - B. Shop Drawings:
 1. Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.
 2. Accessories: Include details of the flashing, trim, and anchorage systems, at a scale of not less than 1-1/2 inches per 12 inches.
 - C. Samples for Initial Selection: For each type of metal panel indicated with factory-applied color finishes.
 1. Include similar Samples of trim and accessories involving color selection.
 - D. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.
 1. Metal Panels: 12 inches long by actual panel width. Include clips, fasteners, closures, and other metal panel accessories.
- 1.5 INFORMATIONAL SUBMITTALS
- A. Qualification Data: For Installer.
 - B. Product Test Reports: For each product, for tests performed by a qualified testing agency.
 - C. Field quality-control reports.
 - D. Sample Warranties: For special warranties.
- 1.6 CLOSEOUT SUBMITTALS
- A. Maintenance Data: For metal panels to include in maintenance manuals.
- 1.7 QUALITY ASSURANCE
- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
 - B. UL-Certified, Portable Roll-Forming Equipment: UL-certified, portable roll-forming equipment capable of producing metal panels warranted by manufacturer to be the same as factory-formed products. Maintain UL certification of portable roll-forming equipment for duration of work.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.
- B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness, with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Retain strippable protective covering on metal panels during installation.

1.9 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed according to manufacturers' written instructions and warranty requirements.

1.10 COORDINATION

- A. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.
- B. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.11 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including rupturing, cracking, or puncturing.
 - b. Deterioration of metals and other materials beyond normal weathering.
 - 2. Warranty Period: Two years from date of Substantial Completion.
- B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:

- a. Color fading more than 5 Delta E units when tested according to ASTM D2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E1592:
 1. Wind Loads: As indicated on Drawings.
 2. Other Design Loads: As indicated on Drawings.
 3. Deflection Limits: For wind loads, no greater than 1/180 of the span.
- B. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.
 1. Uplift Rating: UL 90.
- C. FM Global Listing: Provide metal roof panels and component materials that comply with requirements in FM Global 4471 as part of a panel roofing system and that are listed in FM Global's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Global markings.
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

2.2 STANDING-SEAM METAL ROOF PANELS

- A. Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.
 1. Steel Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E1514.
- B. Vertical-Rib, Seamed-Joint, Standing-Seam Metal Roof Panels <Insert drawing designation>: Formed with vertical ribs at panel edges and [**intermediate stiffening ribs symmetrically spaced**] [**a flat pan**] between ribs; designed for sequential installation by mechanically

attaching panels to supports using concealed clips located under one side of panels, engaging opposite edge of adjacent panels, and mechanically seaming panels together.

1. Basis of Design: MBCL-SuperLok or equal.
2. Metallic-Coated Steel Sheet: Zinc-coated (galvanized) steel sheet complying with ASTM A653/A653M, G90 coating designation, or aluminum-zinc alloy-coated steel sheet complying with ASTM A792/A792M, Class AZ50 coating designation; structural quality. Prepainted by the coil-coating process to comply with ASTM A755/A755M.
 - a. Nominal Thickness: 0.028 inch.
 - b. Exterior Finish: Three-coat fluoropolymer.
 - c. Color: As selected by Architect from manufacturer's full range.

2.3 UNDERLAYMENT MATERIALS

- A. Self-Adhering, High-Temperature Underlayment: Provide self-adhering, cold-applied, sheet underlayment, a minimum of 30 mils thick, consisting of slip-resistant, polyethylene-film top surface laminated to a layer of butyl or SBS-modified asphalt adhesive, with release-paper backing. Provide primer when recommended by underlayment manufacturer.
 1. Thermal Stability: Stable after testing at 240 deg F; ASTM D1970.
 2. Low-Temperature Flexibility: Passes after testing at minus 20 deg F; ASTM D1970.

2.4 MISCELLANEOUS MATERIALS

- A. Miscellaneous Metal Subframing and Furring: ASTM C645; cold-formed, metallic-coated steel sheet, ASTM A653/A653M, G90 coating designation or ASTM A792/A792M, Class AZ50 coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.
- B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.
 1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal panels.
 2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
 3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch-thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
- C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.
- D. Gutters: Formed from same material as roof panels, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 96-inch-long sections, of size and metal

thickness according to SMACNA's "Architectural Sheet Metal Manual." Furnish gutter supports spaced a maximum of 36 inches o.c., fabricated from same metal as gutters. Provide wire ball strainers of compatible metal at outlets. Color of gutters and downspouts to be picked from manufacturer's full color range].

- E. Downspouts: Formed from same material as roof panels. Fabricate in 10-foot-long sections, complete with formed elbows and offsets, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual." Finish downspouts to match gutters.
- F. Panel Fasteners: Self-tapping screws designed to withstand design loads.
- G. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.
 - 1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
 - 2. Joint Sealant: ASTM C920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended in writing by metal panel manufacturer.
 - 3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C1311.

2.5 FABRICATION

- A. Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using UL-certified, portable roll-forming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown.
- C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
- D. Fabricate metal panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.
- E. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.
 - 1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
 - 2. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.

3. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
4. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.
 - a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal panel manufacturer for application, but not less than thickness of metal being secured.

2.6 FINISHES

- A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are unacceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Steel Panels and Accessories:
 1. Three-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions for seacoast and severe environments.
 2. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.
- D. Copper Panels and Accessories:
 1. Prepatination: Factory prepatinate according to ASTM B882 to convert the copper surface to an inorganic crystalline structure with the appearance and durability of naturally formed patina.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.
 1. Examine primary and secondary roof framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal roof panel manufacturer.

2. Examine solid roof sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal roof panel manufacturer.
 - a. Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C754 and metal panel manufacturer's written recommendations.

3.3 INSTALLATION OF UNDERLAYMENT

- A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply at locations indicated below, wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps with roller. Cover underlayment within 14 days.
 1. Apply over the entire roof surface.
- B. Flashings: Install flashings to cover underlayment to comply with manufacturer's installation.

3.4 INSTALLATION OF STANDING SEAM METAL ROOF PANELS

- A. Install metal panels according to manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 1. Shim or otherwise plumb substrates receiving metal panels.
 2. Flash and seal metal panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal panels are installed.
 3. Install screw fasteners in predrilled holes.
 4. Locate and space fastenings in uniform vertical and horizontal alignment.
 5. Install flashing and trim as metal panel work proceeds.
 6. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
 7. Align bottoms of metal panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.

8. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.
- B. Fasteners:
1. Steel Panels: Use stainless steel fasteners for surfaces exposed to the exterior; use galvanized-steel fasteners for surfaces exposed to the interior.
- C. Anchor Clips: Anchor metal roof panels and other components of the Work securely in place, using manufacturer's approved fasteners according to manufacturers' written instructions.
- D. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel manufacturer.
- E. Standing-Seam Metal Roof Panel Installation: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended in writing by manufacturer.
1. Install clips to supports with self-tapping fasteners.
 2. Install pressure plates at locations indicated in manufacturer's written installation instructions.
 3. Seamed Joint: Crimp standing seams with manufacturer-approved, motorized seamer tool so clip, metal roof panel, and factory-applied sealant are completely engaged.
 4. Watertight Installation:
 - a. Apply a continuous ribbon of sealant or tape to seal joints of metal panels, using sealant or tape as recommend in writing by manufacturer as needed to make panels watertight.
 - b. Provide sealant or tape between panels and protruding equipment, vents, and accessories.
 - c. At panel splices, nest panels with minimum 6-inch end lap, sealed with sealant and fastened together by interlocking clamping plates.
- F. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
1. Install components required for a complete metal panel system including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by metal roof panel manufacturers; or, if not indicated, types recommended by metal roof panel manufacturer.
- G. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
1. Install exposed flashing and trim that is without buckling and tool marks, and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and achieve waterproof and weather-resistant performance.

2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
 - H. Gutters: Join sections with riveted and soldered or lapped and sealed joints. Attach gutters to eave with gutter hangers spaced not more than 36 inches o.c. using manufacturer's standard fasteners. Provide end closures and seal watertight with sealant. Provide for thermal expansion.
 - I. Downspouts: Join sections with telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch away from walls; locate fasteners at top and bottom and at approximately 60 inches o.c. in between.
 1. Provide elbows at base of downspouts to direct water away from building where indicated on drawings.
 2. Connect downspouts to underground drainage system where indicated on drawings.
 - J. Roof Curbs: Install flashing around bases where they meet metal roof panels.
 - K. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to metal roof panels as recommended by manufacturer.
- 3.5 ERECTION TOLERANCES
- A. Installation Tolerances: Shim and align metal panel units within installed tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.
- 3.6 FIELD QUALITY CONTROL
- A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect metal roof panel installation, including accessories. Report results in writing.
 - B. Remove and replace applications of metal roof panels where tests and inspections indicate that they do not comply with specified requirements.
 - C. Additional tests and inspections, at Contractor's expense, are performed to determine compliance of replaced or additional work with specified requirements.
 - D. Prepare test and inspection reports.
- 3.7 CLEANING AND PROTECTION
- A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On

completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.

- B. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 074113.16

SECTION 074633 - PLASTIC SOFFIT

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 vinyl soffit.
- B. Related Requirements:
 - 1. Section 061000 "Rough Carpentry" for wood furring, grounds, nailers, and blocking.

1.3 COORDINATION

- A. Coordinate siding installation with flashings and other adjoining construction to ensure proper sequencing.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 1. For vinyl siding, include VSI's official certification logo printed on Product Data.
- B. Samples for Initial Selection: For vinyl soffit including related accessories.
- C. Samples for Verification: For each type, color, texture, and pattern required.
 - 1. 12-inch-long-by-actual-width Sample of soffit.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For vinyl siding Installer.
- B. Product Certificates: For each type of vinyl soffit.

- C. Research/Evaluation Reports: For each type of vinyl siding required, from ICC-ES.
- D. Sample Warranty: For special warranty.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of product, including related accessories, to include in maintenance manuals.

1.8 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Furnish full lengths of vinyl soffit including related accessories, in a quantity equal to 2 percent of amount installed.

1.9 QUALITY ASSURANCE

- A. Vinyl Siding Installer Qualifications: A qualified installer who employs a VSI-certified Installer on Project.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with labels intact until time of use.
- B. Store materials under cover.

1.11 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace products that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including cracking, fading, and deforming.
 - b. Deterioration of materials beyond normal weathering.
 - 2. Fading is defined as loss of color, after cleaning with product recommended by manufacturer, of more than 7 Hunter color-difference units as measured according to ASTM D2244.
 - 3. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain products, including related accessories, from single source from single manufacturer.

2.2 VINYL SOFFIT

- A. Vinyl Soffit: Integrally colored product complying with ASTM D4477.
 - 1. Basis of Design: Certainteed – Triple 3-1/3” InvisiVent.
- B. Vinyl Siding Certification Program: Provide products that are listed in VSI's list of certified products.
- C. Pattern: Vented 3-1/3” Groove spacing style.
- D. Texture: Smooth.
- E. Ventilation: Provide perforated soffit unless otherwise indicated.
- F. Nominal Thickness: 0.040 inch.
- G. Minimum Profile Depth: 5/8 inch.
- H. Colors: As selected by Architect from manufacturer's full range of colors.

2.3 ACCESSORIES

- A. Siding Accessories, General: Provide starter strips, edge trim, outside and inside corner caps, and other items as recommended by siding manufacturer for building configuration.
 - 1. Provide accessories made from same material as adjacent siding unless otherwise indicated.
- B. Vinyl Accessories: Integrally colored vinyl accessories complying with ASTM D3679 except for wind-load resistance.
 - 1. Texture: Smooth.
- C. Decorative Accessories: Provide the following vinyl decorative accessories as indicated:
 - 1. Corner posts with fluted faces.
 - 2. Moldings and trim.
- D. Colors for Decorative Accessories: As selected by Architect from manufacturer's full range of colors.
- E. Fasteners:

1. For fastening to wood, use siding nails of sufficient length to penetrate a minimum of 1 inch into substrate.
2. For fastening to metal, use ribbed bugle-head screws of sufficient length to penetrate a minimum of 1/4 inch, or three screw-threads, into substrate.
3. For fastening vinyl, use hot-dip galvanized fasteners. Where fasteners are exposed to view, use prefinished aluminum fasteners in color to match item being fastened.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of vinyl soffit and related accessories.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.

3.3 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
 1. Center nails in elongated nailing slots without binding siding to allow for thermal movement.
- B. Install vinyl soffit and related accessories according to ASTM D4756.
- C. Install joint sealants as specified in Section 079200 "Joint Sealants" and to produce a weathertight installation.

3.4 ADJUSTING AND CLEANING

- A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.
- B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

END OF SECTION 074633

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Silicone joint sealants.

1.2 PREINSTALLATION MEETINGS

- ##### A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

- ##### A. Product Data: For each joint-sealant product.

- ##### B. Samples: For each kind and color of joint sealant required.

- ##### C. 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 INFORMATIONAL SUBMITTALS

- ##### A. Product test reports.

- ##### B. Preconstruction laboratory test reports.

- ##### C. Preconstruction field-adhesion-test reports.

- ##### D. Field-adhesion-test reports.

- ##### E. Sample warranties.

1.5 QUALITY ASSURANCE

- ##### A. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 JOINT SEALANTS

- A. Provide sealants for specific applications.
 - 1. Where surfaces are to be painted, provide paintable sealants.
 - 2. Where surfaces are on the exterior of building, Provide sealants suitable for exterior applications.
 - 3. Use silicone sealants where exposure to moisture is expected. Sealant shall prohibit mold growth for at least 7 years after installation.

2.3 JOINT-SEALANT BACKING

- A. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove laitance and form-release agents from concrete.

2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces.

3.2 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with ASTM C 1193 and joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Install sealant backings of kind indicated to support 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.
- C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 1. Place sealants so they directly contact and fully wet 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 Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 1. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.

END OF SECTION 079200

SECTION 081116 – ALUMINUM DOORS AND FRAMES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Flush aluminum doors.
- B. Aluminum panels.
- C. Aluminum door frames.

1.2 RELATED SECTIONS

- A. Section 06 10 00 [061000] — Rough Carpentry (hardware installation).
- B. Section 04 20 00 [042000]— Masonry (frame installation).
- C. Section 07 92 00 [079200]— Joint Sealers.
- D. Section 08 71 00.01 [087100.01] — Finish Hardware.
- E. Section 09 96 00 [099600]— Painting and Coating for Building.

1.3 REFERENCES

- A. Aluminum Association, Inc. (AA).
 - 1. AA 5005-H14 Sheet Architectural.
 - 2. AA 6061-T6 Heavy Duty Structures.
 - 3. AA 6063-T5 Extrusions, Pipe, Architectural.
 - 4. AA DAF-45 Designation System for Aluminum Finishes.
- B. American Architectural Manufacturers Association (AAMA).
 - 1. AAMA 2603-98 Pigmented Organic Coatings (Polycron).
 - 2. AAMA 2605-98 Superior Performing Organic Coatings (Kynar).
 - 3. AAMA 609 Anodized Architectural Finishes Cleaning and Maintenance.
 - 4. AAMA 610-02 Painted Architectural Products Cleaning and Maintenance.
 - 5. AAMA 611-98 Anodized Architectural Standards.
 - 6. AAMA 701 Pile Weather strip.
- C. American Society for Testing Materials (ASTM).
 - 1. A 123 — Zinc (Hot-Dip Galvanized) Coatings.
 - 2. C 728-97 — Insulation Board, Mineral Aggregate.
 - 3. E 330-97 — Structural Load Test.
 - 4. E 1996 — Wind Load Test.
 - 5. E 1886 — Impact Test Procedures (Inclusive of Large Missile Impact).

6. E 1300 — Load Resistance of Glass in Building.

D. Florida Building Code Compliant

1. Florida Building Code #FL6336 (website address: www.floridabuilding.org)

1.4 TESTING AND PERFORMANCE REQUIREMENTS

A. Structural Test Unit: Minimum size of 3-feet (91.44 cm) by 7-feet (213.36 cm) with 24-inch (60.96 cm) by 34-inch (86.36 cm) vision light shall be evaluated compliant with ASTM E 330 testing method.

B. Test Procedures and Performances:

1. With door closed and locked, test unit in accordance with ASTM E 330 at static air pressure difference of 90.0 pounds per square foot (3.35 kPa) positive pressure and 90.0 pounds per square foot negative pressure.
2. At conclusion of test there shall be no glass breakage, permanent damage to fasteners, hardware parts, support arms or actuating mechanism, nor any other damage that would cause the door to be inoperable.

1.5 SUBMITTALS

A. Submit under provisions of Section 01 30 00 [01300].

B. Product Data: Manufacturer's descriptive literature for each type door and frame: include the following information:

1. Fabrication methods.
2. Finishing.
3. Hardware preparation.
4. Accessories.

C. Shop Drawings: Indicate the following:

1. Elevations and details of each door and frame type.
2. Schedule of doors and frames.
3. Conditions at openings with various wall thicknesses and materials.
4. Location and installation requirements for hardware.
5. Thicknesses of materials, joints.
6. Connections and trim.

D. Submit under provisions of Section 01 30 00. Product Data: Manufacturer's descriptive literature for each type door and frame: include the following information:

1. Fabrication methods.
2. Finishing.
3. Hardware preparation.
4. Accessories.

E. Shop Drawings: Indicate the following:

1. Elevations and details of each door and frame type.
2. Schedule of doors and frames.
3. Conditions at openings with various wall thicknesses and materials.

4. Location and installation requirements for hardware.
5. Thicknesses of materials, joints.
6. Connections and trim.

1.6 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** Company specializing in manufacturing aluminum door and frame systems of the type required for this project, with minimum ten continuous years documented experience.
- B. **Product Qualifications:** Wind-load test certification conforming to ASTM E 330 on samples of previous products shall be provided for the type of door to be used.
- C. **Installer's Qualifications:** Workmen skilled in handling aluminum door and frame systems of the type required for this project.
- D. **Instruction:** The manufacturer or his representative will be available for consultation to all parties engaged in the project, including instruction to installation personnel.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver doors and frames palleted, wrapped or individually crated. Doors shall be side protected with surrounding grooved 2-inch (50.8 mm) by 4-inch (101.6 mm) wood frame and covered with 275-pound (124.74 kg) test corrugated cardboard.
- B. Inspect delivered doors and frames for damage; unload and store with minimum handling. Repair minor damage if refinished items are equal in all respects to new work; otherwise, remove damaged items and replace with new.
- C. Store products of this section under cover in manufacturer's unopened packaging until installation.
 1. Place units on minimum 4-inch (101.6 mm) wood blocking.
 2. Avoid non-vented plastic or canvas covers.
 3. Remove packaging immediately if packaging becomes wet.
 4. Provide 0.25-inch (6.35 mm) air spaces between stacked doors.

1.8 PROJECT CONDITIONS

- A. **Field Measurements:** Take field measurements of areas to receive aluminum frames; note discrepancies on submitted shop drawings.

1.9 SCHEDULING

- A. Ensure that all approvals and/or shop drawings are supplied or returned to the manufacturer in time for fabrication without affecting construction progress schedule.

- B. Ensure that templates and/or actual hardware requested by manufacturer are available in time for fabrication without affecting construction progress schedule.

1.10 WARRANTY

- A. Manufacturer: Ten year warranty against defects in workmanship and materials, including warping, rotting, decaying or bowing.
- B. Installer: Warrant installation procedures and performance for five years against defects due to workmanship and materials handling.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Cline Aluminum Doors, Inc.
112 – 32nd Avenue West, Bradenton, Florida 34205-8907
Telephone: (800) 648-6736, (941) 746-4104; Fax: (941) 746-5153
Website: www.clinedoors.com, Email: inquire@clinedoors.com
Model: Series 100BE
- B. Requests for substitution will be considered in accordance with provisions of Section 01 60 00 [01600].

2.2 COMPONENTS

- A. Aluminum Members: Alloy and temper recommended by manufacturer for strength, corrosion resistance, and application of required finish.
- B. Aluminum Door Composite Components: Minimum 5-ply composite laminated construction to include:
 1. Facing: One-piece 0.040-inch (1.02 mm) smooth 5005-H14 stretcher-leveled aluminum alloy. or select Facing: One-piece 0.040-inch (1.02 mm) vertically ribbed embossed pattern 5005-H14 stretcher-leveled aluminum alloy. Substrate: One-piece oil-tempered hardboard backer.
 2. Core: Organic materials shall be used to form a marine grade honeycomb core with high compression strength of 94.8 psi (ASTM C365), and internal aluminum hardware backup tube.
 3. Hardware Backup: The hardware backup tube shall be a minimum 4.25-inches (107.95 mm) in width, 1.375-inches (34.93 mm) in depth with a wall thickness of 0.125-inches (3.18 mm). Contiguous for the full perimeter of the door to allow for all specified and non-specified hardware reinforcement.
 4. Hardware Prep: Basic to include mortise lock edge prep or cylindrical lock prep; and pairs prepped for flush bolts, if required.
 5. Bonding Agent: Environmentally friendly adhesive with strength buildup of 350 pounds per square inch (24.6 kg/cm²).

6. Perimeter Door Trim: Wall thickness of 0.050-inch (1.25 mm) minimum in 6063-T5 extruded aluminum alloy with special beveled edge cap design and integral weather stripping on lock stile.
7. Replaceable Door Trim: Mechanically fastened to the hardware backup tube, allowing for replacement in the field, if damaged.
8. Trim Finish: To have minimum of a Class I anodized finish.
9. Weather stripping: Replaceable wool pile with nylon fabric, polypropylene backing meeting AAMA 701 standards. Applied weather striping not acceptable.
10. Materials: Only nonferrous, non-rusting members shall be acceptable, including tie rods, screws and reinforcement plates.
11. Regulations: All components and agents to meet EPA standards.

C. Glazing:

1. Glass shall be 0.25-inch (6.36 mm) tempered. (Standard thickness)
2. Glass shall be 1-inch (25 mm) insulating, tempered.
3. Glass shall be 0.5625-inch (14.29 mm) laminated hurricane glass
4. Stops shall be snap-in, non-removable type, 6063-T5 extruded aluminum alloy and 0.050-inch (1.25 mm) thickness.
5. Seals shall be vinyl inserts.
6. No fasteners shall be exposed.

D. Door Louvers:

1. Blades and Frames: 6063-T5 extruded aluminum alloy, 0.062-inch (1.57 mm) minimum thickness. Louver blades shall be inverted "Y" type.
2. Insect Screens: 14-18 mesh, 0.011-inch (0.28 mm) diameter alclad aluminum, set in 6063-T5 extruded aluminum alloy frame, 0.050-inch (1.25 mm) minimum thickness.
3. Louver shall have a minimum of 50-percent free airflow.

E. Aluminum Frames:

1. Frame Components: Extruded channel (tubular) 6063-T5 aluminum alloy, minimum wall thickness 0.125-inch (3.18 mm); cut corners square and joinery shall be mechanical with no exposed fasteners.
2. Profile: Open Back with Applied Stop (OBS), 1¾ inches by 5 inches (44 x 127 mm).
3. Hinge and Strike Mounting Plates: Extruded aluminum alloy bar stock, 0.1875-inch (4.75 mm) thick mounted in a concealed integral channel with no exposed fasteners.
4. Replaceable Weather stripping: AAMA 701, wool pile with nylon fabric, polypropylene backing, at head and jambs.
5. Door Stop: No screw-on stops acceptable.
6. Frame Finish: Shall be anodized with Class II mechanical finish to match door finish.

2.3 FINISH

- A. Finish: Clear anodic coating; AA-M12C22A31 Class II mechanical finish, non-specular, with chemical medium-matte etch, minimum thickness 0.4-mil (0.01 mm).

2.4 FABRICATION

- A. General: Receive hardware if required by manufacturer.

- B. Aluminum Door Construction: Of type, size and design indicated:
 - 1. Minimum Thickness: 1.75-inches (44 mm), 5-ply composite laminate system.
 - 2. Door Size: Sizes shown are nominal; provide standard clearances as follows:
 - a. Hinge and Lock Stiles: 0.125-inch (3.18 mm).
 - b. Between Meeting Stiles: 0.25-inch (6.35 mm).
 - c. At Top Rails: 0.125-inch (3.18 mm).
 - d. Between Door Bottom and Threshold: 0.125-inch (3.18 mm).
- C. Aluminum Frames: Of shapes and contours indicated.
 - 1. Corners shall be cut square.
 - 2. Reinforce and secure mechanically.
 - 3. No exposed fasteners.

2.5 ACCESSORIES

- A. Fasteners: Aluminum, nonmagnetic stainless steel, or other material warranted by manufacturer as non-corrosive and compatible with aluminum components.
 - 1. Do not use exposed fasteners.
 - 2. Brackets and Reinforcements: Manufacturer's high-strength aluminum units where feasible, otherwise, nonferrous stainless steel.
 - 3. Bituminous Coating: Cold-applied asphaltic mastic, compounded for 30-mil (0.76 mm) thickness per coat.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that wall surfaces and openings are ready to receive frames and are within tolerances specified in manufacturer's instructions.
- B. Verify that frames installed by other trades for installation of doors of this section are in strict accordance with recommendations and approved shop drawings and within tolerances specified in manufacturer's instructions.

3.2 PREPARATION

- A. Perform cutting, fitting, forming, drilling, and grinding of frames as required for project conditions; do not damage sight-exposed finishes.
- B. Separate dissimilar metals to prevent electrolytic action between metals.

3.3 INSTALLATION

- A. Install doors and frames in accordance with manufacturer's instructions and approved shop drawings; set frames plumb, square, level, and aligned to receive doors.

- B. Anchor frames to adjacent construction in strict accordance with recommendations and approved shop drawings and within tolerances specified in manufacturer's instructions.
 - 1. Seal metal-to-metal joints between framing members using good quality elastomeric sealant.
- C. Where aluminum surfaces contact with metals other than stainless steel, zinc or small areas of white bronze, protect from direct contact by one or more of the following methods.
 - 1. Paint dissimilar metal with one coat of heavy-bodied bituminous paint.
 - 2. Apply good quality elastomeric sealant between aluminum and dissimilar metal.
 - 3. Paint dissimilar metal with one coat of primer and one coat of paint recommended for aluminum surface applications.
 - 4. Use non-absorptive tape or gasket in permanently dry locations.
- D. Hang doors with required clearances as follows:
 - 1. Hinge and Lock Stiles: 0.125 inch (3.18 mm).
 - 2. Between Meeting Stiles: 0.250 inch (6.35 mm).
 - 3. At Top Rails: 0.125 inch (3.18 mm).
 - 4. Between Door Bottom and Threshold: 0.125 inch (3.18 mm).
- E. Adjust doors and hardware to operate properly.
- F. Install glazing in glazing frames.
- G. Install hardware for doors of this section.
- H. Installation of door hardware is specified in Section 08 71 00 [08710].
- I. Installation of glass is specified in Section 08 80 00 [08800].

3.4 CLEANING

- A. Upon completion of installation, thoroughly clean door and frame surfaces in accordance with AAMA 609.
- B. Do not use abrasive, caustic or acid cleaning agents.

3.5 PROTECTION

- A. Protect products of this section from damage caused by subsequent construction until substantial completion.
- B. Repair damaged or defective products to original specified condition in accordance with manufacturer's recommendations.
- C. Replace damaged or defective products that cannot be repaired to Architect's acceptance.

END OF SECTION 081116

SECTION 083323 - OVERHEAD COILING DOORS

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. Insulated service doors.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type and size of overhead coiling door and accessory.
 - 1. Include construction details, material descriptions, dimensions of individual components, profiles for slats, and finishes.
- B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.
 - 1. Include plans, elevations, sections, and mounting details.
 - 2. Include details of equipment assemblies, and indicate dimensions, required clearances, method of field assembly, components, and location and size of each field connection.
 - 3. Include points of attachment and their corresponding static and dynamic loads imposed on structure.
 - 4. For exterior components, include details of provisions for assembly expansion and contraction and for excluding and draining moisture to the exterior.
- C. Samples for Initial Selection: Manufacturer's finish charts showing full range of colors and textures available for units with factory-applied finishes.
 - 1. Include similar Samples of accessories involving color selection.
- D. Samples for Verification: For each type of exposed finish on the following components, in manufacturer's standard sizes:

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.

- B. Oversize Construction Certification: For door assemblies required to be fire-rated and that exceed size limitations of labeled assemblies.
- C. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Special warranty.
- B. Maintenance Data: For overhead coiling doors to include in maintenance manuals.
- C. Record Documents: For fire-rated doors, list of door numbers and applicable room name and number to which door accesses.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.
 - 1. Maintenance Proximity: Not more than two hours' normal travel time from Installer's place of business to Project site.

1.7 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of doors that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: Overhead Door – Model 423
- B. Source Limitations: Obtain overhead coiling doors from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Structural Performance, Exterior Doors: Capable of withstanding the following design wind loads:
 - 1. Design Wind Load: Provide door with Miami-Dade Certifications for static pressures.

2. Deflection Limits: Design overhead coiling doors to withstand design wind load without evidencing permanent deformation or disengagement of door components.

2.3 DOOR ASSEMBLY

- A. Insulated Service Door: Overhead coiling door formed with curtain of interlocking metal slats.
- B. Operation Cycles: Door components and operators capable of operating for not less than 10,000. One operation cycle is complete when a door is opened from the closed position to the fully open position and returned to the closed position.
- C. Insulated Door Curtain R-Value: 7.6 deg F x h x sq. ft./Btu.
- D. Door Curtain Material: Galvanized steel.
- E. Door Curtain Slats: 4" Ribbed, Tongue-end-groove profile slats of center-to-center height.
 1. Insulated-Slat Interior Facing: Metal.
 2. Gasket Seal. Manufacturer's standard continuous gaskets between slats.
- F. Bottom Bar: Two angles, each not less than 1-1/2 by 1-1/2 by 1/8 inch thick; fabricated from hot-dip galvanized steel and finished.
- G. Curtain Jamb Guides: Galvanized steel with exposed finish matching curtain slats.
- H. Locking Devices: Equip door with slide bolt for padlock and chain lock keeper.
- I. Curtain Accessories: Equip door with weatherseals.
- J. Door Finish:
 1. Baked-Enamel or Powder-Coated Finish: Color as selected by Architect from manufacturer's full range.

2.4 DOOR CURTAIN MATERIALS AND CONSTRUCTION

- A. Door Curtains: Fabricate overhead coiling-door curtain of interlocking metal slats, designed to withstand wind loading indicated, in a continuous length for width of door without splices. Unless otherwise indicated, provide slats of thickness and mechanical properties recommended by door manufacturer for performance, size, and type of door indicated, and as follows:
 1. Steel Door Curtain Slats: Zinc-coated (galvanized), cold-rolled structural-steel sheet; complying with ASTM A653/A653M, with G90 zinc coating; nominal sheet thickness (coated) of 0.028 inch; and as required.
 2. Stainless Steel Door Curtain Slats: ASTM A240/A240M or ASTM A666, Type 304; sheet thickness of 0.025 inch; and as required.
- B. Curtain Jamb Guides: Manufacturer's standard angles or channels and angles of same material and finish as curtain slats unless otherwise indicated, with sufficient depth and strength to retain curtain, to allow curtain to operate smoothly, and to withstand loading. Slot bolt holes for guide

adjustment. Provide removable stops on guides to prevent overtravel of curtain, and a continuous bar for holding windlocks.

2.5 HOODS

- A. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Form closed ends for surface-mounted hoods and fascia for any portion of between-jamb mounting that projects beyond wall face. Equip hood with intermediate support brackets as required to prevent sagging.
 - 1. Galvanized Steel: Nominal 0.028-inch-thick, hot-dip galvanized-steel sheet with G90 zinc coating, complying with ASTM A653/A653M.

2.6 LOCKING DEVICES

- A. Slide Bolt: Fabricate with side-locking bolts to engage through slots in tracks for locking by padlock, located on both left and right jamb sides, operable from coil side.
- B. Chain Lock Keeper: Suitable for padlock.

2.7 CURTAIN ACCESSORIES

- A. Weatherseals for Exterior Doors: Equip each exterior door with weather-stripping gaskets fitted to entire exterior perimeter of door for a weather-resistant installation unless otherwise indicated.
 - 1. At door head, use 1/8-inch-thick, replaceable, continuous-sheet baffle secured to inside of hood or field-installed on the header.
 - 2. At door jambs, use replaceable, adjustable, continuous, flexible, 1/8-inch-thick seals of flexible vinyl, rubber, or neoprene.

2.8 COUNTERBALANCE MECHANISM

- A. General: Counterbalance doors by means of manufacturer's standard mechanism with an adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to top of curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.
- B. Counterbalance Barrel: Fabricate spring barrel of manufacturer's standard hot-formed, structural-quality, seamless or welded carbon-steel pipe, of sufficient diameter and wall thickness to support rolled-up curtain without distortion of slats and to limit barrel deflection to not more than 0.03 in./ft. of span under full load.
- C. Counterbalance Spring: One or more oil-tempered, heat-treated steel helical torsion springs. Size springs to counterbalance weight of curtain, with uniform adjustment accessible from outside barrel. Secure ends of springs to barrel and shaft with cast-steel barrel plugs.

1. Fire-Rated Doors: Equip with auxiliary counterbalance spring and prevent tension release from main counterbalance spring when automatic-closing device operates.

D. Torsion Rod for Counterbalance Shaft: Fabricate of manufacturer's standard cold-rolled steel, sized to hold fixed spring ends and carry torsional load.

E. Brackets: Manufacturer's standard mounting brackets of either cast iron or cold-rolled steel plate.

2.9 MANUAL DOOR OPERATORS

A. General: Equip door with manual door operator by door manufacturer.

B. Chain-Hoist Operator: Consisting of endless steel hand chain, chain-pocket wheel and guard, and gear-reduction unit with a maximum 25-lbf force for door operation. Provide alloy-steel hand chain with chain holder secured to operator guide.

2.10 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM/NOMMA 500 for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.11 STEEL AND GALVANIZED-STEEL FINISHES

A. Baked-Enamel or Powder-Coat Finish: Manufacturer's standard baked-on finish consisting of prime coat and thermosetting topcoat. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry film thickness.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates areas and conditions, with Installer present, for compliance with requirements for substrate construction and other conditions affecting performance of the Work.

B. Examine locations of electrical connections.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Install overhead coiling doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.
- B. Install overhead coiling doors, hoods, controls, and operators at the mounting locations indicated for each door.

3.3 FIELD QUALITY CONTROL

- A. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.
- B. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

3.4 ADJUSTING

- A. Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion.
 - 1. Adjust exterior doors and components to be weather resistant.
- B. Lubricate bearings and sliding parts as recommended by manufacturer.
- C. Adjust seals to provide tight fit around entire perimeter.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain overhead coiling doors.

END OF SECTION 083323

SECTION 08 71 00.01 – FINISH HARDWARE

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. This Section includes the following:
 - 1. Commercial door hardware for the following:
 - a. Swinging doors

1.3 SUBMITTALS

- A. Product Data: Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: Not applicable.
- C. Samples for Initial Selection: For each finish, color, and texture required for each type of door hardware indicated.
- D. Samples for Verification: Submit minimum 2-by-4-inch plate Samples of each type of finish required, except primed finish.
- E. Samples for Verification: For exposed door hardware of each type, in specified finish, full size. Tag with full description for coordination with the door hardware sets. Submit Samples before, or concurrent with, submission of the final door hardware sets.
 - 1. Samples will be returned to Contractor. Units that are acceptable and remain undamaged through submittal, review, and field comparison process may, after final check of operation, be incorporated into the Work, within limitations of keying requirements.
- F. Qualification Data: For Installer and Architectural Hardware Consultant.
- G. Maintenance Data: For each type of door hardware to include in maintenance manuals.
- H. Warranty: Special warranty specified in this Section.
- I. Other Action Submittals:

1. Door Hardware Sets: Prepared by or under the supervision of Architectural Hardware Consultant, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final door hardware sets with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - a. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule." Double space entries, and number and date each page.
 - b. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
 - c. Content: Include the following information:
 - 1) Identification number, location, hand, fire rating, and material of each door and frame.
 - 2) Type, style, function, size, quantity, and finish of each door hardware item. Include description and function of each lockset and exit device.
 - 3) Complete designations of every item required for each door or opening including name and manufacturer.
 - 4) Fastenings and other pertinent information.
 - 5) Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - 6) Explanation of abbreviations, symbols, and codes contained in schedule.
 - 7) Mounting locations for door hardware.
 - 8) Door and frame sizes and materials.
 - 9) List of related door devices specified in other Sections for each door and frame.
 - d. Submittal Sequence: Submit the final door hardware sets at earliest possible date, particularly where approval of the door hardware sets must precede fabrication of other work that is critical in Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the door hardware sets.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by lock manufacturer.
 1. Installer's responsibilities include supplying and installing door hardware and providing a qualified Architectural Hardware Consultant available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.
 2. Installer shall have warehousing facilities in Project's vicinity.
 3. Scheduling Responsibility: Preparation of door hardware schedules.
- B. Architectural Hardware Consultant Qualifications: A person who is currently certified by DHI as an Architectural Hardware Consultant and who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Tag each item or package separately with identification related to the final door hardware sets, and include basic installation instructions, templates, and necessary fasteners with each item or package.
- C. Coordinate keying with Construction Manager.
- D. Deliver keys to Construction Manager in person.

1.6 COORDINATION

- A. Templates: Distribute door hardware templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including excessive deflection, cracking, or breakage.
 - b. Faulty operation of operators and door hardware.
 - c. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.
 - 2. Warranty Period: Three years from date of Substantial Completion, except as follows:
 - a. Exit Devices: Two years from date of Substantial Completion.
 - b. Manual Closers: 10 years from date of Substantial Completion.

1.8 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.
- B. Maintenance Service: Beginning at Substantial Completion, provide 12 months' full maintenance by skilled employees of door hardware Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and

adjusting as required for proper door hardware operation. Provide parts and supplies same as those used in the manufacture and installation of original products.

1.9 EXTRA MATERIALS

A. Furnish full-size units of door hardware described below, before installation begins, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Door Hardware: one of each type

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in this Section and door hardware sets indicated in door and frame schedule on drawings.

1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and products equivalent in function and comparable in quality to named products.

B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Part 3 "Door Hardware Sets" Article. Products are identified by using door hardware designations, as follows:

1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required for the purpose of establishing minimum requirements. Manufacturers' names are abbreviated in Part 3 "Door Hardware Sets" Article.

2. References to BHMA Standards: Provide products complying with these standards and requirements for description, quality, and function.

C. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.

2. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.2 HINGES, GENERAL

A. Quantity: Provide as set forth in Section 081113

B. Template Requirements: Provide only template-produced units.

C. Hinge Weight: Unless otherwise indicated, provide the following:

1. Entrance Doors: Heavy-weight hinges.
 2. Doors with Closers: Antifriction-bearing hinges.
- D. Hinge Base Metal: Unless otherwise indicated, provide the following:
1. Exterior Hinges: Stainless steel, with stainless-steel pin.
- E. Hinge Options: Where indicated in door hardware sets or on Drawings:
1. Nonremovable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed. Verify locations with Owner.
- F. Fasteners: Comply with the following:
1. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.
 2. Screws: Phillips flat-head; machine screws (drilled and tapped holes) for metal doors, wood screws for wood doors and frames. Finish screw heads to match surface of hinges.

2.3 HINGES

- A. Butts and Hinges: BHMA A156.1.
- B. Template Hinge Dimensions: BHMA A156.7.
- C. Available Manufacturers:
1. Baldwin Hardware Corporation (BH).
 2. Bommer Industries, Inc. (BI).
 3. Cal-Royal Products, Inc. (CRP).
 4. Hager Companies (HAG).
 5. Lawrence Brothers, Inc. (LB).
 6. McKinney Products Company; an ASSA ABLOY Group company (MCK).
 7. PBB, Inc. (PBB).
 8. Stanley Commercial Hardware; Div. of The Stanley Works

2.4 LOCKS AND LATCHES, GENERAL

- A. Accessibility Requirements: Where indicated to comply with accessibility requirements, comply with the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG) and local authorities having jurisdiction.
1. Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf.
- B. Latches and Locks for Means of Egress Doors: Comply with NFPA 101. Latches shall not require more than 15 lbf to release the latch. Locks shall not require use of a key, tool, or special knowledge for operation.

- C. Strikes: Manufacturer's standard strike with strike box for each latchbolt or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, and as follows:
 - 1. Strikes for Bored Locks and Latches: BHMA A156.2.
 - 2. Strikes for Mortise Locks and Latches: BHMA A156.13.
 - 3. Strikes for Interconnected Locks and Latches: BHMA A156.12.
 - 4. Strikes for Auxiliary Deadlocks: BHMA A156.5.
 - 5. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
 - 6. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
 - 7. Aluminum-Frame Strike Box: Manufacturer's special strike box fabricated for aluminum framing.

2.5 MECHANICAL LOCKS AND LATCHES

- A. Lock Functions: Function numbers and descriptions indicated in door hardware sets comply with the following:
 - 1. Bored Locks: BHMA A156.2.
- B. Bored Locks: BHMA A156.2, Grade 1 unless Grade 2 is indicated; Series 4000.
 - 1. Available Manufacturers:
 - a. Arrow USA; an ASSA ABLOY Group company (ARW).
 - b. Best Access Systems; Div. of The Stanley Works (BAS).
 - c. Cal-Royal Products, Inc. (CRP).
 - d. Corbin Russwin Architectural Hardware; an ASSA ABLOY Group company (CR).
 - e. Falcon Lock; an Ingersoll-Rand Company (FAL).
 - f. Marks USA (MKS).
 - g. Medeco Security Locks, Inc.; an ASSA ABLOY Group company (MED).
 - h. PDQ Manufacturing (PDQ).
 - i. SARGENT Manufacturing Company; an ASSA ABLOY Group company (SGT).
 - j. Schlage Commercial Lock Division; an Ingersoll-Rand Company (SCH).
 - k. Security Door Controls (SDC).
 - l. Weiser Lock; a Masco Company (WEI).

2.6 DOOR BOLTS

- 1. Available Manufacturers:
 - a. Burns Manufacturing Incorporated (BM).
 - b. Don-Jo Mfg., Inc. (DJO).
 - c. Door Controls International (DCI).
 - d. Glynn-Johnson; an Ingersoll-Rand Company (GJ).
 - e. Hager Companies (HAG).
 - f. IVES Hardware; an Ingersoll-Rand Company (IVS).

- g. Stanley Commercial Hardware; Div. of The Stanley Works (STH).
- h. Trimco (TBM).

B. Manual Flush Bolts: BHMA A156.16

1. Available Manufacturers:

- a. Adams Rite Manufacturing Co. (ARM).
- b. Burns Manufacturing Incorporated (BM).
- c. Don-Jo Mfg., Inc. (DJO).
- d. Door Controls International (DCI).
- e. Glynn-Johnson; an Ingersoll-Rand Company (GJ).
- f. Hager Companies (HAG).
- g. Hiawatha, Inc. (HIA).
- h. IVES Hardware; an Ingersoll-Rand Company (IVS).
- i. Stanley Commercial Hardware; Div. of The Stanley Works (STH).
- j. Trimco (TBM).

C. Available Manufacturers:

- 1. Adams Rite Manufacturing Co. (ARM).
- 2. Arrow USA; an ASSA ABLOY Group company (ARW).
- 3. Cal-Royal Products, Inc. (CRP).
- 4. Corbin Russwin Architectural Hardware; an ASSA ABLOY Group company (CR).
- 5. Detex Corporation (DTX).
- 6. Door Controls International (DCI).
- 7. DORMA Architectural Hardware; Member of The DORMA Group North America (DAH).
- 8. Dor-O-Matic; an Ingersoll-Rand Company (DOR).
- 9. Locknetics; an Ingersoll-Rand Company (LSE).
- 10. Monarch Exit Devices & Door Hardware; an Ingersoll-Rand Company (MON).
- 11. Precision Hardware, Inc. (PH).
- 12. Rutherford Controls Int'l. Corp. (RCI).
- 13. SARGENT Manufacturing Company; an ASSA ABLOY Group company (SGT).
- 14. Von Duprin; an Ingersoll-Rand Company (VD).
- 15. Yale Commercial Locks and Hardware; an ASSA ABLOY Group company (YAL).

2.7 LOCK CYLINDERS

- A. Cylinders: Manufacturer's standard tumbler type, constructed from brass or bronze, stainless steel, or nickel silver, and complying with the following:
- B. Manufacturer: Same manufacturer as for locks and latches.

2.8 KEYING

- 1. Keying System: Factory registered, complying with guidelines in BHMA A156.28, Appendix A.

- B. Keys: Nickel silver.
 - 1. Stamping: Permanently inscribe each key with a visual key control number and include the following notation:
 - a. Notation: Information to be furnished by Owner.
 - 2. Quantity per Owner

2.9 ACCESSORIES FOR PAIRS OF DOORS

- A. Carry-Open Bars: Provide carry-open bars for inactive leaves of pairs of doors unless automatic or self-latching bolts are used.
 - 1. Material: Stainless steel, with strike plate.

2.10 CLOSERS

- A. Accessibility Requirements: Where handles, pulls, latches, locks, and other operating devices are indicated to comply with accessibility requirements, comply with the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG) and authorities having jurisdiction.
- B. Door Closers for Means of Egress Doors: Comply with NFPA 101. Door closers shall not require more than 30 lbf to set door in motion and not more than 15 lbf to open door to minimum required width.
- C. Size of Units: Unless otherwise indicated, comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.
- D. Surface Closers: Provide type of arm required for closer to be located on non-public side of door, unless otherwise indicated.
 - 1. Available Manufacturers:
 - a. Arrow USA; an ASSA ABLOY Group company (ARW).
 - b. Corbin Russwin Architectural Hardware; an ASSA ABLOY Group company (CR).
 - c. DORMA Architectural Hardware; Member of The DORMA Group North America (DAH).
 - d. Dor-O-Matic; an Ingersoll-Rand Company (DOR).
 - e. LCN Closers; an Ingersoll-Rand Company (LCN).
 - f. Norton Door Controls; an ASSA ABLOY Group company (NDC).
 - g. Rixson Specialty Door Controls; an ASSA ABLOY Group company (RIX).
 - h. SARGENT Manufacturing Company; an ASSA ABLOY Group company (SGT).

- i. Yale Commercial Locks and Hardware; an ASSA ABLOY Group company (YAL).

2.11 THRESHOLDS

A. Available Manufacturers:

1. Hager Companies (HAG).
2. M-D Building Products, Inc. (MD).
3. National Guard Products (NGP).
4. Pemko Manufacturing Co. (PEM).
5. Reese Enterprises (RE).
6. Rixson Specialty Door Controls; an ASSA ABLOY Group company (RIX).
7. Sealeze; a unit of Jason Incorporated (SEL).
8. Zero International (ZRO).

2.12 FABRICATION

A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location except in conjunction with required fire-rated labels and as otherwise approved by Architect.

1. Manufacturer's identification is permitted on rim of lock cylinders only.

B. Base Metals: Produce door hardware units of base metal, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18. Do not furnish manufacturer's standard materials or forming methods if different from specified standard.

C. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.

1. Concealed Fasteners: For door hardware units that are exposed when door is closed, except for units already specified with concealed fasteners. Do not use through bolts for installation where bolt head or nut on opposite face is exposed unless it is the only means of securely attaching the door hardware. Where through bolts are used on hollow door and frame construction, provide sleeves for each through bolt.
2. Spacers or Sex Bolts: For through bolting of hollow-metal doors.

2.13 FINISHES

A. Standard: BHMA A156.18, as indicated in door hardware sets.

- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: Comply with DHI A115 Series.
 - 1. Surface-Applied Door Hardware: Drill and tap doors and frames according to ANSI A250.6.

3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights indicated on Drawings unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 - 2. Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."
- B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
 - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.

2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

- C. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

3.4 FIELD QUALITY CONTROL

- A. Independent Architectural Hardware Consultant: Owner will engage a qualified independent Architectural Hardware Consultant to perform inspections and to prepare inspection reports.

1. Independent Architectural Hardware Consultant will inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Door Closers: Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches from the latch, measured to the leading edge of the door.

- B. Occupancy Adjustment: Approximately six months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust, including adjusting operating forces, each item of door hardware as necessary to ensure function of doors and door hardware.

3.6 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.7 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes.

END OF SECTION 08 71 00.01

SECTION 099600 – PAINTING AND COATINGS FOR BUILDING

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 surface preparation and the application of high-performance coating systems on the following substrates:
 - 1. Exterior Substrates:
 - a. Galvanized metal.
 - 2. Interior Substrates:
 - a. Concrete, vertical and horizontal surfaces.
 - b. Concrete masonry units (CMUs).
 - c. Steel.
 - d. Galvanized metal.
 - e. Wood.

1.3 DEFINITIONS

- A. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D523.
- B. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523.
- C. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
 - 1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
 - 2. Indicate VOC content.
- B. Samples for Initial Selection: For each type of topcoat product indicated.

- C. Samples for Verification: For each type of coating system and each color and gloss of topcoat indicated.
 - 1. Submit Samples on rigid backing, 8 inches square.
 - 2. Apply coats on Samples in steps to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- D. Product List: Cross-reference to coating system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Coatings: 5 percent, but not less than 1 gal. of each material and color applied.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

- A. Apply coatings only when temperature of surfaces to be coated and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply coatings when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
- C. Do not apply exterior coatings in snow, rain, fog, or mist.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Any manufacturers complying with the MPI System requirements is acceptable.
- B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to products listed in the Exterior High-Performance Coating Schedule or Interior High-Performance Coating Schedule for the coating category indicated.

2.2 HIGH-PERFORMANCE COATINGS, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
 - 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
 - 3. Products shall be of same manufacturer for each coat in a coating system.
- C. Colors: As selected by Architect from manufacturer's full range.

2.3 SOURCE QUALITY CONTROL

- A. Testing of Coating Materials: Owner reserves the right to invoke the following procedure:
 - 1. Owner will engage the services of a qualified testing agency to sample coating materials. Contractor will be notified in advance and may be present when samples are taken. If coating materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
 - 2. Testing agency will perform tests for compliance with product requirements.
 - 3. Owner may direct Contractor to stop applying coatings if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying coating materials from Project site, pay for testing, and recoat surfaces coated with rejected materials. Contractor will be required to remove rejected materials from previously coated surfaces if, on recoating with complying materials, the two coatings are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Concrete: 12 percent.
 - 2. Masonry (Clay and CMUs): 12 percent.
 - 3. Wood: 15 percent.
 - 4. Plaster: 12 percent.
- C. Plaster Substrates: Verify that plaster is fully cured.

- D. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and coating systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of coatings, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce coating systems indicated.
- D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
 - 1. Clean surfaces with pressurized water. Use pressure range of 1500 to 4000 psi at 6 to 12 inches.
 - 2. Abrasive blast clean surfaces to comply with SSPC-SP 7/NACE No. 4.
- E. Masonry Substrates: Remove efflorescence and chalk. Do not coat surfaces if moisture content, alkalinity of surfaces, or alkalinity of mortar joints exceeds that permitted in manufacturer's written instructions.
- F. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer.
- G. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- H. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied coatings.
- I. Wood Substrates:

1. Scrape and clean knots. Before applying primer, apply coat of knot sealer that is recommended in writing by topcoat manufacturer for coating system indicated.
2. Sand surfaces that will be exposed to view and dust off.
3. Prime edges, ends, faces, undersides, and backsides of wood.
4. After priming, fill holes and imperfections in the finish surfaces with filler that is recommended in writing by topcoat manufacturer for coating system indicated. Sand smooth when dried.

3.3 APPLICATION

- A. Apply high-performance coatings according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."
 1. Use applicators and techniques suited for coating and substrate indicated.
 2. Coat surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, coat surfaces behind permanently fixed equipment or furniture with prime coat only.
 3. Coat backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 4. Do not apply coatings over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of the same material are to be applied. Tint undercoats to match color of finish coat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through final coat, apply additional coats until cured film has a uniform coating finish, color, and appearance.
- D. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections. Produce sharp glass lines and color breaks.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test coatings for dry film thickness.
 1. Contractor shall touch up and restore coated surfaces damaged by testing.
 2. If test results show that dry film thickness of applied coating does not comply with coating manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with coating manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

- B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from coating operation. Correct damage to work of other trades by cleaning, repairing, replacing, and recoating, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

3.6 EXTERIOR COATING SCHEDULE

- A. Steel Substrates (Miscellaneous steel items to receive paint):
 - 1. Epoxy System MPI EXT 5.1F:
 - a. Prime Coat: Primer, epoxy, anti-corrosive, for metal, MPI #101.
 - b. Intermediate Coat: Epoxy, high build, low gloss, MPI #108.
 - c. Topcoat: Epoxy, gloss, MPI #77.
- B. Galvanized-Metal Substrates (Miscellaneous steel items to receive paint):
 - 1. Epoxy System MPI EXT 5.3C:
 - a. Prime Coat: Primer, epoxy, anti-corrosive, for metal, MPI #101.
 - b. For a Premium Grade system, "MPI Manual" requires intermediate coat; delete first "Intermediate Coat" Subparagraph below for a Budget Grade system.
 - c. Intermediate Coat: Epoxy, matching topcoat.
 - d. Topcoat: Epoxy, gloss, MPI #77.

3.7 INTERIOR HIGH-PERFORMANCE COATING SCHEDULE

- A. Concrete Substrates, Vertical Surfaces:
 - 1. Epoxy System MPI INT 3.1F:
 - a. Prime Coat: Epoxy, matching topcoat.
 - b. Intermediate Coat: Epoxy, matching topcoat.
 - c. Topcoat: Epoxy, gloss, MPI #77.
- B. Concrete Substrates, Horizontal Surfaces (Interior Floors).
 - 1. Epoxy System MPI INT 3.2C:
 - a. Prime Coat: Epoxy, matching topcoat.
 - b. Intermediate Coat: Epoxy, matching topcoat.
 - c. Topcoat: Epoxy, gloss, MPI #77.

C. CMU Substrates:

1. Epoxy System MPI INT 4.2F:
 - a. Block Filler: Block filler, latex, interior/exterior, MPI #4.
 - b. Block Filler: Block filler, epoxy.
 - c. Intermediate Coat: Epoxy, matching topcoat.
 - d. Topcoat: Epoxy, gloss, MPI #77.

D. Steel Substrates (miscellaneous steel items to be painted):

1. Epoxy System MPI INT 5.1L:
 - a. Prime Coat: Primer, epoxy, anti-corrosive, for metal, MPI #101.
 - b. Intermediate Coat: Epoxy, matching topcoat.
 - c. Topcoat: Epoxy, gloss, MPI #77.

E. Galvanized-Metal Substrates:

1. Epoxy over Epoxy Primer System MPI INT 5.3D:
 - a. Prime Coat: Primer, epoxy, anti-corrosive, for metal, MPI #101.
 - b. Intermediate Coat: Epoxy, matching topcoat.
 - c. Topcoat: Epoxy, gloss, MPI #77.

F. Wood Substrates: Wood trim and plywood ceilings.

1. Water-Based Light-Industrial Coating System, MPI INT 3.11
 - a. Prime Coat: Primer, alkali resistant, water based, MPI #3.
 - b. Intermediate Coat: Light-industrial coating, interior, water based, matching topcoat.
 - c. Topcoat: Light-industrial coating, interior, water based MPI #151.

END OF SECTION 099600

SECTION 099653 - ELASTOMERIC COATINGS FOR EXTERIOR BUILDING WALLS

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 surface preparation and application of elastomeric coatings to the following exterior substrates:
 - 1. Concrete.
 - 2. Concrete unit masonry.
 - 3. Stucco.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
 - 2. Indicate VOC content.
- B. Samples for Initial Selection: For each type of elastomeric coating.
- C. Samples for Verification: For each type of elastomeric coating indicated and in each color and gloss.
 - 1. Submit Samples on same type of substrate as that to receive application, 8 inches square.
 - 2. Apply coats on Samples in steps to show each separate coat, including primers and block fillers as applicable.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- D. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Quantity: Furnish an additional 5 percent but not less than 1 gal. of each material, color, and texture applied.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 1. Maintain containers in clean condition, free of foreign materials and residue.
 2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

- A. Apply coatings only when temperature of surfaces to be coated and ambient air temperatures are between 50 and 90 deg F unless otherwise permitted by manufacturer's written instructions.
- B. Do not apply coatings in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
- C. Allow wet surfaces to dry thoroughly and attain temperature and conditions specified before starting or continuing coating operation.

1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace elastomeric coatings that fail within specified warranty period.
 1. Failures include, but are not limited to, the following:
 - a. Water penetration through the coating.
 - b. Deterioration of coating beyond normal weathering.
 2. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Any manufacturer that complies with the MPI System requirements may be used.
- B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to products listed in the Elastomeric Coating Schedule for the paint category indicated.

2.2 MATERIALS

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products List."
- B. Moisture-Vapor Transmission: Minimum 34.4 perms, based on testing according to ASTM D1653.
- C. Material Compatibility:
 - 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, products shall be recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- D. Colors: As selected by Architect from manufacturer's full range.
 - 1. 20 percent of surface area will be painted with deep tones.
- E. Crack Fillers: Elastomeric coating manufacturer's recommended, factory-formulated crack fillers or sealants, including crack filler primers, compatible with substrate and other materials indicated.
- F. Primer: Elastomeric coating manufacturer's recommended, factory-formulated, alkali-resistant primer compatible with substrate and other materials indicated.
- G. Concrete Unit Masonry Block Filler: Elastomeric coating manufacturer's recommended, factory-formulated, high-performance latex block filler compatible with substrate and other materials indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with manufacturer's requirements for maximum moisture content, alkalinity, and other conditions affecting performance of work.
- B. Begin coating only when moisture content of substrate is 12 percent or less when measured with an electronic moisture meter.
- C. Begin coating no sooner than 28 days after substrate is constructed and is visually dry on both sides.
- D. Verify that substrate is within the range of alkalinity recommended by manufacturer.
- E. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

- F. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in the "MPI Architectural Painting Specification Manual" applicable to substrates and coating systems indicated.
- B. Remove hardware and hardware accessories, plates, machined surfaces, light fixtures, and similar items already installed that are not to be coated. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and coating.
 - 1. After completing coating operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of coatings, including dirt, oil, grease, and incompatible paints and encapsulants. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
 - 1. Remove incompatible primers and reprime substrate with compatible primers as required to produce coating systems indicated.
 - 2. Perform cleaning and coating application so dust and other contaminants from cleaning process will not fall on wet, newly coated surfaces.
- D. Crack Repair: Fill cracks according to manufacturer's written instructions before coating surfaces.

3.3 APPLICATION

- A. Apply elastomeric coatings according to manufacturer's written instructions.
 - 1. Use equipment and techniques best suited for substrate and type of material being applied.
 - 2. Coat surfaces behind movable items the same as similar exposed surfaces.
 - 3. Apply each coat separately according to manufacturer's written instructions.
- B. Primers: Apply at a rate to ensure complete coverage.
- C. Block Fillers: Apply at a rate to ensure complete coverage with pores filled.
- D. Elastomeric Finish Coat(s): Minimum two coats with a total dry film thickness of 16 to 18 mils.
- E. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats similar to color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

- F. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform finish, color, and appearance.
- G. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- H. Apply coatings to prepared surfaces as soon as practicable after preparation and before subsequent surface soiling or deterioration.
- I. Spray Application: Use spray equipment for application only when permitted by authorities having jurisdiction. Wherever spray application is used, do not double back with spray equipment to build up film thickness of two coats in one pass.

3.4 FIELD QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following testing procedures:
 - 1. Owner will engage the services of a qualified testing agency to sample materials being used. Samples of material delivered to Project site will be taken, identified, sealed, and certified in presence of Contractor.
 - 2. Testing agency will perform tests for compliance of materials with product requirements.
 - 3. Owner may direct Contractor to stop coating application if test results show materials being used do not comply with requirements. Remove noncomplying materials from Project site, pay for testing, and recoat surfaces that were coated with rejected materials. Remove rejected materials from previously coated surfaces if, on recoating with complying materials, the two coatings are incompatible.
- B. Field Testing and Inspection: Owner reserves the right to engage the services of a qualified testing agency to verify installed thickness of elastomeric coatings.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from coating application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities, touch up and restore damaged or defaced coated surfaces.

3.6 ELASTOMERIC COATING SCHEDULE

A. Concrete Substrates:

1. Elastomeric Coating System MPI EXT 3.1F:
 - a. Prime Coat: As recommended in writing by topcoat manufacturer.
 - b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
 - c. Topcoat: Elastomeric, pigmented, exterior, water-based, flat coating; MPI #113.
 - d. Topcoat: Elastomeric, pigmented, exterior, water-based, nonflat coating; MPI #38.

B. Concrete Unit Masonry Substrates:

1. Elastomeric Coating System MPI EXT 4.2D:
 - a. Prime Coat: As recommended in writing by topcoat manufacturer.
 - b. Block Filler: As recommended in writing by topcoat manufacturer.
 - c. Intermediate Coat: As recommended in writing by topcoat manufacturer.
 - d. Topcoat: Elastomeric, pigmented, exterior, water-based, flat coating; MPI #113.

C. Stucco Substrates:

1. Elastomeric Coating System MPI EXT 9.1C:
 - a. Prime Coat: As recommended in writing by topcoat manufacturer.
 - b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
 - c. Topcoat: Elastomeric, pigmented, exterior, water-based, flat coating; MPI #113.
 - d. Topcoat: Elastomeric, pigmented, exterior, water-based, nonflat coating; MPI #38.

END OF SECTION 099653

SECTION 107313 – PRE-ENGINEERED CANOPIES

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. Work in this section includes furnishing and installation of extruded aluminum overhead hanger rod style canopies.
- B. Related Requirements:
 - 1. Flashing of various designs may be required. Supplied by the installer.
 - 2. Determine wall construction, make-up and thickness.
 - 3. Ensure adequate wall condition to carry canopy loads where required.
 - 4. Consider water drainage away from canopy where necessary.
 - 5. Any necessary removal or relocation of existing structures, obstructions or materials.

1.3 QUALITY ASSURANCE

- A. Installer's Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.
 - 1. Maintenance Proximity: Not more than two hours' normal travel time from Installer's place of business to Project site.

1.4 SHOP DRAWINGS

- A. Confirm dimensions prior to preparation of shop drawings when possible.
- B. If requested, supply manufacturer's standard literature and specifications for canopies.
- C. Submit shop drawings showing structural component locations/positions, material dimensions and details of construction and assembly.

1.5 PERFORMANCE REQUIREMENTS

- A. Canopy must conform to local building codes.
- B. Provide canopy capable of meeting the wind load and deflection requirements. Provide calculations stamped by Engineer.

- C. Designed to resist wind loads indicated on Drawings.
- D. Maximum deflection for wind loads, no greater than 1/180 of the span.

1.6 DELIVER, STORAGE, HANDLING

- A. Deliver and store all canopy components in protected areas.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Mapes Canopies
- B. Rusco Customer Canopies
- C. Skyscraper Canopies
- D. Approved equal

2.2 MATERIALS

- A. Decking and fascia shall be extruded aluminum, alloy 6063-T6, in profile and thickness as required to resist structural loading requirements.
- B. Decking shall be extruded decking.
- C. Hanger rods and attachment hardware shall be powder coated to match canopy.
- D. Fascia shall be standard 8" extruded "J" style.

2.3 FINISH

- A. Two-coat Fluoropolymer Finish. Color to match metal roof panel color.

2.4 FABRICATION

- A. All connections shall be mechanically assembled utilizing 3/16" fasteners with a minimum shear stress of 350 lb. Pre-welded or factory-welded connections are not acceptable.
- B. Decking shall be designed with interlocking extruded aluminum members with mechanical fasteners field applied to provide structural integrity for the completed assembly.
- C. Concealed drainage. Water shall drain from covered surfaces into integral beams and fascia gutters.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Confirm that surrounding area is ready for the canopy installation.
- B. Installer shall confirm dimensions and elevations to be as shown on shop drawings.
- C. Erection shall be performed by an approved installer and scheduled after all concrete, masonry and roofing in the area is completed

3.2 INSTALLATION

- A. Installation shall be in strict accordance with manufacturer's shop drawings. Particular attention should be given to protecting the finish during handling and erection.
- B. After installation, entire system shall be left in a clean condition.

END OF SECTION 107313

Electrical Specifications

SECTION 260500 - ELECTRICAL GENERAL REQUIREMENTS

PART 1- GENERAL

- 1.1 RELATED DOCUMENTS: The Electrical General Requirements are supplementing and applicable to Division 26 Sections and shall apply to all phases of work specified herein, shown on the Drawings, or required to provide a complete installation of electrical systems.
- 1.2 JOB CONDITIONS:
- A. Site Inspections: Before submitting proposals, each bidder should visit the site and fully familiarize himself with all job conditions and shall be fully informed as to the extent of his work. No consideration will be given after bid opening date for alleged misunderstanding as to the requirements of work involved in connecting to the utilities or as to requirements of materials to be furnished.
 - B. Existing Conditions: All utilities, existing system and conditions shown on the plans as existing are approximate, and the Contractor shall verify before any work is started.
 - C. Scheduled Interruptions: Planned interruptions of utilities service, to any facility affected by this contract, shall be carefully planned and approved by Architect at least ten (10) days in advance of the requested interruption. The Contractor shall not interrupt services until the Architect has granted specific approval. The request shall indicate services to be affected, date and time of interruption and duration of outage. Request for interruption of service will not be approved until all equipment and materials required for the completion of that particular phase of work are on the job site. The work may have to be scheduled after normal working hours.
 - D. Accidental Interruptions: All excavation and/or remodeling work required shall be performed with care so as not to interrupt other existing services (water, gas, electrical, sewer, sprinklers, etc.). If accidental utility interruption resulting from work performed by the Contractor occurs, service shall be immediately restored to its original condition without delay, by and at the expense of the Contractor, using skilled workmen of the trade required.
 - E. Maintaining Service:
 - 1. Any existing service (or operating system) which must be interrupted for any length of time shall be supplied with a temporary service if necessary for continuation of the normal operation of this facility.
 - 2. Any existing system or part of an existing system currently in operation shall remain so after all additions or renovations are made and all work is completed.
- 1.3 REGULATORY REQUIREMENTS:
- A. Permits, Fees, and Inspections: This Contractor shall secure and pay for all permits, and inspections required on work performed under this section of the Specifications. He shall assume full responsibility for all assessments and taxes necessary for the completion and acceptance of the work.
 - B. Applicable Standards and Codes: The electrical installation shall comply with all applicable building codes; local, state, and federal ordinances. In case of a discrepancy among these applicable regulatory codes and ordinances, the most stringent requirement shall govern. The Contractor shall notify the Architect in writing of any such discrepancy. Should the

Contractor perform any work that does not comply with the applicable regulatory codes and ordinances he shall bear all cost arising in correcting the deficiencies. Application standards and codes shall include all local ordinances, all state laws, and the applicable requirements of the following:

1. American National Standards Institute - ANSI
 2. National Electrical Manufacturer's Association - NEMA
 3. National Fire Protection Association – NFPA (latest editions)
 4. Florida Building Code – 2020 Edition
 5. Underwriters' Laboratories, Inc. – UL
 6. The National Electrical Code – NFPA 70, 2017 Edition
 7. The Life Safety Code – NFPA 101, 2018 Edition
 8. The National Fire Alarm and Signaling Code – NFPA 72, 2019 Ed.
- C. Drawings and Specifications: The drawings and these specifications are complementary each to the other. What is called for by one shall be as binding as if called for by both. Omissions from the drawings and specifications of details of work which are evidently necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such work. In any case of discrepancy in the figures or catalog numbers, the matter shall be submitted to the Architect, who shall promptly make a determination in writing. In any case of conflict between the drawings and specifications, the most stringent requirement shall apply unless a determination is made otherwise. Any adjustment by the Contractor shall be at the Contractor's own risk and expense. Electrical drawings are diagrammatic only. Do not scale these drawings. All equipment shall be installed in accordance with manufacturer's recommendations and any conflicting data shall be verified before bidding.
- D. Letters Certifying Compliance and Review: The Contractor's bid shall be accompanied by a letter stating that these Documents will be revised, as required by any legal authority having jurisdiction and by any serving utility, with no additional cost to the Owner. As soon as practical after bidding, and before any work is commenced, the Contractor shall meet with all legal authorities having jurisdiction, review all materials and details of this project and agree on any required revisions. A letter shall be written to the Architect listing the names, dates, places of such review, the revisions required (at no additional cost). A copy of the letter shall also be sent to the reviewing authority. The Contractor shall also meet with each serving utility and repeat the above procedure. A letter certifying each meeting shall be written also with the information as described above.

The Contractor shall after completion of the work, furnish the Architect a certificate of final inspection and approval from the applicable local inspection department. Any necessary changes that must be made for the final approval shall be made at no additional cost to the Owner.

1.4 COOPERATION:

- A. Interfacing with Other Crafts: It shall be the responsibility of the Contractor to cooperate and coordinate with all other crafts working on this project. This Contractor shall do all cutting, trenching, backfill and structural removals to permit entry of the electrical system components. The General Contractor shall do all patching and finishing. The Architect's representative shall render a decision in writing as to space allotment in congested areas. No claims for "extras" due to such decisions shall be allowed, even though the work has already been installed. When the Contractor submits for approval any item or equipment, he shall determine for himself whether or not it will fit the space provided. If, after installation of any equipment, wiring or other items, it is determined that ample maintenance or passage space has not been provided, then the Contractor shall rearrange this work and/or furnish other equipment even though the equipment installed has been approved. A 1/2" = 1'0"

scaled drawing of the main building equipment rooms shall be submitted with the electrical shop drawings showing the proposed location of all equipment in each room. SPACE ALLOCATION IN THESE ROOMS IS CRITICAL. ALSO SUBMIT ELEVATIONS OF EACH MAJOR WALL.

- B. Equipment Furnished under Other Sections: This Contractor shall furnish and install complete electrical roughing-in and connections to all equipment furnished under other sections and indicate on drawings. This includes all outlets as shown on mechanical and electrical drawings. All such equipment shall be set in place as work of other sections.
- C. Heating and Air Conditioning:
1. The Contractor shall furnish all branch circuit wiring to motors and control panels or centers including disconnects, receptacles, switches, and appurtenances to which the system at the units may be connected, to provide a complete system of wiring for power. Control equipment and control circuit wiring is specified in the Mechanical Section.
 2. Control devices to be included in the branch circuit, except those furnished integral with the equipment, will be delivered by the Heating and Air Conditioning Contractor and installed by the Electrical Contractor.
- 1.5 WORKMANSHIP: All work shall be executed in a neat and substantial manner by skilled workman, well qualified, and regularly engaged in the type of work required. Substandard work shall be removed and replaced by the Contractor at no cost to the Owner.
- 1.6 APPROVAL OF MATERIALS AND EQUIPMENT:
- A. Prior-submittals: The Contractor shall base his proposal on the materials specified herein and on the drawings. Reference to a particular product by manufacturer, trade name, or catalog number establishes the quality standards of material and equipment required for this installation and is not intended to exclude products equal in quality and similar design. The Architect reserves the sole right to decide the equality of materials proposed for use in lieu of these specified. It shall be the Contractor's responsibility to furnish the information and data sufficient to establish the quality and utility of the items in question, including furnishing of samples if required. If other equipment manufacturers determine that their equipment will fit in the space and meet the recommended clearances, suit all job conditions, equal or exceed the quality of the specified items, then a request may be made in writing to the Architect at least ten (10) days prior to bid date for permission to be included in the approved equipment list. All data required for evaluation shall accompany the above request.
- B. Submittals:
1. Submittals: The Contractor shall submit a list of equipment proposed for installation. He shall submit catalog data and shop drawings on all proposed systems and their components. Where substitutions alter the design or space requirements, the Contractor shall defray all items of cost for the revised design and construction including costs to all allied trades involved. Provide six (6) copies of submittals and shop drawings as a minimum unless the General Conditions requires a greater number of copies.
 - a. Submittals Schedule: Submittals shall be submitted within thirty (30) days after the contract is awarded. It is not the responsibility of the Engineer to expedite the review of submittals if the contractor has not adequately prepared the submittals in a time efficient manner. The contractor bears all the responsibility for the added time requirements of resubmittals.

- b. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1) Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2) Resubmittal Review: Allow 15 days for review of each resubmittal.
 - c. Identification: Place a permanent label or title block on each submittal for identification. Each major section of submittals such as power equipment, lighting equipment, fire alarm, etc., shall be secured in a booklet or stapled with a covering index which lists the following information:
 - 1) Project name and date
 - 2) Name, address, and phone number of General contractor and project manager.
 - 3) Name, address, and phone number of Sub-contractor and project manager.
 - 4) Supplier of equipment with phone number and person responsible for this project.
 - 5) Index of each item covered in submittal and model number.
 - 6) Any deviation from contract documents shall be specifically noted on submittal cover index and specifically identified with highlighting, encircling, or boldly on specific submittal sheet.
 - d. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 - 1) Include previous submittal review comments.
 - 2) For each item being resubmitted, include previous review comment and explain how resubmitted item meets the criteria of the previous review comment.
 - 3) Only two (2) resubmittals will be accepted. If the resubmittals do not meet the review comments on the initial submittal or the intent of the contract documents the contractor shall provide the original specified equipment.
 - e. Determinations of Equipment Quality: The final authority on the determination of the quality of any piece of equipment specified, submitted, or resubmitted is solely the Professional Engineer's. As much information as is provided by the Contractor will be used to consider a submitted item to the specified item to determine compliance. The Contractor may provide the actual submitted piece of equipment and the specified item to the Engineer for a table top comparison at his convenience. In the event of a table top comparison, the equipment brought to the Engineer shall become the property of the Engineer upon its delivery.
2. Electrical and Mechanical/Plumbing/Fire Protection Equipment Coordination:

The electrical power equipment submittals shall be accompanied by a letter verifying coordination of electrical services for all mechanical, plumbing, and fire protection equipment requiring power. The letter shall follow the format listed below.

To: _____
 (General Contractor)

Re: _____
 (Project name and location)

We the undersigned subcontractors certify that we have coordinated the electrical requirements for mechanical, plumbing, and fire protection sprinkler equipment as evidenced by the coordination chart listed herein.

| Item | Load Full Load Amps | 1 phase or 3 | Number of Electrical Connections | Maximum Overcurrent | Minimum Overcurrent Protection | Breaker Proposed | Circuit Proposed |
|------|---------------------|--------------|----------------------------------|---------------------|--------------------------------|------------------|------------------|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

The above list details all required electrical connections for mechanical equipment.

Signed: _____

For: _____
 Mechanical Subcontractor

The above list details all required electrical connections for plumbing equipment.

Signed: _____

For: _____
 Plumbing Subcontractor

The above list details all required electrical and fire alarm connections for fire protection equipment.

Signed: _____

For: _____
 Fire Protection Sprinkler Subcontractor

The above list of equipment has been reviewed and the required connections are being provided. (Any exceptions or request for direction shall be listed here)

Signed: _____

For: _____
Electrical Subcontractor

1.7 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Protection: Take necessary precautions to protect all material, equipment, apparatus and work from damage. Failure to do so to the satisfaction of the Architect will be sufficient cause for the rejection of the material, equipment or work in question. Contractor is responsible for the safety and good condition of the materials installed until final acceptance by the owner.
- B. Cleaning: Conduit openings shall be capped or plugged during installation. Fixtures and equipment shall be tightly covered and protected against dirt, moisture, chemical and mechanical injury. At the completion of the work the fixtures, material and equipment shall be thoroughly cleaned and delivered in condition satisfactory to the Architect.

1.8 TESTING AND BALANCING: Make tests that may be required by the Owner or the Architect in connection with the operation of the electrical system in the buildings. Balance all single-phase loads connected to all panelboards in the buildings to insure approximate equal divisions of these loads on the main secondary power supply serving the buildings. All tests shall be made in accordance with the latest standards of the IEEE and the NEC. The installation shall be tested for performance, grounds and insulation resistance. A "megger" type instrument shall be used. Contractor shall perform circuit continuity and operational tests on all equipment furnished or connected by Contractor. The tests shall be made in the presence of the Architect or his representative. The Contractor shall notify the Architect at least twenty-four (24) hours in advance of tests. The Contractor shall provide all testing equipment and all costs shall be borne by him. Written reports shall be made of all tests. All faults shall be corrected immediately.

A letter shall be written giving the following:

- A. Measured amps on each phase of each panel.
- B. Resistance to ground of each grounding electrode.
- C. Measured voltage phase to phase and phase to neutral at each panel.
- D. Ground continuity and polarity instrument used.

1.9 OPERATING AND MAINTENANCE INSTRUCTIONS/AS BUILT DRAWINGS

- A. Four (4) complete sets of instructions containing the manufacturer's operating and maintenance instructions for each piece of equipment shall be furnished to the Owner. Each set shall be permanently bound and shall have a hard cover. One complete set shall be furnished at the time that the test procedure is submitted, and remaining sets shall be furnished before the Contract is completed. Flysheets shall be placed before instructions covering each subject. The instruction sheets shall be approximately 8-1/2" by 11" with large sheets of Drawings folded in. The instructions shall include information for major pieces of equipment and systems.
- B. Upon completion of the work and at the time designated, the services of one project engineer shall be provided by the Contractor to instruct the representative of the Owner in the operation and maintenance of the systems.

- C. This Contractor shall provide as-built Drawings at the completion of the job. Drawings shall show all significant changes in equipment, wiring, routing, location, etc. All underground conduit routing shall be accurately indicated with locations dimensioned.
- 1.10 GUARANTEE AND SERVICE: Upon completion of all tests and acceptance, the Contractor shall furnish the Owner a written guarantee covering the electrical work done for a period of one (1) year from date of acceptance. Guarantee includes equipment capacity and performance ratings specified without excessive noise levels. Upon notice from the Architect or the Owner, the Contractor shall, during the guarantee period, rectify and replace any defective material or workmanship and repair any damage caused thereby without additional cost.

PART 2 – NOT USED

PART 3 – EXECUTION

3.1 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

- A. Comply with NECA 1.
- B. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.
- C. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.
- C. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.

END OF SECTION 260500

SECTION 260510 - ELECTRICAL METHODS AND BASIC MATERIALS

PART 1 -GENERAL

1.1 SECTION INCLUDES:

- A. Grounding and Bonding
- B. Supports
- C. Excavation, Trenching, and Backfilling
- D. Cutting and Patching
- E. Equipment Connection
- F. Identification of Equipment
- G. Cleaning and Painting

PART 2-PRODUCTS

2.1 GROUNDING MATERIALS:

- A. Grounding Electrode (Ground Rod): 16 feet x $\frac{3}{4}$ " diameter or as indicated on the Drawings, copper clad steel, sectional driven.
- B. Ground Connectors: Approved ground clamp type manufactured of cast bronze construction with matching bolts, nuts, and washers.
- C. Exothermic Welds: Materials shall be from the same source. Welding process shall be Cadweld or approved equal.
- D. Grounding Conductors:
 - 1. Insulated Conductors: Green colored and coded insulated copper (#12 AWG minimum) wire or cable.
 - 2. Bare Copper Conductors:
 - a. Solid Conductors: ASTM B3.
 - b. Stranded Conductors: ASTM B8
 - c. Bonding Conductor: #4 or #6 AWG, stranded conductor.
 - d. Bonding Cable: 28 kcmil, 14 strands of #17 AWG conductor.
 - e. Bonding Jumper: Copper tape, braided conductors, terminated with copper ferrules.

2.2 SUPPORTS:

- A. Framing Steel: Galvanized or painted rolled steel of standard shapes and sizes.
- B. Manufactured Channel: Hot dipped galvanized with all hardware required for mounting as manufactured by Unistrut, Steel City, or approved equal.
- C. Miscellaneous Hardware: Standard sizes treated for corrosion resistance.

2.3 IDENTIFICATION:

- A. Nameplates: Laminated black micarta with ¼" high engraved white letters.
- B. Panel Directories: Typewritten under plastic cover.
- C. Wire and Cable Markers: Cloth, split sleeve, or tubing type.

PART 3 -EXECUTION

3.1 INSTALLATION

- A. Products shall be installed in accordance with manufacturer's instructions.
- B. Except where specifically indicated otherwise, all exposed non-current-carrying metallic parts of electrical equipment, metallic raceway systems, and service neutral of the electrical system shall be grounded.
 - 1. Equipment grounding shall be accomplished by installing a separate grounding conductor in each raceway of the system. The Conductor shall be provided with a distinctive green insulation or marker and shall be sized in accordance with Article 250 of the National Electrical Code.
 - 2. The electrical system grounding electrode connection shall be made at the main service equipment and shall be extended to the point of entrance of the metallic cold water service. A suitable ground clamp shall make connection to the water pipe. If flanged pipes are encountered, connection shall be made on the street side of the flange connection. If the metallic water service is coated with an insulating material or there is no metallic water service to the building, ground connection shall be made to additional ground rods as required by resistance tests, at the exterior of the building driven full length into the earth.
 - 3. The maximum resistance of the driven ground shall be tested with a ground resistance Megger and shall not exceed 25 ohms under normally dry conditions. If this cannot be obtained with a single rod, additional or parallel rods shall be installed 7'-6" on center until 25 ohms or less is achieved without connection to the building water piping.
- C. Install support systems sized and fastened to accommodate weight of equipment and conduit, including wiring, which they carry.
 - 1. Fasten hanger rods, conduit clamps, and outlet junction boxes to building structure using precast insert system, expansion anchors, preset inserts, beam clamps, or spring steel clips.
 - 2. Use toggle bolts or hollow wall fasteners in hollow masonry, plaster, or gypsum board partitions and walls; expansion anchors or preset inserts in solid masonry walls; self-drilling anchors or expansion and anchors on concrete surfaces; sheet metal screws in sheet metal studs; and wood screws in wood construction.
 - 3. Do not fasten supports to piping, ceiling support wires, ductwork, mechanical equipment, or conduit.
 - 4. Do not use powder-actuated anchors.

5. Do not drill structural steel members without written consent from the Architect.
 6. Fabricate supports from structural steel or steel channel.
 7. Install surface mounted cabinets and panelboards with minimum of four anchors.
 8. Provide steel channel supports to stand cabinets one inch off wall in wet locations.
 9. Bridge studs top and bottom with channels to support flush mounted cabinets and panelboards in stud walls.
 10. Install freestanding electrical equipment on concrete pads.
- D. Excavating, trenching, and backfilling shall be accomplished as indicated on the Drawings or where required to install systems and/or equipment.
1. Trenches for all underground conduits or equipment shall be excavated to the required depths. Where soft, wet, or unstable soil is encountered, the bottom of the trench shall be filled with 6 inches of compacted gravel and sand fill. All trench bottoms shall be tamped hard. Trenches shall be shored as required to meet OSHA requirements and general safe working conditions.
 2. After conduits or equipment have been inspected and approved by the Architect and prior to backfilling, all forms shall be removed and the excavation shall be cleaned of all trash and debris. Material for backfilling shall consist of the excavation, or borrow of sand, gravel, or other materials approved by the Engineer and shall be free of trash, lumber or other debris. Backfill shall be placed in horizontal layers, not exceeding 9 inches in depth and properly moistened to approximate optimum requirements. Each layer shall be compacted by hand, or machine tamped to a density equivalent to surrounding soil. Backfill shall be brought to suitable elevation above ground to provide for anticipated settlement and shrinkage. All paving broken up shall be repaired and returned to the original condition.
- E. Cutting and Patching: This Contractor shall provide all cutting, digging, etc., incident to his work and shall make all required repairs thereafter to the satisfaction of the Engineer, but in no case shall the Contractor cut into any major structural element, beam, or column without written approval of the Engineer.
1. Pavements, sidewalks, roads, curbs, walls, ceilings, floors, and roofs shall be sawcut, patched, repaired and/or replaced as required to permit the installation of the electrical work. Existing concrete floors and other slabs, which require vertical piercing for installation of conduit raceways shall be neatly core drilled. The Contractor shall carefully lay out his drilling in advance and arrange it to minimize exposed work.
 2. The Contractor shall bear the expense of all cutting, patching, painting, repairing, or replacing of the work of other trades required because of his fault, error, or tardiness or because of any damage done by him.
 3. All patching and finishing shall be performed by the General Contractor at this Contractor's expense.
- F. Make electrical connections to equipment in accordance with equipment manufacturer's instructions.

1. Verify that wiring and outlet rough-in work is complete and that equipment is ready for electrical connection, wiring, and energization.
 2. Make wiring connections in control panel or in wiring compartment of pre-wired equipment. Provide interconnecting wiring where indicated.
 3. Install and connect disconnect switches, controllers, control stations, and control devices as indicated.
 4. Make conduit connections to equipment using flexible conduit. Use liquid-tight flexible conduit in damp or wet locations.
 5. Install pre-fabricated cord set where connections with attachment plug is indicated or specified, or use attachment plug with suitable strain-relief clamps.
 6. Provide suitable strain-relief clamps for cord connections to outlet boxes and equipment connection boxes.
- G. Identify electrical distribution and control equipment, and loads served, to meet regulatory requirements and as specified herein.
1. Degrease and clean surface to receive nameplates.
 2. Secure nameplates to equipment fronts using screws or rivets with edges parallel to equipment lines.
 3. Each new and existing panel shall have an external nameplate. Disconnect switches, starters or similar devices shall have a micarta engraved nameplate mechanically affixed indicating the load served and the location, such as "A/C 2" or "A/C 3" above ceiling". Letters shall be 1/4" white on a black background. Panels shall be designated in this manner:

"Panel A
120/208 Volts
3 Phase 4 Wire
Served from Panel MP"
 4. Panel directories shall accurately indicate load served and location of load.
 5. Engrave plates as indicated on the Drawings.
- H. Raceway junction boxes for each system shall be identified by painting the inside of the junction box cover for exposed work and both sides of the covers for concealed work according to the following code:
- | | |
|--------------------------|--------|
| Receptacle Circuits | Black |
| 227 V. Lighting Circuits | Orange |
| 120 V. Lighting Circuits | White |
| 277/480 V. Power & Misc. | Yellow |
| 120/208 V. Power & Misc. | Green |
- If the established color code at this site conflicts with the above, the contractor shall so state in a letter outlining his proposed colors to maintain conformity
- I. Install wire markers on each conductor in panelboard gutters, boxes, and at load connections.

1. Use distribution panel and branch circuit or feeder number to identify power and lighting circuits.
 2. Use control wire number as indicated on schematic and interconnection diagrams or equipment manufacturer's shop drawings to identify control wiring.
- J. Cleaning and Painting: The respective Contractors for the various phases of work shall clear away all debris, surplus materials, etc., resulting from their work or operations, leaving the job and equipment furnished in the clean first class condition.
1. All fixtures and equipment shall be thoroughly cleaned of plaster, stickers, rust, stains and other foreign matter or discoloration, leaving every part in an acceptable condition ready for use.
 2. The Contractor shall refinish and restore to the original condition and appearance, all electrical equipment, which has sustained damage to manufacturer's prime and finish coats or enamel or paint. Materials and workmanship shall be equal to the requirements described for other painting.

END OF SECTION 260510

SECTION 260533 - RACEWAY SYSTEMS

PART 1-GENERAL

1.1 SECTION INCLUDES:

- A. Conduit and Conduit Fittings
- B. Electrical Boxes and Fittings

PART 2-PRODUCTS

2.1 CONDUIT AND FITTINGS:

- A. Conduit:
 - 1. Metal conduit: Galvanized steel as manufactured by Pittsburgh Standard galvanized rigid conduit, National Electric Products, Shearduct, or Youngstown Buckeye hot galvanized rigid conduit.
 - 2. Metal tubing: Galvanized steel as manufactured by Pittsburgh Standard, Youngstown Buckeye or National Electric Products.
 - 3. Flexible Conduit: Steel.
 - 4. Liquid-tight Flexible Conduit: Flexible steel conduit with PVC jacket as manufactured by Anaconda or engineer approved equal.
 - 5. Plastic Conduit and Tubing: NEMA TC 2; PVC. Use Schedule 40 conduit.
- B. Conduit Fittings:
 - 1. Conduit Fittings and Conduit Bodies: NEMA FB 1. Conduit fittings to be steel threaded type, as manufactured by Appleton, Thomas and Betts, Crouse-Hinds or Pyle-National.
 - 2. Tubing Fittings: NEMA FB 1. Tubing fittings to be steel compression type for conduit up to 2" in diameter and set screw type for conduit 2-1/2" and larger, as manufactured by Appleton, Thomas and Betts, Crouse-Hinds or Pyle-National.
 - 3. Flexible Conduit Fittings: NEMA FB 1. Flexible conduit fittings to be steel set screw or screw-in type.
 - 4. Liquid-tight Flexible Conduit Fittings: NEMA FB 1. Liquid-tight flexible conduit fittings to be steel compression type.
 - 5. Plastic Fittings and Conduit Bodies: NEMA TC 3.

2.2 ELECTRICAL BOXES:

- A. Boxes:

1. Sheet Metal: NEMA OS 1; galvanized steel 4" octagonal x 1-1/2" minimum. Communications outlets shall be 2-1/2" deep minimum. Provide galvanized plaster/tile ring for recessed outlet boxes. Boxes shall be manufactured by Appleton, Steel City or Raco.
 2. Cast Metal: Aluminum or cast ferroalloy, deep type, finished square corner, gasketed cover, threaded hubs as manufactured by Bell or engineer approved equal.
 3. Nonmetallic: NEMA OS 2.
- B. Large Enclosures: NEMA 250; Type 4, steel enclosures with manufacturer's standard enamel finish and cover, held closed screws.

PART 3-EXECUTION

3.1 EXAMINATION AND PREPARATION:

- A. Examine supporting surfaces to determine that surfaces are ready to receive work.
- B. Electrical boxes shown on Drawings are approximate locations unless dimensioned. Obtain verification from Architect/Engineer of [floor box locations and] locations of outlets prior to rough-in. Outlets may be relocated to a distance of ten feet prior to rough-in with no additional cost to the Owner.

3.2 INSTALLATION:

- A. Use conduit and tubing for raceways in the following locations:
 1. Underground Installations: Rigid steel conduit, painted with two coats of epoxy asphaltic paint.
 2. Installations in Concrete: Rigid steel conduit. Plastic conduit to be used only where indicated on the Drawings.
 3. In Slab Above Grade: Rigid steel conduit.
 4. Exposed Outdoor Locations: Rigid steel conduit.
 5. Wet Interior Locations: Rigid steel conduit or electrical metallic tubing. Use threaded or raintight fittings for conduit.
 6. Concealed Dry Interior Locations: Rigid steel conduit or electrical metallic tubing.
 7. Exposed Dry Interior Locations: Rigid steel conduit or electrical metallic tubing.
 8. Feeders: Galvanized rigid steel conduit on all feeders.
- B. Size raceways for conductor type installed.
 1. Minimum Size Conduit: 3/4" in underground locations, 1/2" in all other locations.
 2. Maximum Size Conduit in Slab Above Grade: 1 – inch; do not route conduits larger than 3/4" to cross each other.

- C. Arrange conduit and tubing to maintain headroom and to present a neat mechanical appearance.
1. Route exposed raceway parallel and perpendicular to walls and adjacent piping.
 2. Maintain minimum 6 inch clearance to piping and 12 inch clearance to heat surfaces such as flues, steam piping, and heating appliances.
 3. Maintain required fire, acoustic, and vapor barrier rating when penetrating walls, floors, and ceilings.
 4. Route conduit through roof openings for piping and ductwork where possible; otherwise, route through roof jack with pitch pocket.
 5. Group in parallel runs where practical. Use rack constructed of steel channel. Maintain spacing between raceways or de-rate circuit ampacities to NFPA 70 requirements.
 6. Use conduit hangers and clamps; do not fasten with wire or perforated pipe straps.
 7. Use conduit bodies to make sharp changes in direction.
 8. Terminate all conduits with insulated bushings.
 9. Use suitable caps to protect installed raceway against entrance of moisture and dirt.
 10. Provide a pull cord in all empty raceways.
 11. Install expansion joint fittings where raceway crosses building expansion joints.
 12. Install plastic conduit and tubing in strict accordance with the manufacturer's recommendations. When plastic conduit is installed, use galvanized rigid elbows for 90 degree bends.
- D. Install electrical boxes as shown on the Drawings, and as required for splices, taps, wire pulling, equipment connections and regulatory requirements.
1. Use cast outlet box in exterior locations, wet locations, and exposed interior locations
 2. Use large enclosure for interior pull and junction boxes larger than 12 inches in any dimension.
 3. Locate and install electrical boxes to allow access. Provide access panels if required.
 4. Locate and install electrical boxes to maintain headroom and to present a neat mechanical appearance.
 5. Install pull boxes and junction boxes above accessible ceilings or in unfinished areas.

6. Provide knockout closure for unused openings.
 7. Align wall-mounted outlet boxes plumb and level for switches, and similar devices.
 8. Coordinate mounting heights and locations of outlets above counters and backsplashes
 9. Install lighting outlets to locate luminaries as shown on the Drawings.
- E. Use recessed outlet boxes in finished areas where indicated.
1. Secure boxes to interior wall and partition studs, accurately positioning to allow for surface finish thickness, and plaster/tile ring installation.
 2. Use stamped steel stud bridges for flush outlets in hollow stud wall, and adjustable steel channel fasteners for flush ceiling outlet boxes.
 3. Locate boxes in masonry walls to require cutting corner only. Coordinate masonry cutting to achieve neat openings for boxes
 4. Do not install boxes back-to-back in walls; provide 6 inch separation, minimum. In acoustic-rated walls provide 24 inch separation minimum.
 5. Do not damage insulation.

END OF SECTION 260533

SECTION 262726 - WIRE, CABLE, AND DEVICES

PART 1-GENERAL

1.1 RELATED DOCUMENTS:

- A. Section 16000 – Electrical General Requirements, apply to the work specified in this Section, with additions and modifications specified herein.

1.2 SECTION INCLUDES:

- A. Wire and Cable
- B. Wiring Devices

PART 2-PRODUCTS

2.1 WIRE AND CABLE:

- A. Building Wire:
 - 1. Feeder and Branch Circuits 10 AWG and Smaller: Copper, solid conductor, 600 volt insulation, THHN/THWN.
 - 2. Feeder and Branch Circuits 8 AWG and 6 AWG: Copper, stranded conductor, 600 volt insulation, THHN/THWN.
 - 3. Feeder and Branch Circuits Larger than 6 AWG: Copper, stranded, conductor, 600 volt insulation, THW.
 - 4. Control Circuits: Copper, stranded conductor, 600 volt insulation, THHN/THWN.
- B. Remote Control Signal Cable:
 - 1. Control Cable for Class 1 Remote Control and Signal Circuits: Copper conductor, 600 volt insulation, rated 60 degree C, individual conductors twisted together, shielded, and covered with PVC jacket.
 - 2. Control Cable for Class 2 or Class 3 Remote Control and Signal Circuits: Copper conductor, 300 volt insulation, rated 60 degree C, individual conductors twisted together, shielded, and covered with PVC jacket; UL listed.
- C. Cords: Oil – resistant thermoset insulated multi – conductor flexible cord with identified equipment grounding conductor, suitable for extra hard usage in damp locations.

2.2 WIRING DEVICES AND WALLPLATES:

- A. Manufacturers:
 - 1. Hubbell.
 - 2. Pass and Seymour.

3. Slater.
- B. Wall Switches: AC general use, quiet – operating snap switch rated 20 amperes and 120/277 volts AC, with plastic toggle handle, ivory color.
1. Single Pole Switch Hubbell 1221 - I
 2. Explosion Proof Switch: Hubbell XS-1C
- C. Receptacle:
1. Convenience Receptacle Configuration: Type 5-20R, plastic face, ivory color. Model GF-5362-I manufactured by Hubbell.
 2. Specific Purpose Receptacle: Configuration indicated on Drawings with black plastic face.
 3. Provide straight-blade receptacles to NEMA WD 1.
 4. Provide locking-blade receptacles to NEMA WD 5.
 5. GFCI Receptacles: Duplex convenience receptacle with integral ground fault current interrupter. Model GF-5362-I manufactured by Hubbell.
- D. Decorative Cover Plate: Smooth Stainless Steel, ANSI 302.
- E. Weatherproof Cover Plate: Gasketed cast metal with hinged gasketed device covers rated raintight while in use on accordance with Article 410-57 of the National Electrical Code. Hubbell Taymac MX3200.

PART 3 - EXECUTION:

3.1 EXAMINATION AND PREPERATION:

- A. Verify that interior of building has been physically protected from weather.
- B. Verify that mechanical work which is likely to injure conductors has been completed.
- C. Completely and thoroughly swab raceway system before installing conductors.

3.2 INSTALLATION:

- A. Wiring Methods:
1. Concealed Interior Locations: Building wire in raceway.
 2. Exposed Interior Locations: Building wire in raceway.
 3. Above Accessible Ceilings: Building wire in raceway.
 4. Wet or Damp Interior Locations: Building wire in raceway.
 5. Exterior Locations: Building wire in raceway.
 6. Underground Locations: Building wire in raceway.

- B. Use no wire smaller than 12 AWG for power and lighting circuits, and no smaller than 14 AWG for control wiring.
 - 1. Use 10 AWG conductor for 20 ampere, 120 volt branch circuit home runs longer than 100 feet; and for 20 ampere, 277 volt branch circuit home runs longer than 200 feet..
- C. Neatly train and secure wiring inside boxes, equipment and panelboards.
- D. Use UL listed wire pulling lubricant for pulling conductors in raceways.
- E. Protect exposed cables.
- F. Support cables above accessible ceilings to keep them from resting on ceiling tiles.
- G. Make splices, taps, and terminations to carry full ampacity of conductors without perceptible temperature rise.
- H. Terminate spare conductors with electrical tape.
- I. Devices shall mount flush or as indicated on the Drawings.
- J. Install wiring devices in accordance with manufacturer's instructions.
 - 1. Install wall switches 48 inches above floor, "OFF" position down.
 - 2. Install wall dimmers 48 inches above floor. De-rate ganged dimmers as instructed by manufacturer. Do not use a common neutral, provide a separate neutral for each dimmed circuit.
 - 3. Install convenience receptacles 18 inches above floor, 6 inches above counters or splashbacks, with grounding pole on bottom.
 - 4. Install GFCI receptacles at all outdoor locations and all indoor locations as required by NFPA70, and as indicated.
 - 5. Install specific purpose receptacles at heights shown on Drawings.
 - 6. Install cord and attachment plug caps on equipment under the provisions of Section 16100. Size cord for connected load and rating of branch circuit over-current protection.
- K. Install wall plates flush and level.
 - 1. Install decorative plates on switch, receptacle, telephone, television and blank outlets in finished areas.
 - 2. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted outlets.
 - 3. Install weatherproof coverplates on all devices/boxes in wet or outdoor locations.

3.3 FIELD QUALITY CONTROL:

- A. Perform field inspection and testing of circuits under provisions of Section 16000.

1. Inspect wire and cables for physical damage and proper connection.
2. Torque test conductor connections and terminations to manufacturer's recommended values.
3. Perform continuity test on all power and equipment branch circuit conductors. Verify proper phasing connections.

END OF SECTION 262726

SECTION 263213 – ENGINE GENERATORS

PART 1 - GENERAL

1.1 DESCRIPTION OF SYSTEM & SITE

- A. Provide a Level 1 standby power system to supply electrical power at 480Y/277 Volts, 60 Hertz, 3 Phase. The generator shall consist of a liquid-cooled spark-ignited engine, a synchronous AC alternator, and system controls with all necessary accessories for a complete operating system, including but not limited to the items as specified hereinafter.
- B. The site is an NEC ordinary location with no specific harsh environment requirements.
- C. The genset shall be applied at the listed ambient and elevation. Bidders to submit the generators rated power output at 122 ambient (°F) and 600 elevation (Ft).
- D. Bidders are to submit the genset's sound level in dBA at 23 ft based on the configuration specified.
- E. Related Requirements
 - a. It is the intent of this specification to secure an engine-driven generator set that has been prototype tested, factory built, production-tested, and site-tested together with all accessories necessary for a complete installation as shown on the plans and drawings and specified herein.
 - b. Any exceptions to the published specifications shall be subject to the approval of the engineer and submitted minimum 10 days prior to the closing of the bid with a line by line summary description of all the items of compliance, any items that have been omitted or have been taken exception to, and a complete description of all deviations.
 - c. It is the intent of this specification to secure a generator set system that has been tested during design verification, in production, and at the final job site. The generator set will be a commercial design and will be complete with all of the necessary accessories for complete installation as shown on the plans, drawings, and specifications herein. The equipment supplied shall meet the requirements of the National Electrical Code and applicable local codes and regulations.
 - d. All equipment shall be new and of current production by an international, power system manufacturer of generators, transfer switches, and paralleling switchgear. The manufacturer shall be a supplier of a complete and coordinated system. There will be single-source responsibility for warranty, parts, and service through a factory-authorized representative with factory-trained technicians.

1.2 REQUIREMENTS OF REGULATORY AGENCIES

- A. An electric generating system, consisting of a prime mover, generator, governor, coupling and all controls, must have been tested, as a complete unit, on a representative engineering prototype model of the equipment to be sold.

- B. The generator set must conform to applicable NFPA requirements.
- C. The generator set shall have an Underwriters Laboratories listing (UL2200) for a stationary engine generator assembly. The product must be labeled as such. Product that conforms to this standard is not acceptable unless product is labeled with UL2200 sticker on the unit which covers the entire unit and carries a listing number. Individual component UL listings do not constitute a UL listing for the generator assembly.
- D. The generator manufacturer must have ISO9001 certification. Manufacturers not having this certification are not acceptable suppliers and should not apply for substitution. The generator set must be pre-certified to meet EPA federal emission requirements for stationary standby. On-site emission testing & certification will not be acceptable for standby applications.

1.3 MANUFACTURER QUALIFICATIONS

- A. This system shall be supplied by an original equipment manufacturer (OEM) who has been regularly engaged in the production of engine-alternator sets, automatic transfer switches, and associated controls for a minimum of 25 years, thereby identifying one source of supply and responsibility. Approved suppliers are Kohler or an approved equal.
- B. The manufacturer shall have printed literature and brochures describing the standard series specified, not a one of a kind fabrication.
- C. Manufacturer's authorized service representative shall meet the following criteria:
 - 1. Certified, factory trained, industrial generator technicians
 - 2. Service support 24/7
 - 3. Service location within 200 miles
 - 4. Response time of 4 hours
 - 5. Service & repair parts in-stock at performance level of 95%
 - 6. Offer optional remote monitoring and diagnostic capabilities.

1.4 SUBMITTALS

- 1.Engine Generator specification sheet
- 2.Controls specification sheet(s)
- 3.Installation / Layout dimensional drawing
- 4.Wiring schematic
- 5.Sound data
- 6.Emission certification
- 7.Warranty statement

PART 2 - ENGINE

2.1 ENGINE RATING AND PERFORMANCE

- A. The generator set shall be a Kohler model 125REOZJG with a 4R13X alternator. It shall provide 145.00 kVA and 116.00 kW when operating at 277/480 volts, 60 Hz, 0.80 power factor. The generator set shall be capable of a 125°C Prime @40C rating while operating in an ambi-

ent condition of less than or equal to 77 °F and a maximum elevation of 500 ft above sea level. The prime power rating is applicable for variable loads with no limit on the number of operating hours per year, and shall allow for a 10% overload for a period of one hour in every 12 hours.

- B. The minimum 4.5 liter displacement engine shall deliver a minimum of 197 HP at a governed engine speed of 1800 rpm, and shall be equipped with the following:
 - a. Electronic isochronous governor capable of 0.25% steady-state frequency regulation
 - b. 12-volt positive-engagement solenoid shift-starting motor
 - c. 65-ampere automatic battery charging alternator with a solid-state voltage regulation
 - d. Positive displacement, full-pressure lubrication oil pump, cartridge oil filters, dipstick, and oil drain
 - e. Dry-type replaceable air cleaner elements for normal applications
 - f. Engine-driven or electric fuel-transfer pump including fuel filter and electric solenoid fuel shutoff valve capable of lifting fuel
 - g. The turbocharged engine shall be fueled by diesel
 - h. The engine shall have a minimum of 4 cylinders and be liquid-cooled
- C. The engine shall be EPA certified from the factory
- D. The engine shall support a 100% load step.
- E. The generator system shall support generator start-up and load transfer within 10 seconds
- F. The generator shall accept a load step of 100% of rated kW with a maximum frequency dip of 12 Hz.

2.2 ENGINE OIL SYSTEM

- A. Full pressure lubrication shall be supplied by a positive displacement lube oil pump. The engine shall have a replaceable oil filter(s) with internal bypass and replaceable element(s).
- B. The engine shall operate on mineral based oil. Synthetic oils shall not be required.

2.3 ENGINE COOLING SYSTEM

- A. The engine is to be cooled with a unit mounted radiator, fan, water pump, and closed coolant recovery system. The coolant system shall include a coolant fill box which will provide visual

means to determine if the system has adequate coolant level. The radiator shall be designed for operation in 122 degrees F, (50 degrees C) ambient temperature.

- B. The engine shall have (a) unit mounted, thermostatically controlled water jacket heater(s) to aid in quick starting. The wattage shall be as recommended by the manufacturer
- C. Engine coolant and oil drain extensions, equipped with pipe plugs and shut-off valves, must be provided to the outside of the mounting base for cleaner and more convenient engine servicing.
- D. A radiator fan guard must be installed for personnel safety that meets UL and OSHA safety requirements.

2.4 ENGINE STARTING SYSTEM

- A. Starting shall be by a solenoid shift, DC starting system.
- B. The engine's cranking batteries shall be lead acid. The batteries shall be sized per the manufacturer's recommendations. The batteries supplied shall meet NFPA 110 cranking requirements of 90 seconds of total crank time. Battery specifications (type, amp-hour rating, cold cranking amps) to be provided in the submittal.
- C. The genset shall have an engine driven, battery charging alternator with integrated voltage regulation.
- D. The genset shall have an automatic dual rate, float equalize, 10 amp battery charger. The charger must be protected against a reverse polarity connection. The chargers charging current shall be monitored within the generator controller to support remote monitoring and diagnostics. The battery charger is to be factory installed on the generator set. Due to line voltage drop concerns, a battery charger mounted in the transfer switch will be unacceptable.

2.5 ENGINE FUEL SYSTEM

- A. The engine shall be configured to operate on pipe line grade LPG.
- B. The engine shall utilize a fuel system inclusive of carburetor, gas regulator, low gas pressure switch, and fuel shut-off solenoid. Generators larger than 80 kW are to include air-fuel-ratio control.
- C. The engines internal fuel connections shall be terminated to the generator frame via an NPT fitting for easy installation.

2.6 ENGINE CONTROLS

- A. Engine speed shall be controlled with an integrated isochronous governor function with no change in alternator frequency from no load to full load. Steady state regulation is to be 0.25%.
- B. To support EPA emission requirements, gensets larger than 80 kW will incorporate an active air-fuel-ratio controller. The air-fuel-ratio controller shall be integrated into the generator controller to ensure security of settings and to support monitoring and remote diagnostics. External air-fuel-ratio controllers are not acceptable.
- C. Engine sensors used for monitoring and control are to be conditioned to a 4-20ma signal level to enhance noise immunity.

- D. All engine sensor connections shall be sealed to prevent corrosion and improve reliability.

2.7 ENGINE EXHAUST & INTAKE

- A. The engine exhaust emissions shall meet the EPA emission requirements for standby power generation.
- B. For generators larger than 80 kW, the engine will incorporate a 3-way catalytic convertor to meet EPA emission requirements.
- C. The manufacturer shall supply its recommended stainless steel, flexible connector to couple the engine exhaust manifold to the exhaust system. A rain cap will terminate the exhaust pipe after the silencer. All components must be properly sized to assure operation without excessive back pressure when installed.
- D. The manufacturer shall supply a critical grade exhaust silencer as standard. For applications with site specific sound requirements (reference section 1.1), the silencer shall be selected to achieve site sound levels.
- E. For gensets in a weather or sound attenuated enclosure, all exhaust piping from the turbo-charger discharge to the silencer shall be thermally wrapped to minimize heat dissipation inside the enclosure.
- F. The engine intake air is to be filtered with engine mounted, replaceable, dry element filters.

PART 3 - ALTERNATOR

- 3.1 The alternator shall be salient-pole, brushless, 2/3-pitch, with 4 bus bar provision for external connections, self-ventilated, with drip-proof construction and amortisseur rotor windings, and skewed for smooth voltage waveform. The ratings shall meet the NEMA standard (MG1-32.40) temperature rise limits. The insulation shall be class H per UL1446 and the varnish shall be a vacuum pressure impregnated, fungus resistant epoxy. Temperature rise of the rotor and stator shall be limited to 125°C Prime @40C. The PMG based excitation system shall be of brushless construction controlled by a digital, three phase sensing, solid- state, voltage regulator. The AVR shall be capable of proper operation under severe nonlinear loads and provide individual adjustments for voltage range, stability and volts-per-hertz operations. The AVR shall be protected from the environment by conformal coating. The waveform harmonic distortion shall not exceed 5% total RMS measured line-to-line at full rated load. The TIF factor shall not exceed 50.
- 3.2 The alternator shall have a maintenance-free bearing, designed for 40000 hour B10 life. The alternator shall be directly connected to the flywheel housing with a semi-flexible coupling between the rotor and the flywheel.
- 3.3 The generator shall be inherently capable of sustaining at least 300% of rated current for at least 10 seconds under a 3-phase symmetrical short circuit without the addition of separate current-support devices.
- 3.4 Motor starting performance and voltage dip determinations shall be based on the complete generator set. The generator set shall be capable of supplying 540.00 LRKVA for starting motor loads with a maximum instantaneous voltage dip of 35%, as measured by a digital RMS transient recorder in accordance with IEEE Standard 115. Motor starting performance and voltage dip de-

termination that does not account for all components affecting total voltage dip, i.e., engine, alternator, voltage regulator, and governor will not be acceptable. As such, the generator set shall be prototype tested to optimize and determine performance as a generator set system.

3.5 Vibration isolators shall be provided between the engine-alternator and heavy-duty steel base.

PART 4 - CONTROLS

- 4.1 The generator control system shall be a fully integrated microprocessor based control system for standby emergency engine generators meeting all requirements of NFPA 110 level 1. The generator control system shall be a fully integrated control system enabling remote diagnostics and easy building management integration of all generator functions. The generator controller shall provide integrated and digital control over all generator functions including: engine protection, alternator protection, speed governing, voltage regulation, air-fuel-ratio control (as required) and all related generator operations. The generator controller must also provide seamless digital integration with the engine's electronic engine control module (ECM) if so equipped. Generator controller's that utilize separate voltage regulators and speed governors or do not provide seamless integration with the engine management system are considered less desirable.
- 4.2 Communications shall be supported with building automation via the Modbus protocol without network cards. Optional internet and intranet connectivity shall be available.
- 4.3 The control system shall provide an environmentally sealed design including encapsulated circuit boards and sealed automotive style plugs for all sensors and circuit board connections. The use of non-encapsulated boards, edge cards, and pc ribbon cable connections are considered unacceptable.
- 4.4 Diagnostic capabilities should include time-stamped event and alarm logs, ability to capture operational parameters during events, simultaneous monitoring of all input or output parameters, callout capabilities, support for multi-channel digital strip chart functionality and .2 msec data logging capabilities.
- 4.5 In addition to standard NFPA 110 alarms, the application loads should also be protected through instantaneous and steady state protective settings on system voltage, frequency, and power levels.
- 4.6 The control system shall provide pre-wired customer use I/O: 4 relay outputs (user definable functions), communications support via RS232, RS485, or an optional modem. Additional I/O must be an available option.
- 4.7 Customer I/O shall be software configurable providing full access to all alarm, event, data logging, and shutdown functionality. In addition, custom ladder logic functionality inside the generator controller shall be supported to provide application support flexibility. The ladder logic function shall have access to all the controller inputs and customer assignable outputs.
- 4.8 The control panel will display all user pertinent unit parameters including: engine and alternator operating conditions; oil pressure and optional oil temperature; coolant temperature and level alarm; fuel level (where applicable); engine speed; DC battery voltage; run time hours; genera-

tor voltages, amps, frequency, kilowatts, and power factor; alarm status and current alarm(s) condition per NFPA 110 level 1.

PART 5 - ENGINE / ALTERNATOR PACKAGING

- 5.1 The engine/alternator shall be mounted with internal vibration isolation onto a welded steel base. These units shall not need external vibration isolation for normal pad mounted applications.
- 5.2 A mainline, thermal magnetic circuit breaker carrying the UL mark shall be factory installed. The breaker shall rated between 80% to 90% of the rated ampacity of the genset. The line side connections are to be made at the factory. Output lugs shall be provided for load side connections. (See drawings for specific amperage)
- 5.3 A second mainline, thermal magnetic circuit breaker carrying the UL mark shall be factory installed. The breaker shall be rated 10% to 20% of the rated ampacity of the genset. The line side connections are to be made at the factory. Output lugs shall be provided for load side connections. (See drawings for specific amperage)
- 5.4 The generator shall include a unit mounted 120-volt convenience outlet.
- 5.5 Enclosure
- A. The genset shall be packaged with a aluminum sound attenuating L-2 enclosure. The enclosure shall have a maximum dba rating of 70.1 dba @ 23 ft.
 - B. The enclosure shall be completely lined with sound deadening material. This material must be of a self-extinguishing design.
 - C. The enclosure shall be impact resistant up to 200 mph and meet the 2017 Florida Building Code. Each door will have lockable hardware with identical keys.
 - D. The enclosure shall be painted and finished to manufacturer's specifications. The color will be manufacturer's standard.

PART 7 - LOOSE ITEMS

- 7.1 Supplier to itemize loose parts that require site mounting and installation. Preference will be shown for gensets that factory mount items like mufflers, battery chargers, etc.
- 7.2 Flexible fuel hose for use in gas piping installation.
- 7.3 Spare Parts:
- A. Fuses: One spare set
 - B. Filters One spare set (air, oil)

PART 8 - ADDITIONAL PROJECT REQUIREMENTS

8.1 FACTORY TESTING

- A. Before shipment of the equipment, the engine-generator set shall be tested under rated load for performance and proper functioning of control and interfacing circuits. Tests shall include:
 - 1. Verify voltage & frequency stability.
 - 2. Verify transient voltage & frequency dip response.
 - 3. Load test the generator for 30 minutes.

8.2 OWNER'S MANUALS

- A. Three (3) sets of owner's manuals specific to the product supplied must accompany delivery of the equipment. General operating instruction, preventive maintenance, wiring diagrams, schematics and parts exploded views specific to this model must be included.

8.3 INSTALLATION

- A. Contractor shall install the complete electrical generating system including all external fuel connections in accordance with requirements of NEC, NFPA, and the manufacturer's recommendations as reviewed by the Engineer.

8.4 SERVICE

- A. Supplier of the genset and associated items shall have permanent service facilities in this trade area. These facilities shall comprise a permanent force of EGSA certified and factory trained service personnel on 24 hour call, experienced in servicing this type of equipment, providing warranty and routine maintenance service to afford the owner maximum protection. Delegation of this service responsibility for any of the equipment listed herein will not be considered fulfillment of these specifications. Service contracts shall also be available.

8.5 WARRANTY

- A. The standby electric generating system components, complete genset and instrumentation panel shall be warranted by the manufacturer against defective materials and factory workmanship for a period of five (5) years. Such defective parts shall be repaired or replaced at the manufacturer's option, free of charge for parts, labor and travel.
- B. The warranty period shall commence when the standby power system is first placed into service. Multiple warranties for individual components (engine, alternator, controls, etc.) will not be acceptable. Satisfactory warranty documents must be provided. Also, in the judgment of the specifying authority, the manufacturer supplying the warranty for the complete system must have the necessary financial strength and technical expertise with all components supplied to provide adequate warranty support.

8.6 STARTUP AND CHECKOUT

- a. **Final Production Tests.** Each generator set shall be tested under varying loads with guards and exhaust system in place. Tests shall include:

- i. Single-step load pickup
 - ii. Safety shutdown device testing
 - iii. Rated Power @ 0.8 PF
 - iv. Maximum power
 - v. Upon request, a witness test, or a certified test record sent prior to shipment.
- b. **Site Tests.** The manufacturer's distribution representative shall perform an installation check, startup, and building load test. The engineer, regular operators, and the maintenance staff shall be notified of the time and date of the site test. The tests shall include:
 - i. Fuel, lubricating oil, and antifreeze shall be checked for conformity to the manufacturer's recommendations, under the environmental conditions present and expected.
 - ii. Accessories that normally function while the set is standing by shall be checked prior to cranking the engine. These shall include: block heaters, battery chargers, alternator strip heaters, remote annunciators, etc.
 - iii. Generator set startup under test mode to check for exhaust leaks, path of exhaust gases outside the building, cooling air flow, movement during starting and stopping, vibration during operation, normal and emergency line-to-line voltage and frequency, and phase rotation.
 - iv. Automatic start by means of a simulated power outage to test remote-automatic starting, transfer of the load, and automatic shutdown. Prior to this test, all transfer switch timers shall be adjusted for proper system coordination. Engine coolant temperature, oil pressure, and battery charge level along with generator set voltage, amperes, and frequency shall be monitored throughout the test.

8.7 TRAINING

- A. Training is to be supplied by the start-up technician for the end-user during commissioning. The training should cover basic generator operation and common generator issues that can be managed by the end-user.

END OF SECTION 263213

SECTION 263600 – AUTOMATIC TRANSFER SWITCH

PART 1 - GENERAL

1.1 SUMMARY

This Section includes transfer switch rated 600 V and less, including the following:

1. Automatic transfer switch. Provide ampacity as indicated on the Drawings. Transfer switch shall automatically switch from utility (normal) to emergency (generator) power upon utility power outage and back again.
2. Related Requirements
 - a. It is the intent of this specification to secure an automatic transfer switch that has been prototype tested, factory built, production-tested, and site-tested together with all accessories necessary for a complete installation as shown on the plans and drawings and specified herein.
 - b. Any exceptions to the published specifications shall be subject to the approval of the engineer and submitted minimum 10 days prior to the closing of the bid with a line by line summary description of all the items of compliance, any items that have been omitted or have been taken exception to, and a complete description of all deviations.
 - c. It is the intent of this specification to secure an automatic transfer switch that has been tested during design verification, in production, and at the final job site. The automatic transfer switch will be a commercial design and will be complete with all of the necessary accessories for complete installation as shown on the plans, drawings, and specifications herein. The equipment supplied shall meet the requirements of the National Electrical Code and applicable local codes and regulations.
 - d. All equipment shall be new and of current production by an international, power system manufacturer of generators, transfer switches, and paralleling switchgear. The manufacturer shall be a supplier of a complete and coordinated system. There will be single-source responsibility for warranty, parts, and service through a factory-authorized representative with factory-trained technicians.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, weights, operating characteristics, furnished specialties, and accessories.
- B. Shop Drawings: Dimensioned plans, elevations, sections, and details showing minimum clearances, conductor entry provisions, gutter space, installed features and devices, and material lists for each switch specified.
 1. Single-Line Diagram: Show connections between transfer switch, bypass/isolation switch, power sources, and load; and show interlocking provisions for each combined transfer switch and bypass/isolation switch.
- C. Field quality-control test reports.

- D. Operation and Maintenance Data.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Maintain a service center capable of providing training, parts, and emergency maintenance repairs within a response period of less than eight hours from time of notification.
- B. Source Limitations: Obtain bypass/isolation switches remote annunciator and control panels through one source from a single manufacturer.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- D. Comply with NEMA ICS 1.
- E. Comply with NFPA 70.
- F. Comply with NFPA 99.
- G. Comply with NFPA 110.
- H. Comply with UL 1008 unless requirements of these Specifications are stricter.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Contactor Transfer Switches:
 - a. Caterpillar; Engine Div.
 - b. Emerson; ASCO Power Technologies, LP.
 - c. GE Zenith Controls.
 - d. Kohler Power Systems; Generator Division.
 - e. Onan/Cummins Power Generation; Industrial Business Group.

2.2 GENERAL TRANSFER-SWITCH PRODUCT REQUIREMENTS

- A. Indicated Current Ratings: Apply as defined in UL 1008 for continuous loading and total system transfer, including tungsten filament lamp loads not exceeding 30 percent of switch ampere rating, unless otherwise indicated.
- B. Tested Fault-Current Closing and Withstand Ratings: Adequate for duty imposed by protective devices at installation locations in Project under the fault conditions indicated, based on testing according to UL 1008.

1. Where transfer switch includes internal fault-current protection, rating of switch and trip unit combination shall exceed indicated fault-current value at installation location.
- C. Solid-State Controls: Repetitive accuracy of all settings shall be plus or minus 2 percent or better over an operating temperature range of minus 20 to plus 70 deg C.
- D. Resistance to Damage by Voltage Transients: Components shall meet or exceed voltage-surge withstand capability requirements when tested according to IEEE C62.41. Components shall meet or exceed voltage-impulse withstand test of NEMA ICS 1.
- E. Electrical Operation: Accomplish by a nonfused, momentarily energized solenoid or electric-motor-operated mechanism, mechanically and electrically interlocked in both directions.
- F. Switch Characteristics: Designed for continuous-duty repetitive transfer of full-rated current between active power sources.
 1. Limitation: Switches using molded-case switches or circuit breakers or insulated-case circuit-breaker components are not acceptable.
 2. Switch Action: Double throw; mechanically held in both directions.
 3. Contacts: Silver composition or silver alloy for load-current switching. Conventional automatic transfer-switch units, rated 125 A and higher, shall have separate arcing contacts.
- G. Neutral Terminal: Solid and fully rated, unless otherwise indicated.
- H. Factory Wiring: Train and bundle factory wiring and label, consistent with Shop Drawings, either by color-code or by numbered or lettered wire and cable tape markers at terminations. Color-coding and wire and cable tape markers are specified in Division 26 Section "Identification for Electrical Systems".
 1. Designated Terminals: Pressure type, suitable for types and sizes of field wiring indicated.
 2. Power-Terminal Arrangement and Field-Wiring Space: Suitable for top, side, or bottom entrance of feeder conductors as indicated.
 3. Control Wiring: Equipped with lugs suitable for connection to terminal strips.
- I. Enclosures: Heavy Duty, Type 3, complying with NEMA ICS 6 and UL 508, unless otherwise indicated.

2.3 AUTOMATIC TRANSFER SWITCHES

- A. Comply with Level 1 equipment according to NFPA 110.
- B. Switching Arrangement: Double-throw type, incapable of pauses or intermediate position stops during normal functioning, unless otherwise indicated.
- C. Manual Switch Operation: Under load, with door closed and with either or both sources energized. Transfer time is same as for electrical operation. Control circuit automatically disconnects from electrical operator during manual operation.

- D. Manual Switch Operation: Unloaded. Control circuit automatically disconnects from electrical operator during manual operation.
- E. Signal-Before-Transfer Contacts: A set of normally open/normally closed dry contacts operates in advance of retransfer to normal source. Interval is adjustable from 1 to 30 seconds.
- F. Transfer Switches Based on Molded-Case-Switch Components: Comply with NEMA AB 1, UL 489, and UL 869A.
- G. In-Phase Monitor: Factory-wired, internal relay controls transfer so it occurs only when the two sources are synchronized in phase. Relay compares phase relationship and frequency difference between normal and emergency sources and initiates transfer when both sources are within 15 electrical degrees, and only if transfer can be completed within 60 electrical degrees. Transfer is initiated only if both sources are within 2 Hz of nominal frequency and 70 percent or more of nominal voltage.
- H. Motor Disconnect and Timing Relay: Controls designate starters so they disconnect motors before transfer and reconnect them selectively at an adjustable time interval after transfer. Control connection to motor starters is through wiring external to automatic transfer switch. Time delay for reconnecting individual motor loads is adjustable between 1 and 60 seconds, and settings are as indicated. Relay contacts handling motor-control circuit inrush and seal currents are rated for actual currents to be encountered.
- I. Programmed Neutral Switch Position: Switch operator has a programmed neutral position arranged to provide a midpoint between the two working switch positions, with an intentional, time-controlled pause at midpoint during transfer. Pause is adjustable from 0.5 to 30 seconds minimum and factory set for 0.5 second, unless otherwise indicated. Time delay occurs for both transfer directions. Pause is disabled unless both sources are live.
- J. Automatic Transfer-Switch Features:
 - 1. Undervoltage Sensing for Each Phase of Normal Source: Sense low phase-to-ground voltage on each phase. Pickup voltage shall be adjustable from 85 to 100 percent of nominal, and dropout voltage is adjustable from 75 to 98 percent of pickup value. Factory set for pickup at 90 percent and dropout at 85 percent.
 - 2. Adjustable Time Delay: For override of normal-source voltage sensing to delay transfer and engine start signals. Adjustable from zero to six seconds, and factory set for one second.
 - 3. Voltage/Frequency Lockout Relay: Prevent premature transfer to generator. Pickup voltage shall be adjustable from 85 to 100 percent of nominal. Factory set for pickup at 90 percent. Pickup frequency shall be adjustable from 90 to 100 percent of nominal. Factory set for pickup at 95 percent.
 - 4. Time Delay for Retransfer to Normal Source: Adjustable from 0 to 30 minutes, and factory set for 10 minutes to automatically defeat delay on loss of voltage or sustained undervoltage of emergency source, provided normal supply has been restored.
 - 5. Test Switch: Simulate normal-source failure.
 - 6. Switch-Position Pilot Lights: Indicate source to which load is connected.
 - 7. Source-Available Indicating Lights: Supervise sources via transfer-switch normal- and emergency-source sensing circuits.

- a. Normal Power Supervision: Green light with nameplate engraved "Normal Source Available."
 - b. Emergency Power Supervision: Red light with nameplate engraved "Emergency Source Available."
8. Unassigned Auxiliary Contacts: Two normally open, single-pole, double-throw contacts for each switch position, rated 10 A at 240-V ac.
 9. Transfer Override Switch: Overrides automatic retransfer control so automatic transfer switch will remain connected to emergency power source regardless of condition of normal source. Pilot light indicates override status.
 10. Engine Starting Contacts: One isolated and normally closed, and one isolated and normally open; rated 10 A at 32-V dc minimum.
 11. Engine Shutdown Contacts: Instantaneous; shall initiate shutdown sequence at remote engine-generator controls after retransfer of load to normal source.
 12. Engine Shutdown Contacts: Time delay adjustable from zero to five minutes, and factory set for five minutes. Contacts shall initiate shutdown at remote engine-generator controls after retransfer of load to normal source.
 13. Engine-Generator Exerciser: Solid-state, programmable-time switch starts engine generator and transfers load to it from normal source for a preset time, then retransfers and shuts down engine after a preset cool-down period. Initiates exercise cycle at preset intervals adjustable from 7 to 30 days. Running periods are adjustable from 10 to 30 minutes. Factory settings are for 7-day exercise cycle, 20-minute running period, and 5-minute cool-down period. Exerciser features include the following:
 - a. Exerciser Transfer Selector Switch: Permits selection of exercise with and without load transfer.
 - b. Push-button programming control with digital display of settings.
 - c. Integral battery operation of time switch when normal control power is not available.

2.4 SOURCE QUALITY CONTROL

- A. Factory test and inspect components, assembled switches, and associated equipment. Ensure proper operation. Check transfer time and voltage, frequency, and time-delay settings for compliance with specified requirements. Perform dielectric strength test complying with NEMA ICS 1.
- B. Test and Inspection
 - i. Upon request, the manufacturer shall provide a notarized letter certifying compliance with all of the requirements of this specification including compliance with the above codes and standards. The certification shall identify, by serial number(s), the equipment involved. No exceptions to the specifications, other than those stipulated at the time of the submittal, shall be included in the certification.
 - ii. The ATS manufacturer shall be certified to ISO 9001 International Quality Standard and the manufacturer shall have third party certification verifying quality assurance in design/development, production, installation and servicing in accordance with ISO 9001.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Design each fastener and support to carry load indicated by seismic requirements and according to seismic-restraint details.
- B. Identify components according to Division 26 Section "Identification for Electrical Systems".
- C. Set field-adjustable intervals and delays, relays, and engine exerciser clock.

3.2 CONNECTIONS

- A. Wiring to Remote Components: Match type and number of cables and conductors to control and communication requirements of transfer switches as recommended by manufacturer. Increase raceway sizes at no additional cost to Owner if necessary to accommodate required wiring.
- B. Ground equipment according to Division 26 Section "Grounding and Bonding for Electrical Systems".
- C. Connect wiring according to Division 26 Section "Low Voltage Electrical Power Conductors and Cables".

3.3 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections. Report results in writing.
- B. Perform tests and inspections and prepare test reports.
 - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installation, including connections, and to assist in testing.
 - 2. After installing equipment and after electrical circuitry has been energized, test for compliance with requirements.
 - 3. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
 - 4. After energizing circuits, demonstrate interlocking sequence and operational function for each switch at least three times.
 - a. Simulate power failures of normal source to automatic transfer switches and of emergency source with normal source available.
 - b. Simulate loss of phase-to-ground voltage for each phase of normal source.
 - c. Verify time-delay settings.
 - d. Verify pickup and dropout voltages by data readout or inspection of control settings.
 - e. Test bypass/isolation unit functional modes and related automatic transfer-switch operations.

- f. Perform contact-resistance test across main contacts and correct values exceeding 500 microhms and values for 1 pole deviating by more than 50 percent from other poles.
 - g. Verify proper sequence and correct timing of automatic engine starting, transfer time delay, retransfer time delay on restoration of normal power, and engine cool-down and shutdown.
 - 5. Ground-Fault Tests: Coordinate with testing of ground-fault protective devices for power delivery from both sources.
 - a. Verify grounding connections and locations and ratings of sensors.
 - C. Coordinate tests with tests of generator and run them concurrently.
 - D. Report results of tests and inspections in writing.
 - E. Remove and replace malfunctioning units and retest as specified above.
- 3.4 DEMONSTRATION
- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain transfer switches and related equipment as specified below.
 - B. Coordinate this training with that for generator equipment.

END OF SECTION 263600

SECTION 264000 - SERVICE AND DISTRIBUTION

PART 1-GENERAL

1.1 SECTION INCLUDES:

- A. GROUNDING AND BONDING
- B. SERVICE ENTRANCE AND METERING
- C. UTILITY REQUIREMENTS
- D. PANELBOARDS
- E. ENCLOSED SWITCHES
- F. TRANSFORMERS
- G. ENCLOSED CIRCUIT BREAKERS

1.2 SERVICE TYPE DESCRIPTION: Electric Service System shall be 480Y/277) volts three phase 4 wire served from an underground service lateral derived from a pad-mounted transformer served by an underground primary service.

1.3 PROJECT CONDITIONS: Verify field measurements for the equipment to ensure proper fit within the space provided.

1.4 UTILITY REQUIREMENTS:

- A. The serving utility is NextEra (Gulf Power Company).
- B. Metering is existing at existing pad-mount transformer.
 - (1) Coordinate with the utility for exact metering requirements.
 - (2) Pay for all assessments, service charges, fees, etc. from the utility for service requirements. These costs from the electrical utility for providing the electric service shall be included in the Contractor's bid.

1.5 EQUIPMENT APPLICATION: All equipment and materials shall have ratings established by a recognized independent agency or laboratory. The Contractor shall apply the items used on this project within those ratings and application shall be subject to any stipulations or exceptions established by the independent agency or laboratory. Use of equipment or materials in applications beyond that certified by the agency or beyond that recommended by the manufacturer shall be cause for removal and replacement of such mis-applied items.

PART 2-PRODUCTS

2.1 GROUNDING MATERIALS:

- A. GROUND ROD: 16 feet x 3/4" diameter, copper clad steel, sectional driven.
- B. GROUND CONNECTORS: Approved ground clamp manufactured of cast bronze construction with matching bolts, nuts, and washers.

- C. EXOTHERMIC WELDS: Materials shall be from the same source. Welding process shall be Cadweld or approved equal.
- D. GROUNDING CONDUCTORS: Green colored and coded insulated copper (#12 AWG minimum) or bare soft drawn copper as indicated on Drawings.

2.2 PANELBOARDS:

- A. DISTRIBUTION PANELBOARDS: NEMA PB 1; circuit breaker type.
 - (1) Bus Material: Tin-plated Copper.
 - (2) Ground Bus: Copper.
 - (3) Enclosures: Type 1 or 3R as shown on the Drawings.
 - (4) Mounting: Surface or flush mount as indicated on the Drawings.
 - (5) Door: Hinged with lock. Door assembly shall be hinged to enclosure for panels rated 200 amps or larger.
 - (6) Circuit Breakers: Bolt-on, ratings as shown on Drawings.
- B. LIGHT AND POWER PANELBOARDS: NEMA PB 1; circuit breaker type.
 - (1) Bus Material: Tin-plated Copper.
 - (2) Ground Bus: Copper.
 - (3) Enclosures: Type 1 or 3R as shown on the Drawings.
 - (4) Mounting: Surface or flush mount as indicated on the Drawings.
 - (5) Door: Hinged with lock.
 - (6) Circuit Breakers: Bolt-on, ratings as shown on Drawings.
- C. ACCESSORIES: Provide panel and branch device accessories as indicated on the Drawings
- D. FUTURE PROVISIONS: Where space provisions are indicated on the Drawings, provide bussing, bus extensions, etc. required to mount future circuit breakers. Where spare provisions are indicated on the Drawings, provide circuit breakers complete and ready for connection.
- E. MANUFACTURERS:
 - (1) Schneider Electric (Square D Company)
 - (2) Eaton (Cutler – Hammer)
 - (3) General Electric
 - (4) Siemens

2.3 ENCLOSED SWITCHES:

- A. ENCLOSED SWITCH ASSEMBLIES: NEMA KS 1, Type HD.

- B. ENCLOSURES: NEMA KS 1; Type 1 or 3R as required.
- C. GROUND: Provide grounding lug.
- D. RATINGS: 600 or 250 volts to match system service requirements, poles and amp ratings as indicated on the Drawings and coordinated with other equipment installers.
- E. MANUFACTURERS:
 - (1) Schneider Electric (Square D Company)
 - (2) Eaton (Cutler – Hammer)
 - (3) General Electric
 - (4) Siemens

2.4 TRANSFORMERS:

- A. DESCRIPTION: Enclosed air-cooled dry type transformer.
- B. RATINGS:
 - (1) Primary Voltage, Secondary Voltage and KVA Rating as indicated on Drawings.
 - (2) BASIC IMPULSE LEVEL (BIL): 10 BIL.

TEMPERATURE CLASSIFICATION: the transformer shall utilize an insulation system that has been temperature classified and approved by Underwriters' Laboratories. Unless otherwise specified, the insulation rating shall be as follows:

| KVA Rating | Insulation System Classification | Winding Temperature Rise |
|-------------------|----------------------------------|--------------------------|
| 5 kVA to 25 kVA | 185° C | 115° C |
| 30 kVA to 100 kVA | 220° C | 150° C |

Winding temperature rise limits applicable to the system temperature classification shall be in accordance with Underwriters' Laboratories specification UL506.

- C. CONFIGURATION: Two winding, delta-wye.
- A. WINDING TAPS:
 - (1) Under 25 kVA: no taps.
 - (2) Above 25 kVA through 500 kVA: Four full capacity primary taps, each at 2.5 percent below rated voltage; and two full capacity primary taps, each at 2.5 percent above rated voltage.
- E. ENCLOSURES: Code gauge steel, NEMA 1 or 3R as required.
- F. MANUFACTURERS:
 - (1) Schneider Electric (Square D Company)
 - (2) Eaton (Cutler – Hammer)
 - (3) General Electric
 - (4) Siemens

- G. **LOAD RATING:** Transformers supplied to this specification shall be capable of operating at 100% of nameplate rating continuously while in an ambient temperature not exceeding 40 C. Transformers 5kVA and above shall be capable of meeting the daily overload requirements of ANSI Standard C57.96.
- H. **SOUND RATING:** The transformer shall have sound levels equal or lower than those established in the latest revision of ANSI Standard C89 as shown in the chart below:

| Transformer Rating, kVA | Maximum Sound Level, dB |
|-------------------------|-------------------------|
| 0 – 9 | 40 |
| 10 – 50 | 45 |
| 51 – 150 | 50 |
| 151 – 300 | 55 |
| 301 – 500 | 60 |

2.5 **ENCLOSED CIRCUIT BREAKERS:**

- A. **CIRCUIT BREAKER:** NEMA AB 1; Voltage and Accessories as indicated on Drawings.
- B. **ENCLOSURES:** Code gauge steel, NEMA 1 or 3R as required.
- C. **MANUFACTURERS:**
 - (1) Schneider Electric (Square D Company)
 - (2) Eaton (Cutler – Hammer)
 - (3) General Electric
 - (4) Siemens

PART 3-EXECUTION

3.1 **EXAMINATION AND PREPARATION:**

- A. Make arrangements with utility company to obtain permanent electrical service to the facility. Provide CT Cabinet and Meter base as required by utility for service connection.

3.2 **INSTALLATION:**

- A. Install utility services in accordance with utility company standards and requirements.
 - (1) Underground Service: Install service entrance conduits and conductors from the utility service point to the service equipment as shown on the Drawings.
 - (2) Provide lugs on utility transformer spaces sized to accommodate service entrance conductors.
- B. Install equipment in accordance with manufacturer's instructions.
- C. Except where specifically indicated otherwise, all exposed non-current-carrying metallic parts of electrical equipment, metallic raceway systems, and service neutral of the electrical system shall be grounded.
 - (1) Equipment grounding shall be accomplished by installing a separate grounding conductor in each raceway of the system. The Conductor shall be provided with a distinctive green insulation or marker and shall be sized in accordance with Article 250 of the National Electrical Code.

- (2) The electrical system grounding electrode connection shall be made at the main service equipment and shall be extended to the point of entrance of the metallic cold water service. A suitable ground clamp shall make connection to the water pipe. If flanged pipes are encountered, connection shall be made on the street side of the flange connection. If the metallic water service is coated with an insulating material or there is no metallic water service to the building, ground connection shall be made to additional ground rods as required by resistance tests, at the exterior of the building driven full length into the earth.
 - (3) The maximum resistance of the driven ground shall be tested with a ground resistance Megger and shall not exceed 25 ohms under normally dry conditions. If this cannot be obtained with a single rod, additional or parallel rods shall be installed 7'-6" on center until 25 ohms or less is achieved without connection to the building water piping. A typewritten test report shall be written.
- D. Install panelboards to NEMA PB 1.1.
 - E. Provide labels for all switchboards, panelboards, and distribution equipment.
 - F. Provide typewritten directory inside panel door for all panelboards.
 - G. Provide neatly typed label inside each motor starter enclosure door identifying motor served, nameplate horsepower, full load amperes, code letter, service factor, and voltage/phase rating. Provide nameplate on cover exterior to indicate motor served.

END OF SECTION 264000

SECTION 264313 - SURGE PROTECTION FOR LOW-VOLTAGE ELECTRICAL POWER CIRCUITS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Type 1 surge protective devices.
 - 2. Type 2 surge protective devices.
 - 3. Enclosures.
 - 4. Conductors and cables.

1.2 DEFINITIONS

- A. Inominal: Nominal discharge current.
- B. MCOV: Maximum continuous operating voltage.
- C. Mode(s), also Modes of Protection: air of electrical connections where the VPR applies.
- D. MOV: Metal-oxide varistor; an electronic component with a significant non-ohmic current-voltage characteristic.
- E. NRTL: Nationally recognized testing laboratory.
- F. OCPD: Overcurrent protective device.
- G. SCCR: Short-circuit current rating.
- H. SPD: Surge protective device.
- I. Type 1 SPDs: Permanently connected SPDs intended for installation between the secondary of the service transformer and the line side of the service disconnect overcurrent device.
- J. Type 2 SPDs: Permanently connected SPDs intended for installation on the load side of the service disconnect overcurrent device, including SPDs located at the branch panel.
- K. VPR: Voltage protection rating.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include electrical characteristics, specialties, and accessories for SPDs.
 - 2. NRTL certification of compliance with UL 1449.
 - a. Tested values for VPRs.

- b. Inominal ratings.
- c. MCOV, type designations.
- d. OCPD requirements.
- e. Manufacturer's model number.
- f. System voltage.
- g. Modes of protection.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.
- B. Sample Warranty: For manufacturer's special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For SPDs to include in maintenance manuals.

1.6 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace SPDs that fail in materials or workmanship within five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 TYPE 1 SURGE PROTECTIVE DEVICES (SPDs)

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. APT, a division of Schneider Electric
 - 2. SSI, an ILSCO Company
 - 3. Siemens Energy & Automation, Inc.
 - 4. Eaton Corporation, Cutler-Hammer Products
 - 5. G.E., a division of ABB
- B. Source Limitations: Obtain devices from single source from single manufacturer.
- C. Standards:
 - 1. Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 1449, Type 1.
- D. Product Options:
 - 1. Include integral disconnect switch.
 - 2. Include internal thermal protection that disconnects the SPD before damaging internal suppressor components.
 - 3. Include indicator light display for protection status.
 - 4. Include audible alarm.

5. Include NEMA ICS 5, dry Form C contacts rated at 2 A and 24 V ac for remote monitoring of protection status.
6. Include surge counter.

E. Performance Criteria:

1. MCOV: Not less than 125 percent of nominal system voltage for 208Y/120 V and 120/240 V power systems, and not less than 115 percent of nominal system voltage for 480Y/277 V power systems.
2. Peak Surge Current Rating: Minimum single-pulse surge current withstand rating per phase must not be less than 200 kA. Peak surge current rating must be arithmetic sum of the ratings of individual MOVs in a given mode.
3. Protection modes and UL 1449 VPR for grounded wye circuits with 208Y/120 V, three-phase, four-wire circuits must not exceed the following:
 - a. Line to Neutral: 700 V for 208Y/120 V.
 - b. Line to Line: 1200 V for 208Y/120 V.
4. Protection modes and UL 1449 VPR for 240/120 V, single-phase, three-wire circuits must not exceed the following:
 - a. Line to Neutral: 700 V.
 - b. Line to Line: 1200 V.
5. SCCR: Not less than 200 kA.
6. Inominal Rating: 20 kA.

2.2 TYPE 2 SURGE PROTECTIVE DEVICES (SPDs)

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. APT, a division of Schneider Electric
2. SSI, an ILSCO Company
3. Siemens Energy & Automation, Inc.
4. Eaton Corporation, Cutler-Hammer Products
5. G.E., a division of ABB

B. Source Limitations: Obtain devices from single source from single manufacturer.

C. Standards:

1. Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 1449, Type 2.
2. Comply with UL 1283.

D. Product Options:

1. Include LED indicator lights for power and protection status.
2. Include internal thermal protection that disconnects the SPD before damaging internal suppressor components.
3. Include NEMA ICS 5, dry Form C contacts rated at 2 A and 24 V ac for remote monitoring of protection status.
4. Include surge counter.

E. Performance Criteria:

1. MCOV: Not less than 125 percent of nominal system voltage for 208Y/120 V and 120/240 V power systems, and not less than 115 percent of nominal system voltage for 480Y/277 V power systems.
2. Peak Surge Current Rating: Minimum single-pulse surge current withstand rating per phase must not be less than 100 kA. Peak surge current rating must be arithmetic sum of the ratings of individual MOVs in a given mode.
3. Protection modes and UL 1449 VPR for grounded wye circuits with 208Y/120 V, three-phase, four-wire circuits must not exceed the following:
 - a. Line to Neutral: 700 V for 208Y/120 V.
 - b. Line to Ground: 700 V for 208Y/120 V.
 - c. Neutral to Ground: 700 V for 208Y/120 V.
 - d. Line to Line: 1200 V for 208Y/120 V.
4. Protection modes and UL 1449 VPR for 240/120 V, single-phase, three-wire circuits must not exceed the following:
 - a. Line to Neutral: 700 V.
 - b. Line to Ground: 700 V.
 - c. Neutral to Ground: 700 V.
 - d. Line to Line: 1200 V.
5. SCCR: Equal or exceed 100 kA.
6. Inominal Rating: 20 kA.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1.
- B. Provide OCPD and disconnect for installation of SPD in accordance with UL 1449 and manufacturer's written instructions.
- C. Install leads between disconnects and SPDs short, straight, twisted, and in accordance with manufacturer's written instructions.
 1. Do not splice and extend SPD leads unless specifically permitted by manufacturer.
 2. Do not exceed manufacturer's recommended lead length.
 3. Do not bond neutral and ground.
- D. Use crimped connectors and splices only. Wire nuts are unacceptable.

3.2 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections with the assistance of a factory-authorized service representative:
 1. Compare equipment nameplate data for compliance with Drawings and the Specifications.
 2. Inspect anchorage, alignment, grounding, and clearances.

3. Verify that electrical wiring installation complies with manufacturer's written installation requirements.
- B. SPDs that do not pass tests and inspections will be considered defective.
- C. Prepare test and inspection reports.

3.3 STARTUP SERVICE

- A. Complete startup checks in accordance with manufacturer's written instructions.
- B. Do not perform insulation-resistance tests of the distribution wiring equipment with SPDs installed. Disconnect SPDs before conducting insulation-resistance tests; reconnect them immediately after the testing is over.
- C. Energize SPDs after power system has been energized, stabilized, and tested.

3.4 DEMONSTRATION

- A. Train Owner's maintenance personnel to operate and maintain SPDs.

END OF SECTION 264313

APPENDIX B

GEO TECHNICAL REPORT

GEOTECHNICAL ENGINEERING REPORT



Okaloosa Island Booster Station Fort Walton Beach, Okaloosa County, Florida

PREPARED FOR:
POLY, Inc.
102 Sunset Lane
Shalimar, Florida 32579

NOVA Project Number: 10116-2021088

April 15, 2021

NOVA

PROFESSIONAL | PRACTICAL | PROVEN



April 15, 2021

Mr. Glenn D. Stephens
POLY, Inc.
102 Sunset Lane
Shalimar, Florida 32579

Subject: Geotechnical Engineering Report
OKALOOSA ISLAND BOOSTER STATION
Fort Walton Beach, Okaloosa County, Florida
NOVA Project Number 10116-2021088

Dear Mr. Stephens:

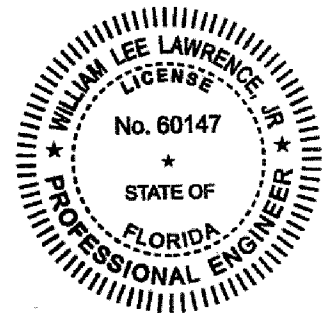
NOVA Engineering and Environmental LLC (NOVA) has completed the authorized Geotechnical Engineering Report for the proposed improvements to the existing facility along Amberjack Drive in Fort Walton Beach, Okaloosa County, Florida. The work was performed in general accordance with NOVA Proposal Number 016-20211816, dated March 17, 2021. This report briefly discusses our understanding of the project at the time of the subsurface exploration, describes the geotechnical consulting services provided by NOVA, and presents our findings, conclusions, and recommendations.

We appreciate your selection of NOVA and the opportunity to be of service on this project. If you have any questions, or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
NOVA Engineering and Environmental LLC

Jesse A. James, P.E.
Assistant Branch Manager
Registration No. 90470

William L. Lawrence, P.E.
Senior Regional Engineer
Florida Registration No. 60147



Copies Submitted: via electronic mail service

TABLE OF CONTENTS

| | | |
|------------|--|-----------|
| 1.0 | INTRODUCTION | 1 |
| 1.1 | PROJECT INFORMATION..... | 1 |
| 1.2 | SCOPE OF WORK..... | 1 |
| 2.0 | SITE DESCRIPTION..... | 3 |
| 2.1 | LOCATION AND LEGAL DESCRIPTION..... | 3 |
| 2.2 | SUBJECT PROPERTY AND VICINITY GENERAL CHARACTERISTICS..... | 3 |
| 2.3 | CURRENT USE OF THE PROPERTY..... | 3 |
| 3.0 | FIELD EXPLORATION..... | 4 |
| 4.0 | LABORATORY TESTING | 5 |
| 4.1 | SOIL CLASSIFICATION | 5 |
| 4.2 | MOISTURE CONTENT AND SIEVE ANALYSIS..... | 5 |
| 5.0 | SUBSURFACE CONDITIONS | 6 |
| 5.1 | GEOLOGY | 6 |
| 5.2 | SOIL CONDITIONS..... | 6 |
| 5.3 | GROUNDWATER CONDITIONS | 7 |
| 6.0 | CONCLUSIONS AND RECOMMENDATIONS | 8 |
| 6.1 | SITE PREPARATION | 8 |
| 6.2 | GROUNDWATER CONTROL | 10 |
| 6.3 | FOUNDATIONS..... | 10 |
| 7.0 | CONSTRUCTION OBSERVATIONS | 13 |
| 7.1 | SUBGRADE | 13 |
| 7.2 | SHALLOW FOUNDATIONS | 13 |

APPENDICES

- Appendix A – Figures and Maps
- Appendix B – Subsurface Data
- Appendix C – Laboratory Data
- Appendix D – Qualifications of Recommendations

1.0 INTRODUCTION

1.1 PROJECT INFORMATION

Our understanding of this project is based on discussions with the client, review of the provided project information and drawings, a site reconnaissance performed during the boring layout, review of aerial photography of the site via internet-based GIS software, and our experience with similar projects in the region.

1.1.1 Proposed Construction

NOVA understands that the project will include constructing a booster station to be constructed on a shallow foundation system.

1.1.2 Maximum Loads

Structural loadings were not available from the design team at the time of the issuance of this report, and we have therefore assumed that maximum bearing loads for the proposed structure will be limited to 30 kips per column for isolated interior columns (if applicable) and 3 kips per lineal foot for perimeter load-bearing walls.

1.1.3 Floor Elevations / Site Grading

We understand that minimal (i.e., 2 feet or less of) elevating structural fill will be required to achieve the desired finished grade elevation(s) within the proposed structure footprint.

1.2 SCOPE OF WORK

POLY, Inc., engaged NOVA to provide geotechnical engineering consulting services for the planned improvements to be constructed at the existing facility located along Amberjack Drive in Fort Walton Beach, Okaloosa County, Florida. This report briefly discusses our understanding of the project, describes our exploratory procedures, and presents our findings, conclusions, and recommendations.

The primary objective of this study was to perform a geotechnical exploration within the areas of the proposed construction and to assess the site's subsurface conditions as they pertain to the presence of organic materials, loose or otherwise unsuitable soils, and groundwater.

The authorized geotechnical engineering services included a site reconnaissance, two (2) soil test borings and sampling, engineering evaluation of the field data, and the preparation of this report.

The services were performed substantially as outlined in our proposal number 016-20211816, dated March 17, 2021, and in general accordance with industry standards. As authorized per the above referenced proposal, this completed geotechnical report includes:

- A description of the site, fieldwork, laboratory testing and general soil conditions encountered, as well as a Boring Location Plan, and individual Test Boring Records.
- Site preparation considerations that include geotechnical discussions regarding site stripping and subgrade preparation and engineered fill/backfill placement.
- Recommendations for controlling groundwater and/or run-off during construction, and the potential need for a permanent dewatering system based on the anticipated post construction groundwater levels.
- Measured apparent and estimated seasonal high groundwater levels at the boring locations.
- Shallow foundation system recommendations for the proposed structure.
- Suitability of on-site soils for re-use as structural fill and backfill. Additionally, the criteria for suitable fill materials will be provided.
- Recommended quality control measures (i.e., sampling, testing, and inspection requirements) for site grading and foundation construction.

The assessment of site environmental conditions, including the presence of wetlands or detection of pollutants in the soil, rock or groundwater, laboratory testing of samples, or a site-specific seismic study was beyond the scope of this geotechnical study. If requested, NOVA can provide these services.

2.0 SITE DESCRIPTION

2.1 LOCATION AND LEGAL DESCRIPTION

The subject property is located along Amberjack Drive in Fort Walton Beach, Okaloosa County, Florida. According to the Okaloosa County Property Appraiser's GIS database, the property is referenced as Parcel ID 00-2S-24-2185-0001-0050. A Site Location Map is included in Appendix A.

2.2 SUBJECT PROPERTY AND VICINITY GENERAL CHARACTERISTICS

At the time of our field exploration, the vicinity of the Subject Property was observed to be developed with a mix of commercial properties, single-family residences and multi-family residences/condominiums.

2.3 CURRENT USE OF THE PROPERTY

At the time of our field exploration, the Subject Property was observed to be developed as a water/wastewater facility. The construction area was generally clear and vegetated with short grasses.

3.0 FIELD EXPLORATION

The boring locations were established in the field by NOVA personnel as close as practical to the anticipated building footprint using the provided site survey. The approximate locations are shown in Appendix B and should be considered approximate. If increased accuracy is desired by the Client, NOVA recommends that the boring locations and elevations be surveyed.

Our field exploration was conducted on March 6, 2021 and included performing two (2) Standard Penetration Test (SPT) Borings drilled to depths of about 8 feet (Test Boring B-2, which encountered refusal due to an unknown obstruction) and 25 feet below the existing ground surface elevation.

Soil Test Borings: The SPT borings were performed using the guidelines of ASTM Designation D-1586, "Penetration Test and Split-Barrel Sampling of Soils". A mud rotary drilling process was used to advance the borings once groundwater was encountered. At regular intervals, soil samples were obtained with a standard 1.4-inch I.D., 2.0-inch O.D., split-tube sampler. The sampler was first seated six inches and then driven an additional foot with blows of a 140-pound hammer falling 30 inches. The number of hammer blows required to drive the sampler the final foot is designated the "Penetration Resistance". Representative portions of the soil samples, obtained from the sampler, were placed in sealed containers and transported to our laboratory for further evaluation and laboratory testing.

The Test Boring Records in Appendix B show the Standard Penetration Test (SPT) resistances, or "N-values", and present the soil conditions encountered in the borings. These records represent our interpretation of the subsurface conditions based on the field exploration data, visual examination of the split-barrel samples, laboratory test data, and generally accepted geotechnical engineering practices. The stratification lines and depth designations represent approximate boundaries between various subsurface strata. Actual transitions between materials may be gradual.

4.0 LABORATORY TESTING

A laboratory testing program was conducted to characterize materials which exist at the site using the recovered split-barrel samples. Selected test data is presented on the Test Boring Records attached in the Appendix. The specific tests are briefly described below.

All soil samples will be properly disposed of 30 days following the submittal of this NOVA subsurface exploration report unless you request otherwise.

4.1 SOIL CLASSIFICATION

Soil classification provides a general guide to the engineering properties of various soil types and enable the engineer to apply past experience to current problems. In our explorations, samples obtained during drilling operations are observed in our laboratory and visually classified by an engineer. The soils are classified according to consistency (based on number of blows from standard penetration tests), color and texture. These classification descriptions are included on our Test Boring Records. The classification system discussed above is primarily qualitative; laboratory testing is generally performed for detailed soil classification. Using the test results, the soils were classified using the Unified Soil Classification System. This classification system and the in-place physical soil properties provide an index for estimating the soil's behavior. The soil classification and physical properties obtained are presented in this report.

4.2 MOISTURE CONTENT AND SIEVE ANALYSIS

The moisture content is the ratio expressed as a percentage of the weight of water in a given mass of soil to the weight of the solid particles. The moisture content tests were conducted in general accordance with ASTM D-2216.

The sieve analysis consists of passing a soil sample through a series of standard sieve openings. The percentage of soil, by weight, passing the individual sieves is then recorded and generally presented in a graphical format. The percentage of fines passing through the No. 200 sieve is generally considered to represent the amount of silt and clay of the tested soil sample. The sieve analyses were conducted in general accordance with ASTM Designation D-1140.

5.0 SUBSURFACE CONDITIONS

5.1 GEOLOGY

The site is located in the Okaloosa County, Florida area and according to the United States Geological Survey (USGS), is situated within the greater Gulf Coastal Plain region. The site is generally covered with Alluvium sediments of the Pleistocene/Holocene periods underlain by the Citronelle formation of the Pliocene/Pleistocene periods. The alluvial sediments typically consist of siliciclastics that are fine to coarse quartz sand containing clay lenses and gravel in places. Sands consists primarily of very fine to very coarse poorly sorted quartz grains; gravel is composed of quartz, quartzite, and chert pebbles. In areas of the Valley and Ridge province gravels are generally composed of angular to sub-rounded chert, quartz, and quartzite pebbles. Coastal deposits in the Fort Walton Beach area include fine to medium quartz sand with shell fragments and accessory heavy minerals along Gulf beaches and fine to medium quartz sand, silt, clay, peat, mud and ooze in the Mississippi Sound, Little Lagoon, bays, lakes, streams, and estuaries. The Citronelle formation consists primarily of varicolored/mottled lenticular beds of poorly sorted sand, clayey sand, clay, and clayey gravel. Limonite pebbles and lenses of limonite cemented sand occur locally in weathered Miocene exposures. Surficial soils in the region are primarily siliciclastic sediments deposited in response to the renewed uplift and erosion in the Appalachian highlands to the north and sea-level fluctuations. The extent and type of deposit is influenced by numerous factors, including mineral composition of the parent rock and meteorological events.

5.2 SOIL CONDITIONS

The following paragraph provides a generalized description of the subsurface profiles and soil conditions encountered in the borings conducted during this study. The Test Boring Records in the Appendix should be reviewed to provide detailed descriptions of the conditions encountered at each boring location. Conditions may vary at other locations and times.

The test borings generally encountered loose to medium dense fine-grained sands (USCS classification of SP) from the existing ground surface elevation to the maximum depth explored of either 25 feet below existing grade (BEG) or 8 feet BEG (where B-2 encountered refusal due to an unknown obstruction).

5.3 GROUNDWATER CONDITIONS

5.3.1 General

Groundwater in the Gulf Coastal Plain typically occurs as an unconfined aquifer condition. Recharge is provided by the infiltration of rainfall and surface water through the soil overburden. More permeable zones in the soil matrix can affect groundwater conditions. The groundwater table is expected to be a subdued replica of the original surface topography. Based on a review of topographic maps and our visual site observations, we anticipate the groundwater flow at the site to be towards the north.

Groundwater levels vary with changes in season and rainfall, construction activity, surface water runoff, tidal influences, and other site-specific factors. Groundwater levels in the south Okaloosa County area are typically lowest in the late fall to winter and highest in the early spring to mid-summer with annual groundwater fluctuations by seasonal rainfall; consequently, the water table may vary at times.

5.3.2 Soil Test Boring Groundwater Conditions

Groundwater was encountered in the deeper B-1 test boring at a depth of about 14 feet BEG at the time of our field exploration, which occurred during a period of relatively normal seasonal rainfall and shortly following the passing of several significant rain events.

Based on comparisons of current annual monthly rainfall data to historical rainfall data extending back 50+ years in time, we estimate that the normal permanent seasonal high groundwater (SHGW) table for this site will occur within 1 foot above the groundwater level measured at the test boring locations at the time of drilling, during the wet season. We note that tidal influences will also impact groundwater levels at this property.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are based on our understanding of the proposed construction, our site observations, our evaluation and interpretation of the field and laboratory data obtained during this exploration, our experience with similar subsurface conditions, and generally accepted geotechnical engineering principles and practices.

Subsurface conditions in unexplored locations or at other times may vary from those encountered at the specific boring locations. If such variations are noted during construction, or if project development plans are changed, we request the opportunity to review the changes and amend our recommendations, if necessary.

As previously noted, the test borings were field staked by NOVA as close as practical to the proposed building footprint utilizing the provided site plan. If increased accuracy is desired by the client, we recommend that the boring locations and elevations be surveyed.

6.1 SITE PREPARATION

We understand that minimal elevating structural fill (i.e., 2 feet or less) will be required to achieve the desired finished floor elevation within the proposed building footprint.

6.1.1 General

Prior to proceeding with construction, we recommend stripping and grubbing the proposed building footprint to remove all surficial vegetation and topsoil as well as any other deleterious non-soil materials that are found to be present (including existing concrete elements and any substructures associated with the former development of this property that are found to be in conflict with the construction of the new building). Clean topsoil may be stockpiled and subsequently re-used in landscaped areas. Debris-laden materials should be excavated, transported, and disposed of off-site in accordance with appropriate solid waste rules and regulations. All existing utility locations should be reviewed to assess their impact on the proposed construction and relocated/grouted in-place as appropriate.

After stripping, a NOVA geotechnical engineer should carefully evaluate the exposed soils. The exposed subgrade soils (post-stripping) should be compacted via non-vibratory methods to a minimum soil density of at least 95 percent of the maximum dry density as determined by the Modified Proctor test (ASTM D-1557). Vibratory compaction is not recommended for this project site due to the very close proximity of existing surrounding structures.

NOVA should observe the compaction of the subgrade to locate soft, weak, or excessively wet fill or existing soils present at the time of construction. Any unstable materials observed during the evaluation and compaction operations should be undercut and replaced with structural fill or stabilized in-place by scarifying and re-densifying.

6.1.2 Soil Suitability

All materials to be used for backfill or compacted fill construction should be evaluated and, if necessary, tested by NOVA prior to placement to determine if they are suitable for the intended use. In general, the fine-grained sands (SP) such as those encountered above groundwater in the test borings (excepting topsoil) can be used as structural fill as well as general subgrade fill and backfill, provided that the fill material is free of rubble, clay, rock, roots and organics. Any off-site materials used as fill should be approved by NOVA prior to acquisition.

Organic and/or debris-laden materials are not suitable for re-use as structural fill. Topsoil, mulch, and similar organic materials can be wasted in architectural areas or should be removed from the site. Debris-laden materials should be excavated, transported, and disposed of off-site in accordance with appropriate solid waste rules and regulations.

6.1.3 Soil Compaction

Fill should be placed in thin, horizontal loose lifts (maximum 12-inch) and compacted to a minimum soil density of at least 95 percent of the Modified Proctor maximum dry density (ASTM D-1557). The upper 12 inches of subgrade beneath foundation footings should be compacted to at least 98 percent. In confined areas, such as utility trenches, portable compaction equipment and thinner loose fill lifts (3 to 4 inches) may be necessary.

Fill materials used in structural areas should have a target maximum dry density of 95 pcf or greater. If lighter weight fill materials are used, the NOVA geotechnical engineer should be consulted to assess the impact on design recommendations. Soil moisture content should be maintained within 3 percent of the optimum moisture content. We recommend that the grading contractor have equipment on site during earthwork for both drying and wetting fill soils. Soils excavated from below the water table will likely require significant efforts to adjust the moisture contents prior to reuse as fill.

A NOVA soils technician, who can assess suitability of materials used, and uniformity and appropriateness of compaction efforts, should observe all filling and subgrade preparation. Field tests, using thin-wall tube, nuclear or sand cone testing methods (ASTM D-2937, D-6938, or D-1556, respectively) should also be performed. When filling in small areas, at least one test per day per area should be required.

6.2 GROUNDWATER CONTROL

Groundwater was encountered in the deeper B-1 test boring at a depth of about 14 feet BEG. Groundwater is therefore not anticipated to adversely impact the planned construction of this building.

6.3 FOUNDATIONS

NOVA understands that the project will include constructing a single-story structure that will be of metal- and/or masonry-framed, slab-on-grade construction supported by a conventional shallow foundation system. Structural loadings were not available from the design team at the time of the issuance of this report, and we have therefore assumed that maximum bearing loads for the proposed structure will be on the order of 30 kips per column for isolated interior columns (if applicable) and 3 kips per lineal foot for perimeter load-bearing walls.

6.3.1 Shallow Foundations

Design: After the recommended site and subgrade preparation and fill placement, we recommend that a conventional shallow foundation system consisting of isolated spread footings be used to support the proposed structure. Foundations bearing on densified existing soils and/or compacted structural fill, as recommended in this report, may be designed for a maximum allowable bearing pressure of **2,000 pounds per square foot (psf)**.

We recommend minimum footing widths of 18 inches for ease of construction and to reduce the possibility of localized shear failures. Exterior and interior footing bottoms should be established at least 16 inches below finished surrounding exterior grades.

Settlement: Settlements for spread foundations bearing on the higher consistency residual materials were assessed using SPT values to estimate elastic modulus, based on published correlations and previous NOVA experience. We note that the settlements presented are based on the SPT boring results. Conditions may be better or worse in other areas, however, we believe the estimated settlements are reasonably conservative.

Based on assumed column loadings, the soil bearing capacity provided above, and the presumed foundation elevations as discussed above, we expect primary total settlement beneath individual foundations to be on the order of 1 inch.

The amount of differential settlement is difficult to predict because the subsurface and foundation loading conditions can vary considerably across the site. However, we anticipate differential settlement between adjacent foundations will be less than ½ inch. The final deflected shapes of the structures will be dependent on actual foundation locations and loading.

Foundation support conditions are highly erratic and may vary dramatically in short horizontal distances. It is anticipated that the geotechnical engineer may recommend a different bearing capacity upon examination of the actual foundation subgrade at numerous locations. To reduce the differential settlement if lower consistency materials are encountered, a lower bearing capacity should be used, or the foundations should be extended to more competent materials. We anticipate that timely communication between the geotechnical engineer and the structural engineer, as well as other design and construction team members, will be required.

Construction: Foundation excavations should be evaluated by the NOVA geotechnical engineer prior to reinforcing steel placement to observe foundation subgrade preparation and confirm bearing pressure capacity.

Foundation excavations should be level and free of debris, ponded water, mud, and loose, frozen, or water-softened soils. Concrete should be placed as soon as is practical after the foundation is excavated and the subgrade evaluated. Foundation concrete should not be placed on frozen or saturated soil. If a foundation excavation remains open overnight, or if rain or snow is imminent, a 3 to 4-inch thick "mud mat" of lean concrete should be placed in the bottom of the excavation to protect the bearing soils until reinforcing steel and concrete can be placed.

6.3.2 SLAB-ON-GRADE

The conditions exposed at subgrade levels will vary across the site and may include structural fill. The slab-on-grade may be adequately supported on these subgrade conditions subject to the recommendations in this report. The slab-on-grade should be jointed around columns and along walls to reduce cracking due to differential movement. An underdrain system is not necessary beneath the slab, provided that the slab is established at least 2 feet above the normal permanent SHGW table. An impermeable vapor barrier is recommended beneath finished spaces to reduce dampness.

Once grading is completed, the subgrade is usually exposed to adverse construction activities and weather conditions during the period of sub-slab utility installations. The subgrade should be well-drained to prevent the accumulation of water. If the exposed subgrade becomes saturated or frozen, the geotechnical engineer should be consulted.

After utilities have been installed and backfilled, a final subgrade evaluation should be performed by the geotechnical engineer immediately prior to slab-on-grade placement. If practical, proofrolling may be used to redensify the surface and to detect any soil that has become excessively wet or otherwise loosened.

7.0 CONSTRUCTION OBSERVATIONS

7.1 SUBGRADE

Once site grading is completed, the subgrade may be exposed to adverse construction activities and weather conditions. The subgrade should be well-drained to prevent the accumulation of water. If the exposed subgrade becomes saturated or frozen, the NOVA geotechnical engineer should be consulted.

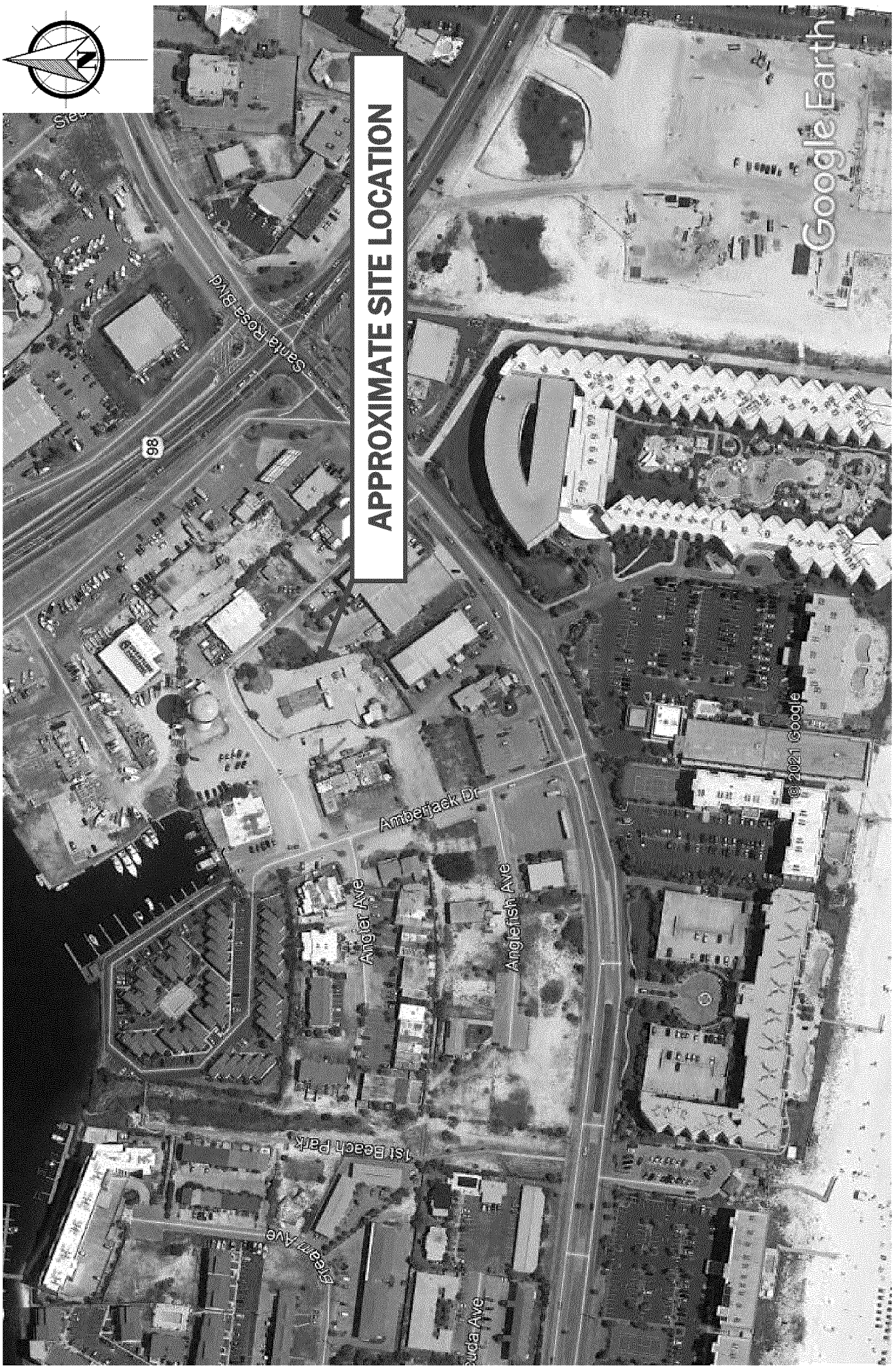
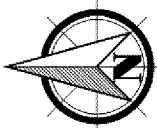
A final subgrade evaluation should be performed by the NOVA geotechnical engineer immediately prior to slab-on-grade placement. If practical, proofrolling may be used to re-densify the surface and to detect any soil, which has become excessively wet or otherwise loosened.

7.2 SHALLOW FOUNDATIONS

Foundation excavations should be level and free of debris, ponded water, mud, and loose, frozen or water-softened soils. All foundation excavations should be evaluated by the NOVA geotechnical engineer prior to reinforcing steel placement to observe foundation subgrade preparation and confirm bearing pressure capacity. Due to variable site subsurface and construction conditions, some adjustments in isolated foundation bearing pressures, depth of foundations or undercutting and replacement with controlled structural fill may be necessary.

APPENDIX A

Figures and Maps



APPROXIMATE SITE LOCATION

PROJECT LOCATION MAP

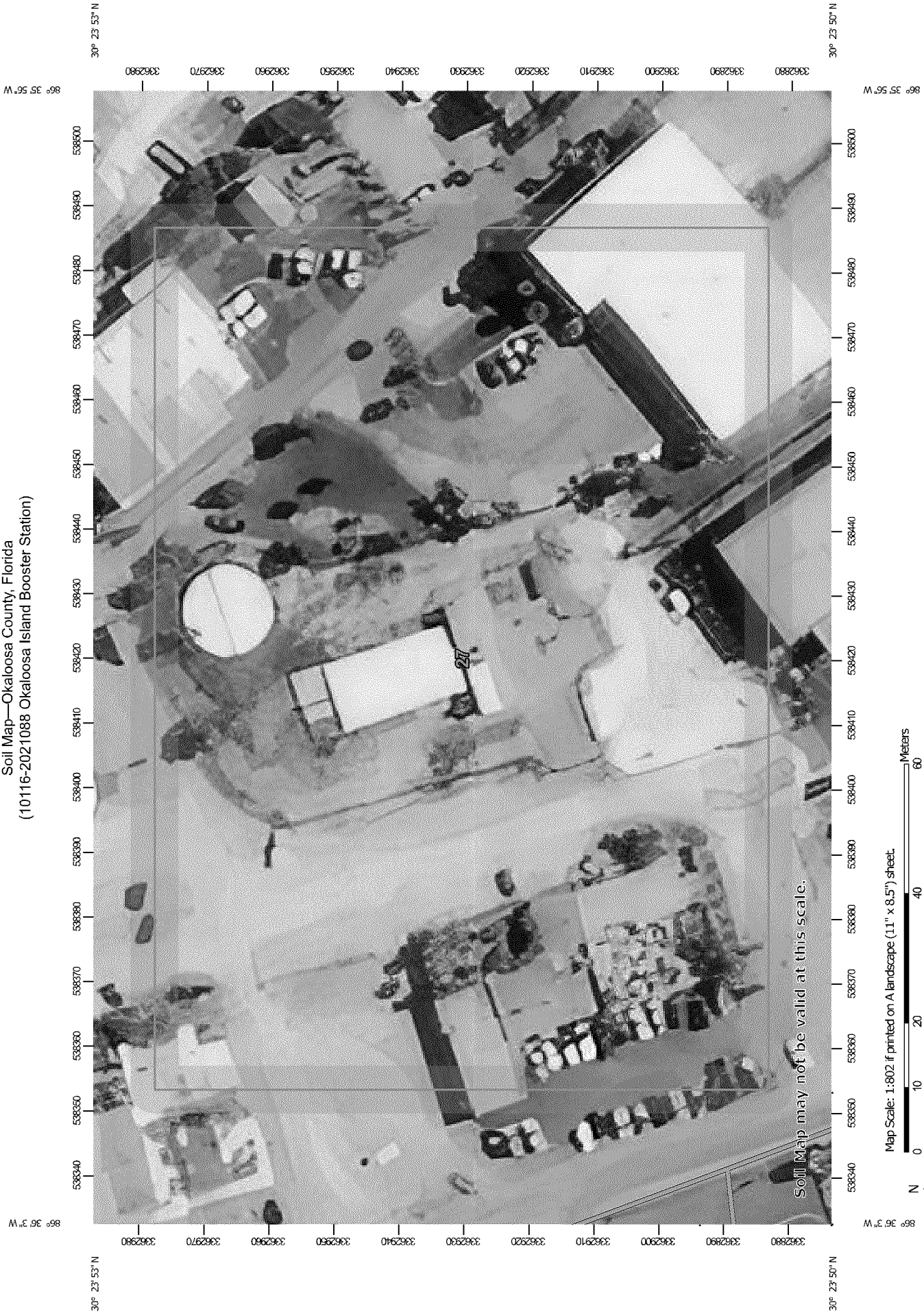
Okaloosa Island Booster Station
Fort Walton Beach, Okaloosa County, Florida
NOVA Project Number 10116-2021088

140-A Lurton Street
Pensacola, Florida 32505
850.607.7782 ♦ 850.249.6683



| |
|-----------------------------------|
| Scale: Not To Scale |
| Date Drawn: April 13, 2021 |
| Drawn By: J. James |
| Checked By: W. Lawrence |

Soil Map—Okaloosa County, Florida
(10116-2021088 Okaloosa Island Booster Station)



Soil Map may not be valid at this scale.

Map Scale: 1:802 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

| | | | |
|--|------------------------|-----------------------|-----------------------|
| | Area of Interest (AOI) | | Spoil Area |
| | Soils | | Stony Spot |
| | Soil Map Unit Polygons | | Very Stony Spot |
| | Soil Map Unit Lines | | Wet Spot |
| | Soil Map Unit Points | | Other |
| | Special Point Features | | Special Line Features |
| | Blowout | Water Features | |
| | Borrow Pit | | Streams and Canals |
| | Clay Spot | Transportation | |
| | Closed Depression | | Rails |
| | Gravel Pit | | Interstate Highways |
| | Gravelly Spot | | US Routes |
| | Landfill | | Major Roads |
| | Lava Flow | | Local Roads |
| | Marsh or swamp | Background | |
| | Mine or Quarry | | Aerial Photography |
| | Miscellaneous Water | | |
| | Perennial Water | | |
| | Rock Outcrop | | |
| | Saline Spot | | |
| | Sandy Spot | | |
| | Severely Eroded Spot | | |
| | Sinkhole | | |
| | Slide or Slip | | |
| | Sodic Spot | | |

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Okaloosa County, Florida
Survey Area Data: Version 19, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Nov 2, 2017

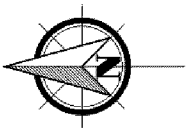
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|------------------------------------|---------------|--------------|----------------|
| 27 | Urban land | 3.1 | 100.0% |
| Totals for Area of Interest | | 3.1 | 100.0% |

APPENDIX B

Subsurface Data



LEGEND



B-x = Structural SPT Boring

Scale: Not To Scale

Date Drawn: April 13, 2021

Drawn By: J. James

Checked By: W. Lawrence

BORING LOCATION PLAN

Okaloosa Island Booster Station






Fort Walton Beach, Okaloosa County, Florida

NOVA Project Number 10116-2021088

140-A Lurton Street
Pensacola, Florida 32505
850.607.7782 ♦ 850.249.6683



SYMBOLS AND ABBREVIATIONS

| <u>SYMBOL</u> | <u>DESCRIPTION</u> |
|--|--|
| N-Value | No. of Blows of a 140-lb. Weight Falling 30 Inches Required to Drive a Standard Spoon 1 Foot |
| WOR | Weight of Drill Rods |
| WOH | Weight of Drill Rods and Hammer |
|  | Sample from Auger Cuttings |
|  | Standard Penetration Test Sample |
|  | Thin-wall Shelby Tube Sample (Undisturbed Sampler Used) |
| % REC | Percent Core Recovery from Rock Core Drilling |
| RQD | Rock Quality Designation |
|  | Stabilized Groundwater Level |
|  | Seasonal High Groundwater Level (also referred to as the W.S.W.T.) |
| NE | Not Encountered |
| GNE | Groundwater Not Encountered |
| BT | Boring Terminated |
| -200 (%) | Fines Content or % Passing No. 200 Sieve |
| MC (%) | Moisture Content |
| LL | Liquid Limit (Atterberg Limits Test) |
| PI | Plasticity Index (Atterberg Limits Test) |
| K | Coefficient of Permeability |
| Org. Cont. | Organic Content |
| G.S. Elevation | Ground Surface Elevation |

UNIFIED SOIL CLASSIFICATION SYSTEM

| MAJOR DIVISIONS | | GROUP SYMBOLS | TYPICAL NAMES | |
|--|---|---|--|--|
| COARSE-GRAINED SOILS More than 50% retained on the No. 200 sieve* | GRAVELS 50% or more of coarse fraction retained on No. 4 sieve | CLEAN GRAVELS | GW Well-graded gravels and gravel-sand mixtures, little or no fines | |
| | | | GP Poorly graded gravels and gravel-sand mixtures, little or no fines | |
| | | GRAVELS WITH FINES | GM | Silty gravels and gravel-sand-silt mixtures |
| | | | GC | Clayey gravels and gravel-sand-clay mixtures |
| | SANDS More than 50% of coarse fraction passes No. 4 sieve | CLEAN SANDS 5% or less passing No. 200 sieve | SW** | Well-graded sands and gravelly sands, little or no fines |
| | | | SP** | Poorly graded sands and gravelly sands, little or no fines |
| | | SANDS with 12% or more passing No. 200 sieve | SM** | Silty sands, sand-silt mixtures |
| FINE-GRAINED SOILS 50% or more passes the No. 200 sieve* | SILTS AND CLAYS Liquid limit 50% or less | ML | Inorganic silts, very fine sands, rock flour, silty or clayey fine sands | |
| | | CL | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays | |
| | | OL | Organic silts and organic silty clays of low plasticity | |
| | SILTS AND CLAYS Liquid limit greater than 50% | MH | Inorganic silts, micaceous or diamicaceous fine sands or silts, elastic silts | |
| | | CH | Inorganic clays or clays of high plasticity, fat clays | |
| | | OH | Organic clays of medium to high plasticity | |
| | PT | Peat, muck and other highly organic soils | | |

*Based on the material passing the 3-inch (75 mm) sieve

** Use dual symbol (such as SP-SM and SP-SC) for soils with more than 5% but less than 12% passing the No. 200 sieve

RELATIVE DENSITY

(Sands and Gravels)

Very loose – Less than 4 Blows/Foot
 Loose – 4 to 10 Blows/Foot
 Medium Dense – 11 to 30 Blows/Foot
 Dense – 31 to 50 Blows/Foot
 Very Dense – More than 50 Blows/Foot

CONSISTENCY

(Silts and Clays)

Very Soft – Less than 2 Blows/Foot
 Soft – 2 to 4 Blows/Foot
 Medium Stiff – 5 to 8 Blows/Foot
 Stiff – 9 to 15 Blows/Foot
 Very Stiff – 16 to 30 Blows/Foot
 Hard – More than 30 Blows/Foot

RELATIVE HARDNESS

(Limestone)

Soft – 100 Blows for more than 2 Inches
 Hard – 100 Blows for less than 2 Inches

MODIFIERS

These modifiers Provide Our Estimate of the Amount of Minor Constituents (Silt or Clay Size Particles) in the Soil Sample

Trace – 5% or less
 With Silt or With Clay – 6% to 11%
 Silty or Clayey – 12% to 30%
 Very Silty or Very Clayey – 31% to 50%

These Modifiers Provide Our Estimate of the Amount of Organic Components in the Soil Sample

Trace – Less than 3%
 Few – 3% to 4%
 Some – 5% to 8%
 Many – Greater than 8%

These Modifiers Provide Our Estimate of the Amount of Other Components (Shell, Gravel, Etc.) in the Soil Sample

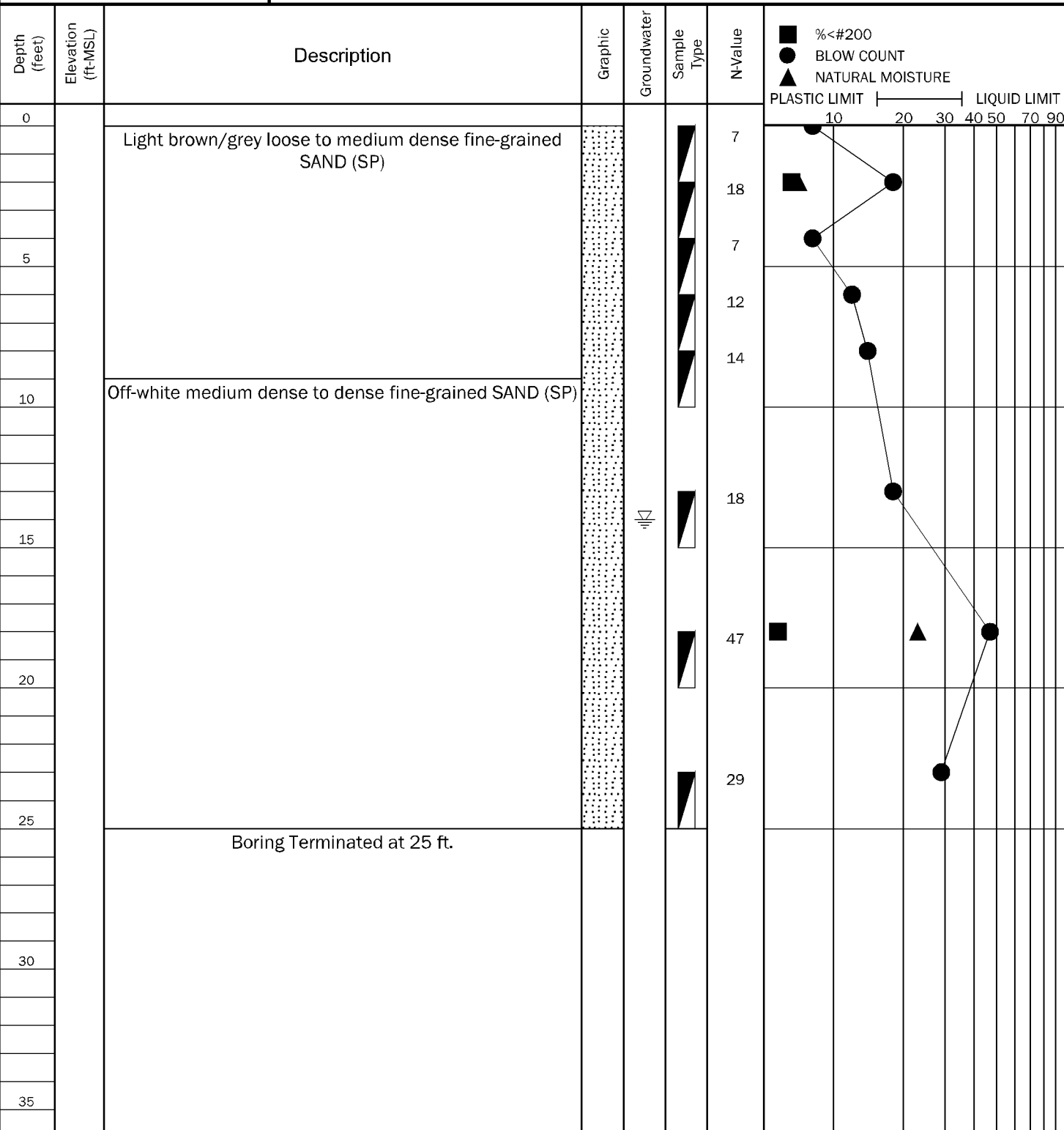
Trace – 5% or less
 Few – 6% to 12%
 Some – 13% to 30%
 Many – 31% to 50%



**TEST BORING
RECORD
B-1**

PROJECT: Okaloosa Island Booster Station PROJECT NO.: 10116-2021088
 CLIENT: POLY, Inc.
 PROJECT LOCATION: Fort Walton Beach, Okaloosa County, Florida
 LOCATION: Per Boring Location Plan ELEVATION: Existing Grade
 DRILLER: ERG, Inc. LOGGED BY: J. James
 DRILLING METHOD: SPT Boring DATE: April 6, 2021
 DEPTH TO - WATER> INITIAL: 14 ft. AFTER 24 HOURS: CAVING> C

This information pertains only to this boring and should not be interpreted as being indicative of the site.





**TEST BORING
RECORD
B-2**

PROJECT: Okaloosa Island Booster Station PROJECT NO.: 10116-2021088
 CLIENT: POLY, Inc.
 PROJECT LOCATION: Fort Walton Beach, Okaloosa County, Florida
 LOCATION: Per Boring Location Plan ELEVATION: Existing Grade
 DRILLER: ERG, Inc. LOGGED BY: J. James
 DRILLING METHOD: SPT Boring DATE: April 6, 2021
 DEPTH TO - WATER> INITIAL: ☐ GNE* AFTER 24 HOURS: ☐ CAVING> C

This information pertains only to this boring and should not be interpreted as being indicative of the site.

| Depth (feet) | Elevation (ft-MSL) | Description | Graphic | Groundwater | Sample Type | N-Value | ■ %<#200 ● BLOW COUNT ▲ NATURAL MOISTURE PLASTIC LIMIT LIQUID LIMIT | | | | | | | | | | |
|--------------|--------------------|---|---------|-------------|-------------|---------|--|---|---|---|--|--|--|--|--|--|--|
| 0 | | Light brown/grey loose to medium dense fine-grained SAND (SP) | | | | 10 | 10 | | | | | | | | | | |
| | 10 | | | | | 10 | | | | | | | | | | | |
| 5 | | | | | | 8 | 8 | | | | | | | | | | |
| | | | | | | 13 | 13 | ■ | ▲ | ● | | | | | | | |
| 10 | | Auger Refusal at 8 ft. Boring Terminated at 8 ft. | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | | | | | |

NOTE: Refusal was encountered at 8 ft. BEG.

APPENDIX C

Laboratory Data

SUMMARY OF CLASSIFICATION & INDEX TESTING

Okaloosa Island Booster Station
Fort Walton Beach, Okaloosa County, Florida
NOVA Project No. 10116-2021088

| SUMMARY OF CLASSIFICATION AND INDEX TESTING | | | | |
|--|-------------------------------|-----------------------------|--------------------------------|---------------------------------|
| Boring No. | Sample Depth (ft. BEG) | Natural Moisture (%) | Percent Fines (%- #200) | USCS Soil Classification |
| B-1 | 2-4 | 5 | 4 | SP |
| B-1 | 18-20 | 23 | 2 | SP |
| B-2 | 6-8 | 8 | 4 | SP |

APPENDIX D
Qualifications of Recommendations

QUALIFICATIONS OF RECOMMENDATIONS

The findings, conclusions and recommendations presented in this report represent our professional opinions concerning subsurface conditions at the site. The opinions presented are relative to the dates of our site work and should not be relied on to represent conditions at later dates or at locations not explored. The opinions included herein are based on information provided to us, the data obtained at specific locations during the study, and our previous experience. If additional information becomes available which might impact our geotechnical opinions, it will be necessary for NOVA to review the information, re-assess the potential concerns, and re-evaluate our conclusions and recommendations.

Regardless of the thoroughness of a geotechnical exploration, there is the possibility that conditions between borings may differ from those encountered at specific boring locations, that conditions are not as anticipated by the designers and/or the contractors, or that either natural events or the construction process has altered the subsurface conditions. These variations are an inherent risk associated with subsurface conditions in this region and the approximate methods used to obtain the data. These variations may not be apparent until construction.

The professional opinions presented in this report are not final. Field observations and foundation installation monitoring by the geotechnical engineer, as well as soil density testing and other quality assurance functions associated with site earthwork and foundation construction, are an extension of this report. Therefore, NOVA should be retained by the owner to observe all earthwork and foundation construction to confirm that the conditions anticipated in this study actually exist, and to finalize or amend our conclusions and recommendations. NOVA is not responsible or liable for the conclusions and recommendations presented in this report if NOVA does not perform these observations and testing services.

This report is intended for the sole use of **POLY, Inc.** only. The scope of work performed during this study was developed for purposes specifically intended by of **POLY, Inc.** only and may not satisfy other users' requirements. Use of this report or the findings, conclusions or recommendations by others will be at the sole risk of the user. NOVA is not responsible or liable for the interpretation by others of the data in this report, nor their conclusions, recommendations or opinions.

Our professional services have been performed, our findings obtained, our conclusions derived and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices in the State of Florida. This warranty is in lieu of all other statements or warranties, either expressed or implied.

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply this report for any purpose or project except the one originally contemplated.*

Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an

assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by:* the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly

problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.*

Read Responsibility Provisions Closely

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help

others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold-prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical-engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you GBC-Member geotechnical engineer for more information.



8811 Colesville Road/Suite G106, Silver Spring, MD 20910

Telephone: 301/565-2733 Facsimile: 301/589-2017

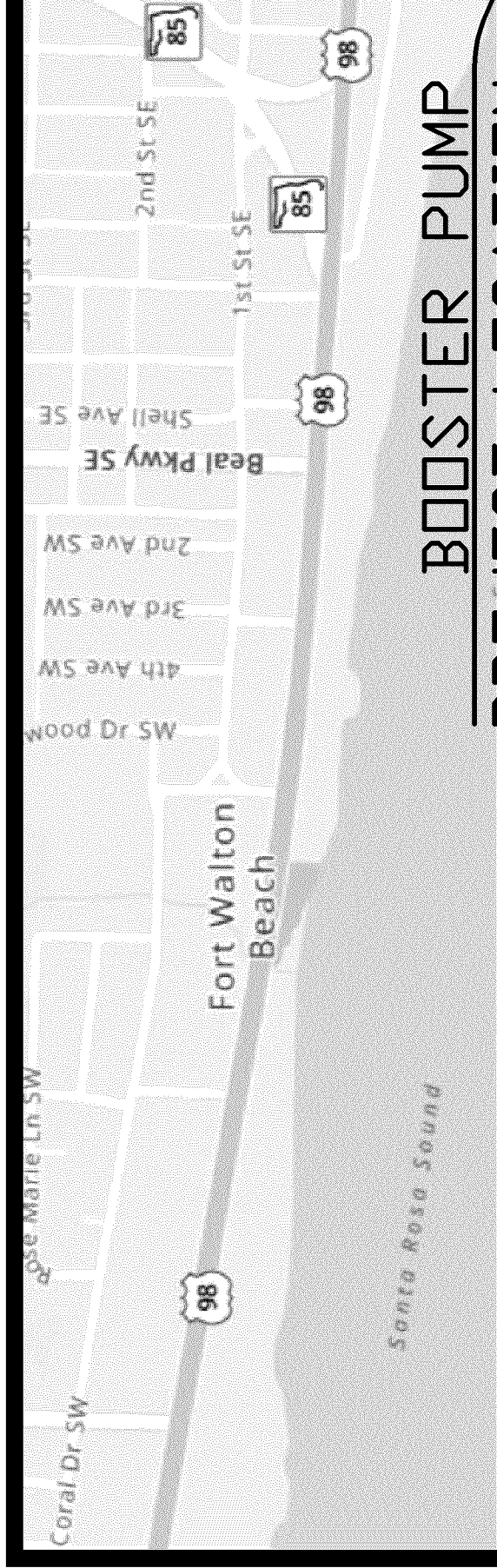
e-mail: info@geoprofessional.org www.geoprofessional.org

Copyright 2015 by Geoprofessional Business Association (GBC). Duplication, reproduction, or copying of this document, or its contents, in whole or in part, by any means whatsoever, is strictly prohibited, except with GBA's specific written permission. Excerpting, quoting, or otherwise extracting wording from this document is permitted only with the express written permission of GBA, and only for purposes of scholarly research or book review. Only members of GBA may use this document as a complement to or as an element of a geotechnical-engineering report. Any other firm, individual, or other entity that so uses this document without being a GBA member could be committing negligent or intentional (fraudulent) misrepresentation.

APPENDIX C

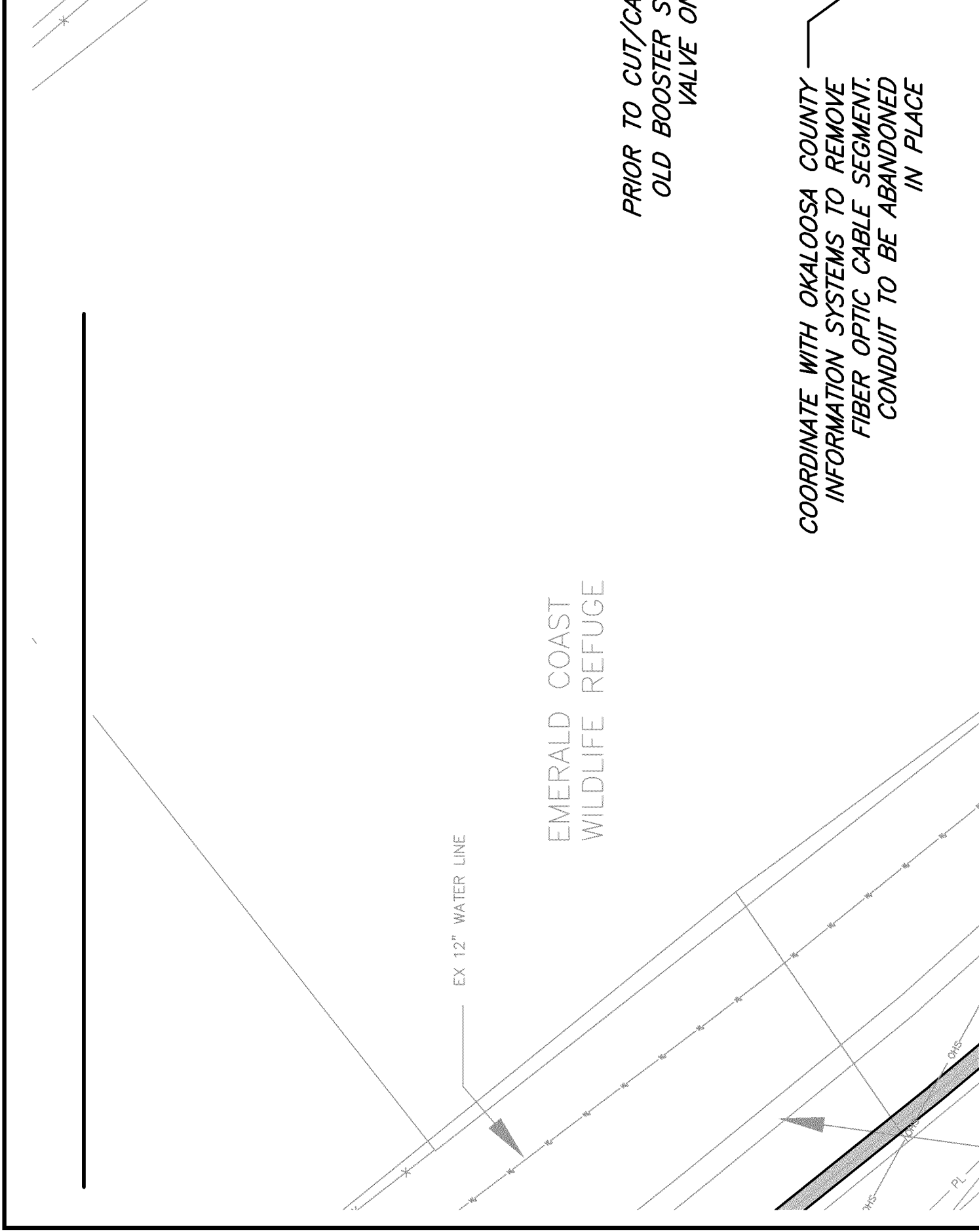
ENGINEERING PLANS

REPL ISLAND



BOOSTER PUMP





*PRIOR TO CUT/CABLE
OLD BOOSTER STATION
VALVE OPERATIONAL*

*COORDINATE WITH OKALOOSA COUNTY
INFORMATION SYSTEMS TO REMOVE
FIBER OPTIC CABLE SEGMENT.
CONDUIT TO BE ABANDONED
IN PLACE*

INSTALL
SUPPLY PO



SHEET PILE WALL ALONG NORTHERN AND EASTERN PERIMETER (TO REMAIN PERMANENTLY). SEE FOUNDATION PLAN (SHEET S-101) AND SECTION 1/S03 (SHEET S-003) FOR DETAILS AND DESIGN REQUIREMENTS.

HVAC DUCTLESS MINI-SPLIT SYSTEM (SUPPLIED BY OWNER, INSTALLED BY CONTRACTOR) (SEE ELECTRICAL)

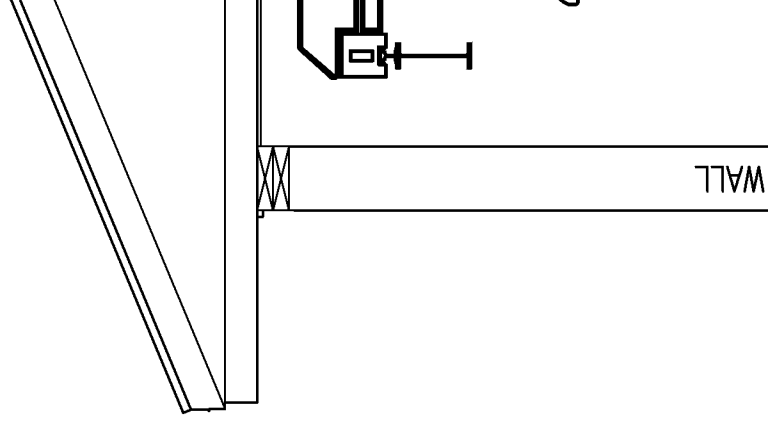
△
SIDEWALK FF. EL. VARIES (SEE GRADING PLAN)

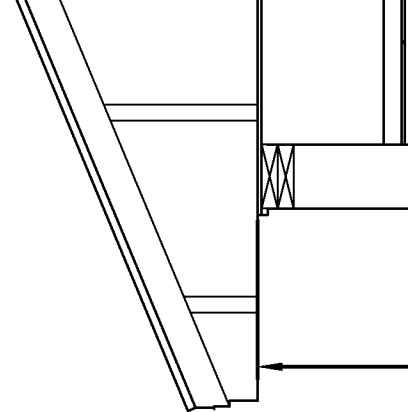
+△EL 11.1

+ EL 11.5

+ EL 12.0

WALL





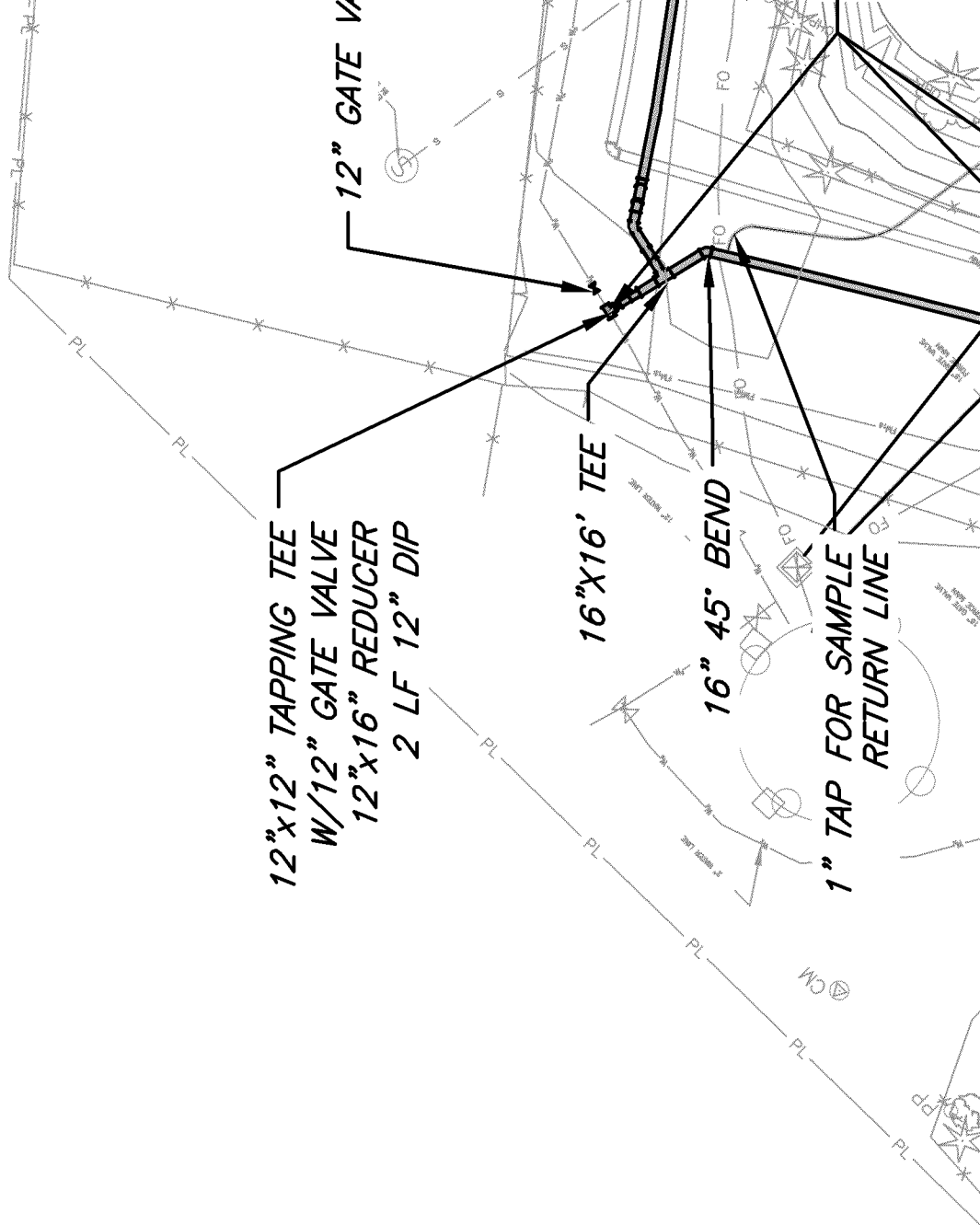
12"x12" TAPPING TEE
W/12" GATE VALVE
12"x16" REDUCER
2 LF 12" DIP

16"x16' TEE

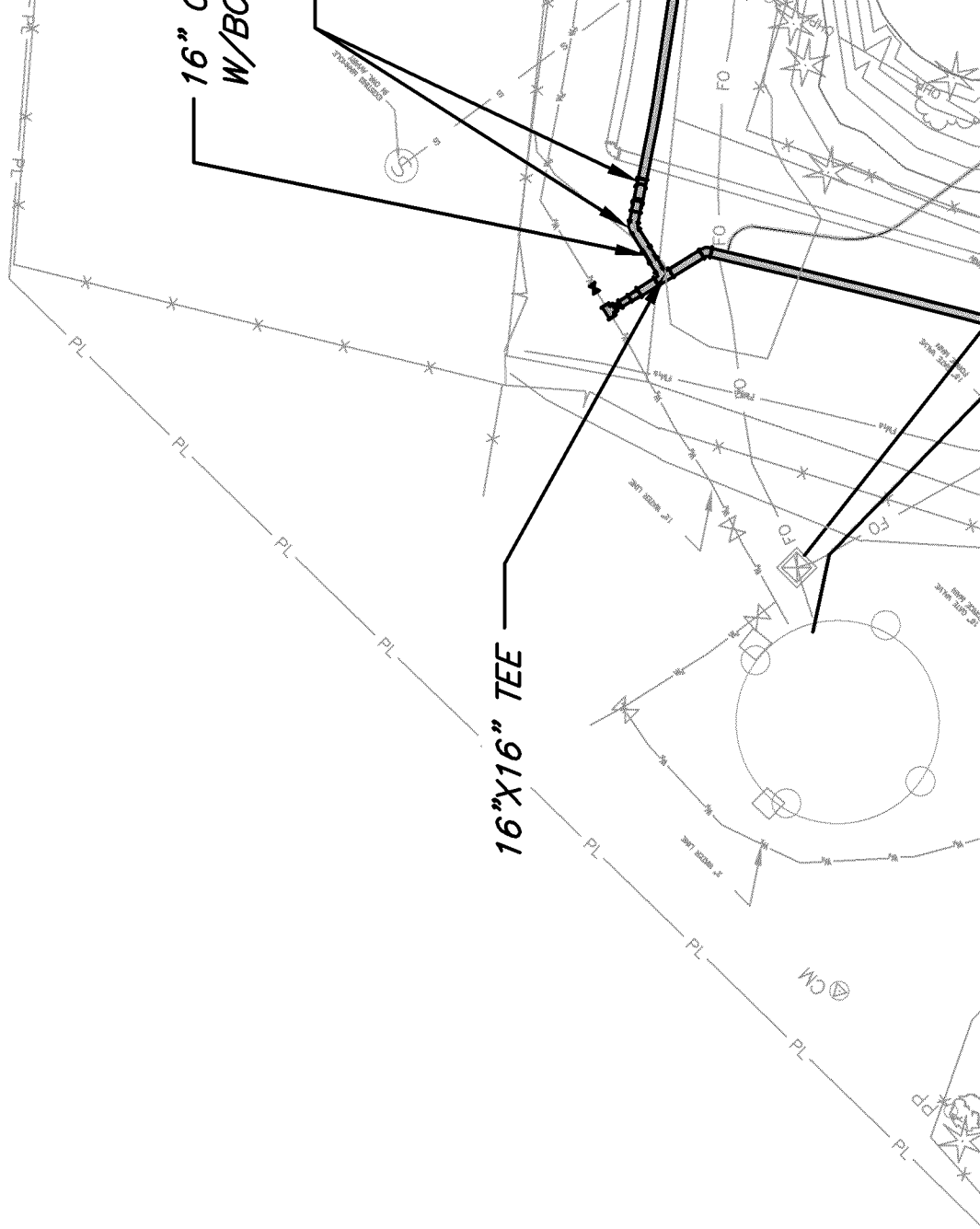
16" 45° BEND

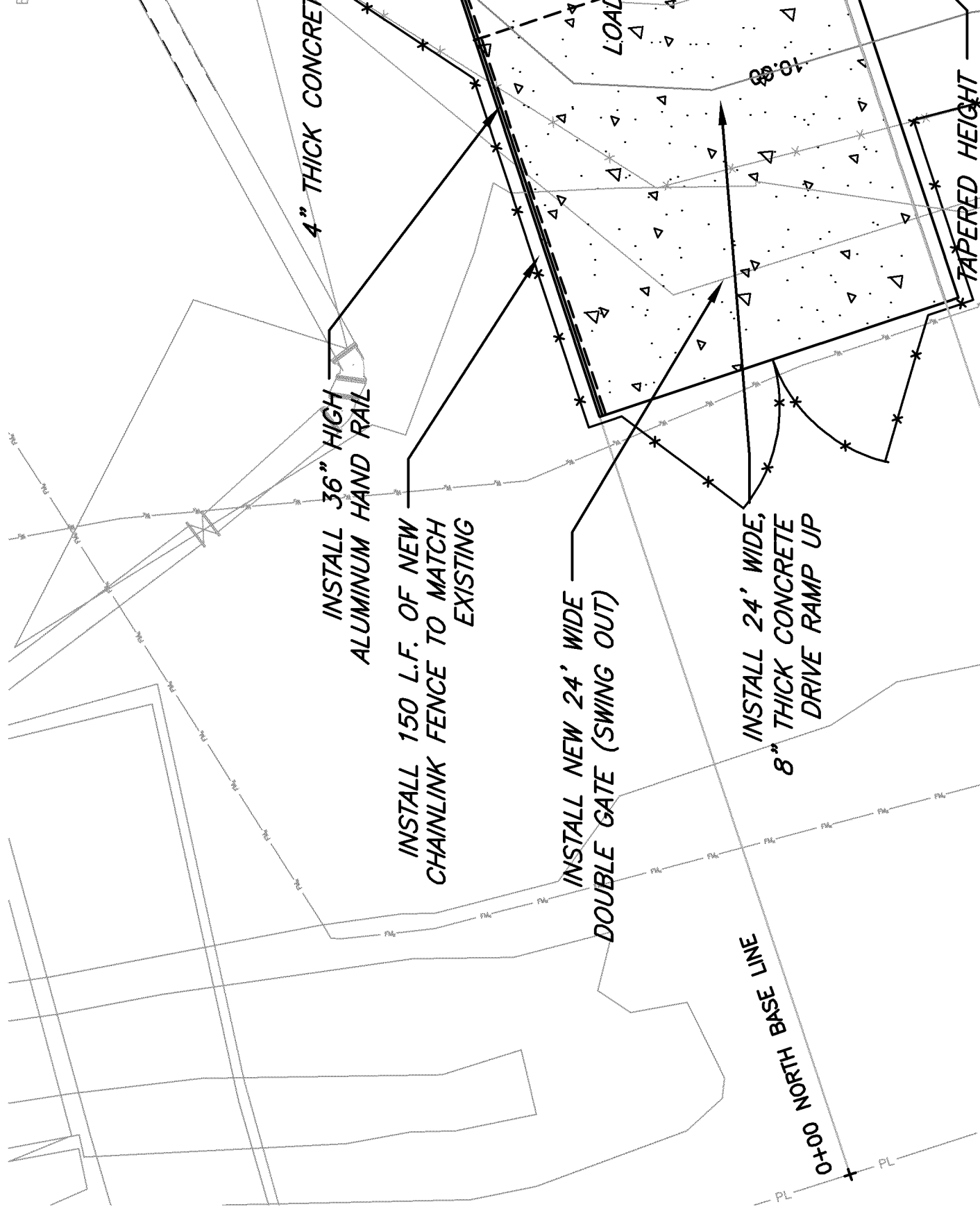
1" TAP FOR SAMPLE
RETURN LINE

12" GATE VALVE



SAW CUT, REMOVE AND REPL
PER OKALOOSA COUNTY PUBLIC

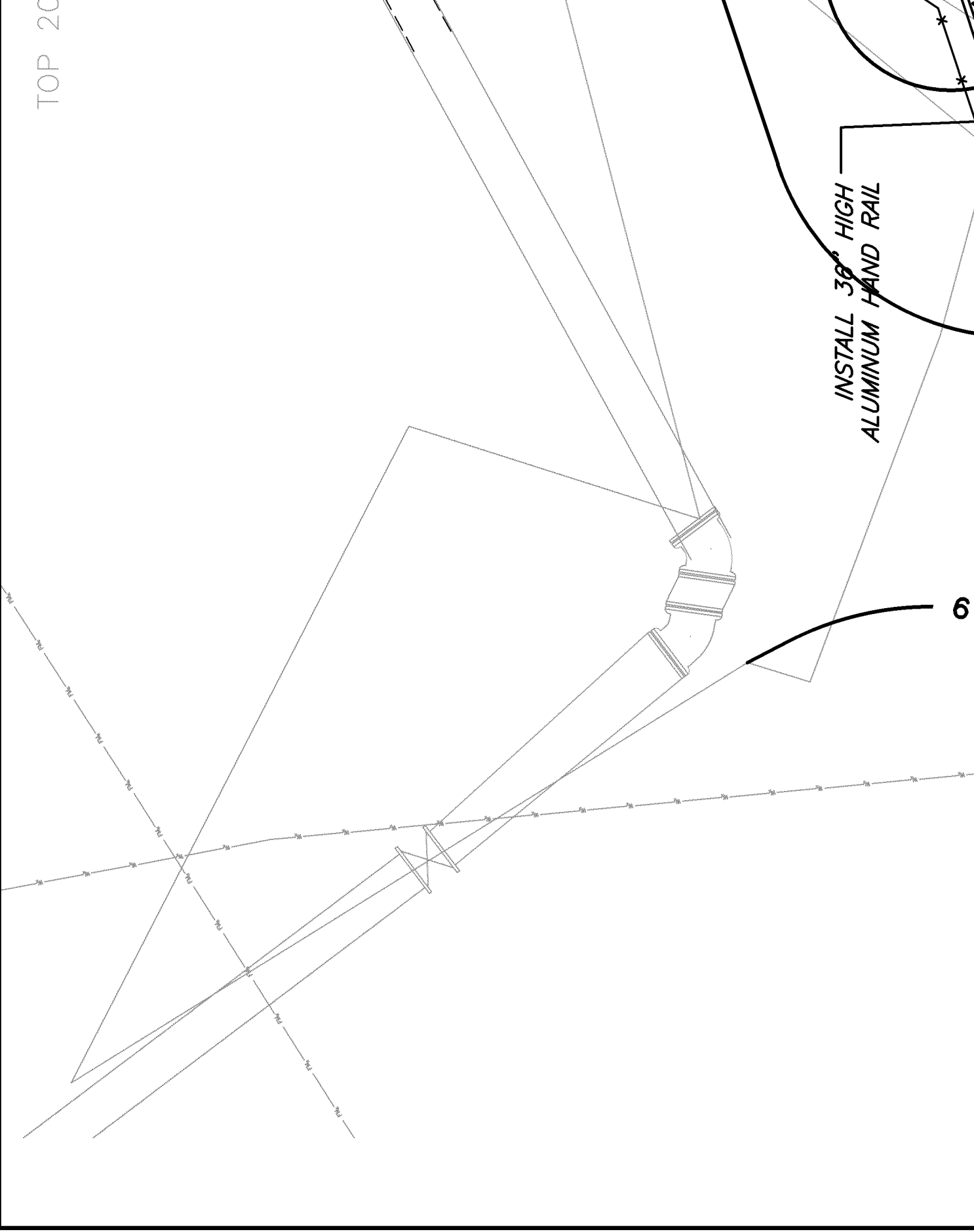


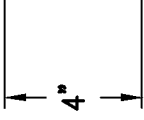


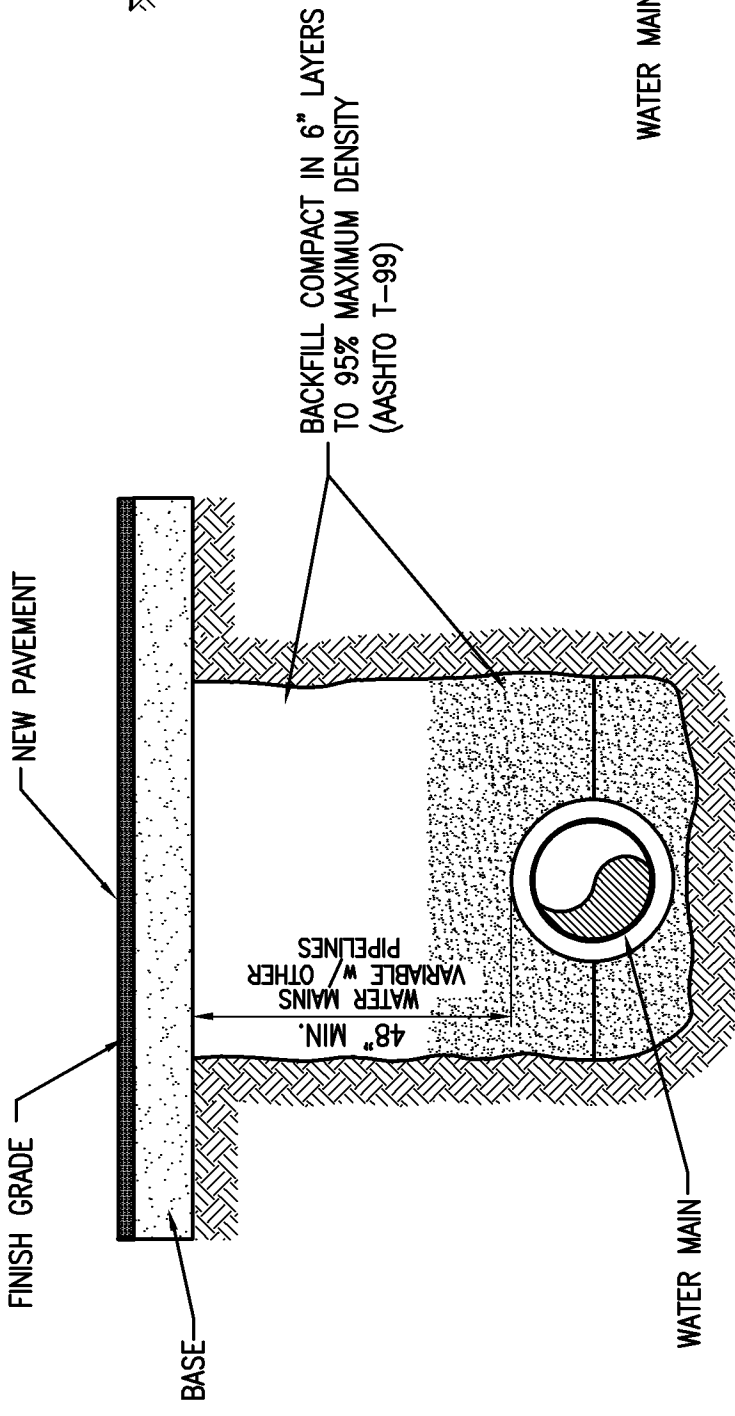
TOP 20

INSTALL 36" HIGH
ALUMINUM HAND RAIL

6





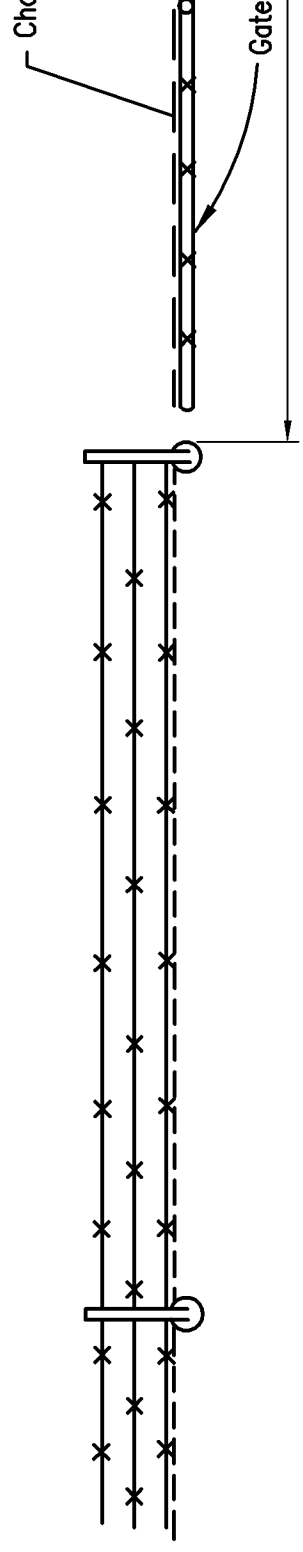
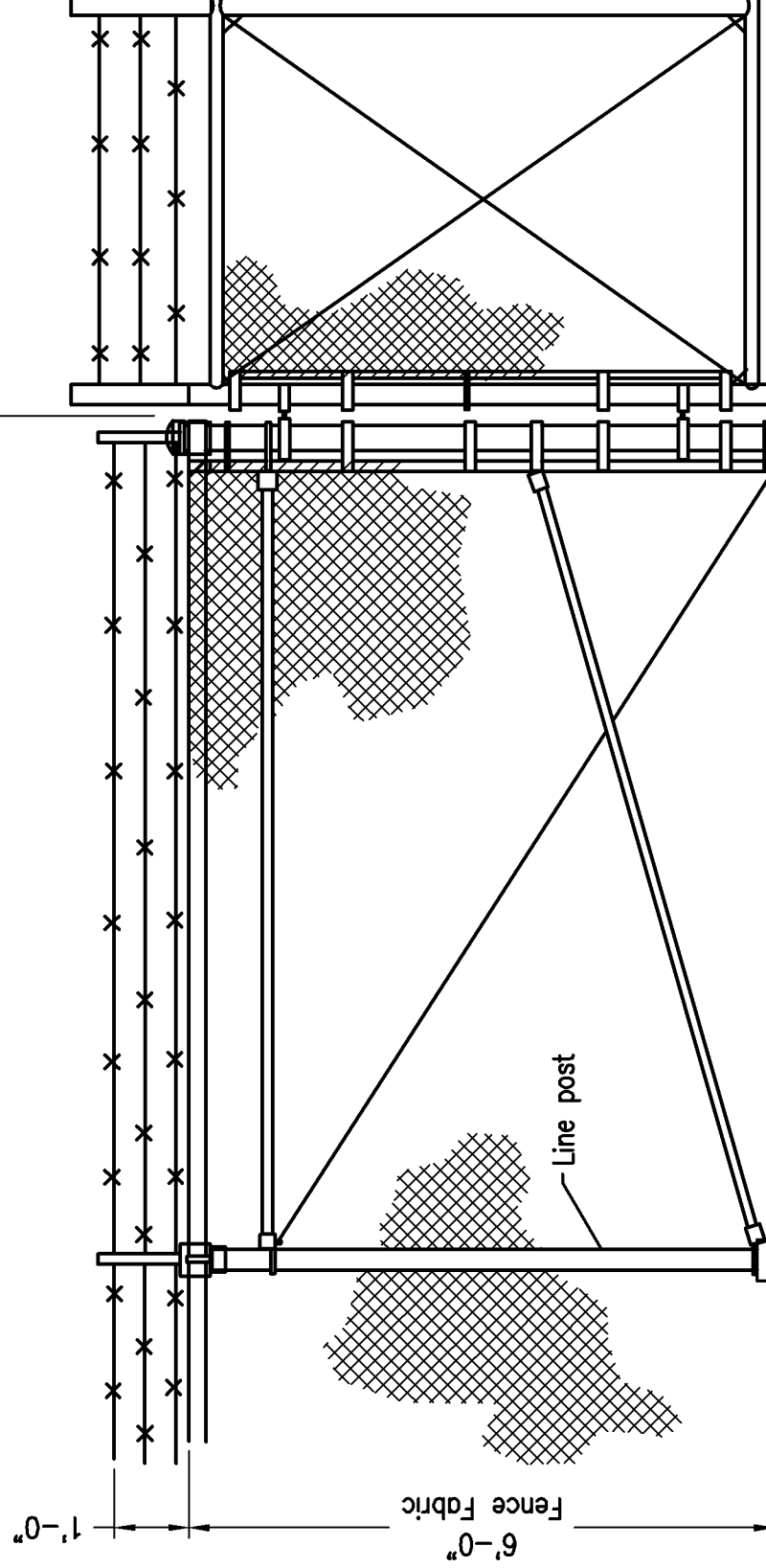


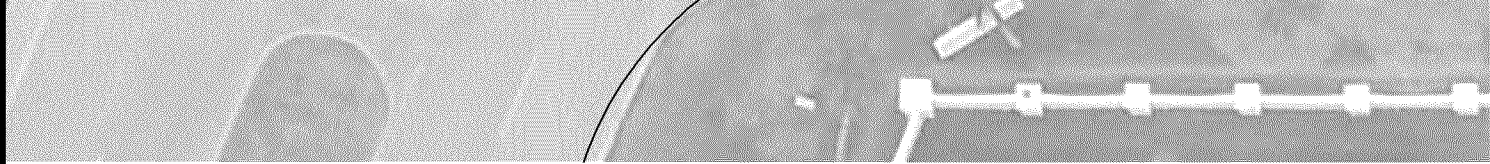
PAVED AREAS

PIPELINE INSTALLATION

NO SCALE

PI
N





NEW 72" x 60" x 72" PRECAST VAULT (INTERIOR DIMENSIONS)
WITH EXTERIOR BITUMASTIC WATERPROOF COATING.
BUTYL SEALANT MEETING ASTM C 990 TO BE USED ON JOINTS.

1" SEALED CONDUIT PENETRATION FOR SUMP PUMP. WITH WEATHER
PROOF "IN-USE" RECEPTACLE (120V, 20A)

TWO NEW 8" FLANGED DISMANTLING JOINTS
ROMAC MODEL DJ400 OR APPROVED EQUAL

18" SQUARE (8" DEEP) SUMP WITH DAYTON 3BB82 SUMP
PUMP (1/2 HP), SLOPE VAULT BOTTOMS TOWARD SUMPS. INSTALL
1.5" PVC DISCHARGE LINES WITH BALL VALVES AND CHECK VALVES
IN EACH VAULT.

1.5" SEALED PIPING PENETRATION
FOR SUMP PUMP DISCHARGE
(SEE DISCHARGE DETAIL)

NEW 8" GATE VALVE, AMERICAN
FLOW CONTROL W/2" OPERATING
NUT AND VALVE BOX

12" (MIN.)
TYP. EACH
VALVE

NEW 8" GATE VALVE, AMERICAN
FLOW CONTROL W/2" OPERATING
NUT AND VALVE BOX

12" HOLE W/LINK SEAL
(TYP. FOUR LOCATIONS)

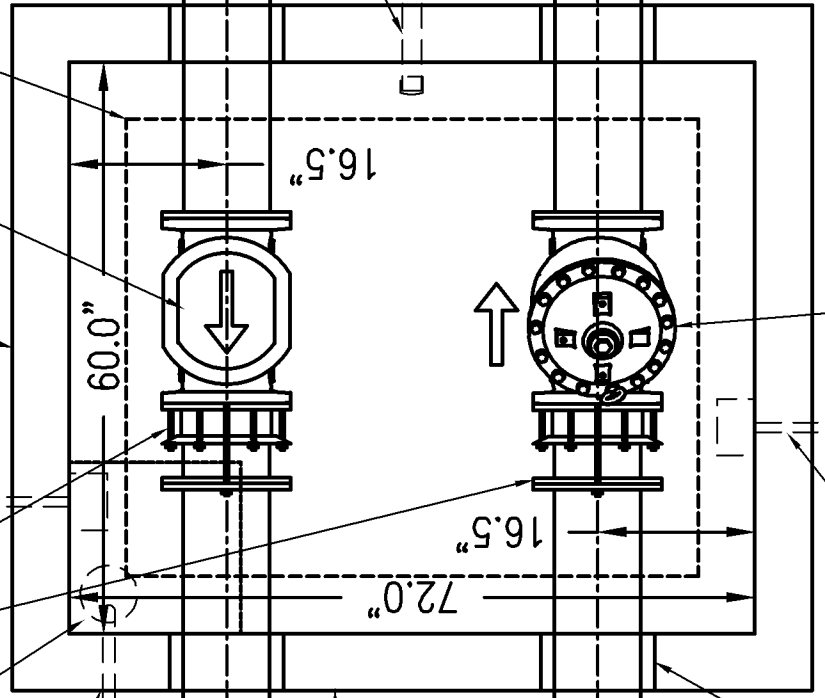
TIE TO EXISTING 8" SYSTEM
PIPING WITH 8" ROMAC ALPHA
WIDE RANGE RESTRAINT COUPLING,
OR APPROVED EQUAL
(VERIFY SIZE, MATERIAL & DEPTH)

SYSTEM
SIDE

NEW 8"x8" TEE

NEW 8" DIP
(CLASS 350)
(TYP.)

NEW 8" 90° BEND





INSTALL NEW THREE POSITION SWITCH IN EXISTING SCADA PANELS (OPEN/CLOSED/AUTO) FOR CONTROL VALVE (BY OWNER)

INSTALL ~50 L.F. OF 1" PVC ELECTRICAL CONDUIT TO EXISTING SCADA PANEL INSIDE WATER TANK (WITH PULLTAPE)

INSTALL NEW CONTROL VALVE ASSEMBLY SEE THIS SHEET FOR DETAILS.

REMOVE EXISTING VALVE VAULT, CONTENTS, AND EXISTING GATE VALVES, SCADA PANELS AND

GENERAL STRUCTURAL NOTES

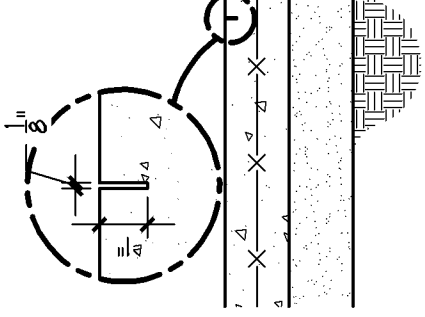
GENERAL

1. NO PROVISION OF ANY REFERENCED STANDARD SPECIFICATION, MANUAL OR CODE (WHETHER OR NOT SPECIFICALLY INCORPORATED BY REFERENCE IN THE CONTRACT DOCUMENTS) SHALL BE EFFECTIVE TO CHANGE THE DUTIES AND RESPONSIBILITIES OF OWNER, CONTRACTOR, ENGINEER OR SUPPLIER OR ANY OF THEIR CONSULTANTS, AGENTS OR EMPLOYEES FROM THOSE SET FORTH IN THE CONTRACT DOCUMENTS, NOR SHALL IT BE EFFECTIVE TO ASSIGN TO THE STRUCTURAL ENGINEER OF RECORD OR ANY OF THE STRUCTURAL ENGINEER OF RECORD'S CONSULTANTS, AGENTS, OR EMPLOYEES ANY DUTY OR AUTHORITY TO SUPERVISE OR DIRECT THE FURNISHING OR PERFORMANCE OF THE WORK OR AUTHORITY TO UNDERTAKE RESPONSIBILITIES CONTRARY TO THE PROVISIONS OF THE CONTRACT DOCUMENTS.
2. THE GENERAL CONTRACTOR SHALL VERIFY THE DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. THE ARCHITECT/STRUCTURAL ENGINEER OF RECORD SHALL BE NOTIFIED OF ANY DISCREPANCY.
3. MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE SEVENTH EDITION (2020) FLORIDA BUILDING CODE.
4. THE CONTRACTOR SHALL COORDINATE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL WORKS WITH THE STRUCTURAL CONTRACT DOCUMENTS. ARCHITECT/STRUCTURAL ENGINEER OF RECORD SHALL BE NOTIFIED OF ANY DISCREPANCIES OR OMISSIONS.
5. THE CONTRACTOR SHALL VERIFY THE FLOOR AND ROOF MOUNTED MECHANICAL EQUIPMENTS WEIGHTS, FLOOR AND/OR ROOF OPENING SIZES AND LOCATIONS WITH ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS.
6. THE CONTRACTOR SHALL NOTIFY IN WRITING THE STRUCTURAL ENGINEER OF RECORD OF CONDITIONS ENCOUNTERED IN THE FIELD CONTRADICTORY TO THOSE SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS.
7. FOR DIMENSIONS NOT SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS SEE THE ARCHITECTURAL.
8. STRUCTURAL CONTRACT DRAWINGS SHALL NOT INCLUDE SHOP DRAWINGS, VENDOR DRAWINGS, OR ANY MATERIAL PREPARED AND SUBMITTED BY THE CONTRACTOR OR SUBCONTRACTOR.
9. REFERENCE TO STANDARD SPECIFICATIONS OF ANY TECHNICAL SOCIETY, ORGANIZATION OR ASSOCIATION TO CODES OF LOCAL OR STATE AUTHORITIES, SHALL MEAN THE EDITION OF THE REFERENCED CODE INDICATED IN THE BUILDING CODE NOTED ABOVE.

CONCRETE (CONT.)

2. PIPES OR DUCTS EXCEEDING ONE-THIRD THE SLAB OR WALL THICKNESS SHALL BE PLACED WITHIN THE THICKNESS OF CONCRETE WALLS UNLESS OTHERWISE NOTED. SEE MECHANICAL AND/OR ELECTRICAL DRAWINGS FOR LAYOUT AND SIZES.
 3. REFER TO ARCHITECTURAL DRAWINGS FOR MOLDS, GROOVES, JOISTS, AND OTHER DETAILS. GROUNDS REQUIRED TO BE ENCASED IN CONCRETE AND FLOOR FINISHES AND SLAB DEPRESSIONS.
 4. CONSTRUCTION JOINTS IN CONCRETE BEAMS AND FRAMED WALLS SHALL BE KEPT IN MIDSPAN. ALL CONSTRUCTION JOINTS MUST BE KEPT IN UNIFORM SPACING THROUGHOUT CONTINUOUS THROUGH JOINTS.
 5. AT COLUMN FOOTINGS, COLUMN ANCHOR RODS WITH TEMPERATURE REINFORCEMENT SHALL BE KEPT AT PROPER LOCATION PRIOR TO POURING THE FOOTING.
 6. CONCRETE SHALL HAVE THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTH UTILIZING TYPE I CEMENT:

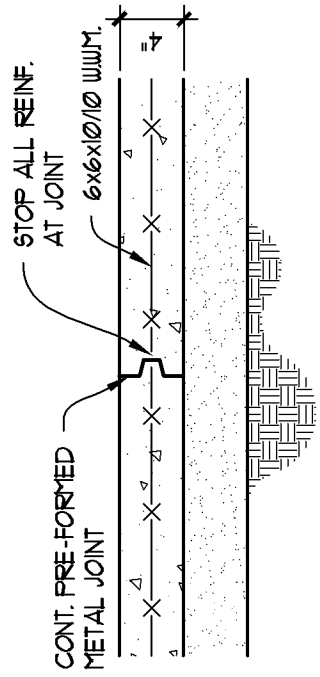
| | |
|--------------------------------|----------|
| FOUNDATIONS AND SLABS ON GRADE | 3000 PSI |
| CYL CELL FILL | 3000 PSI |
| CONCRETE BEAMS AND COLUMNS | 4000 PSI |
- ## REINFORCING STEEL
1. REINFORCING STEEL SHALL CONFORM TO ASTM A615-GR60.
 2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 AN 8 INCHES.
 3. REINFORCEMENT SHALL BE SPLICED ONLY AS SHOWN ON CONTRACT DOCUMENTS.
 4. ALL REINFORCING LAP SPLICES SHALL BE IN ACCORDANCE WITH ACI 318, FOR REINFORCED MASONRY, AND ACI 530 FOR REINFORCED CONCRETE.
 5. ALL REINFORCING STEEL AND ACCESSORIES SHALL BE PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE.
 6. MINIMUM CONCRETE COVER FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH ACI 318, EXCEPT AS OTHERWISE NOTED.



TYP. SLAB SAW

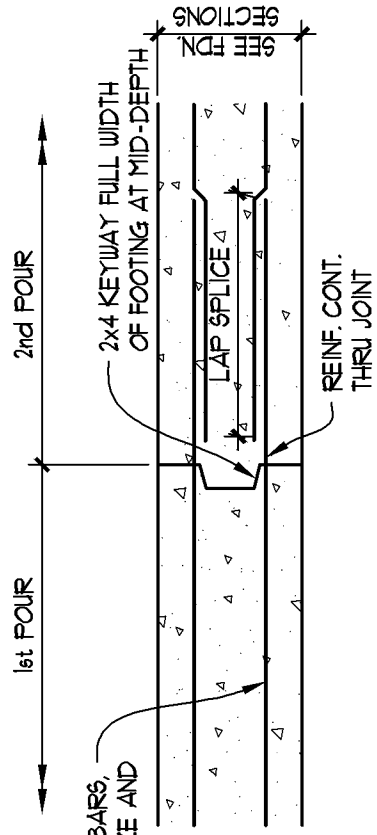
DETAIL
SCALE: 1"=1'-0"

CONTRACTOR SHALL FIELD LOCATE AND INSTALL SLAB JOINTS. JOINTS SHALL BE INSTALLED IN GENERALLY ORTHOGONAL DIRECTIONS IN THE SPACES. SPACING OF JOINTS SHALL BE SUCH THAT THE AREA BOUNDED BY SLAB JOINTS SHALL NOT EXCEED 256 SQUARE FEET, AND THE DISTANCE BETWEEN TWO PARALLEL JOINTS SHALL NOT EXCEED 16 FEET. JOINTS SHALL BE EITHER SLAB CONSTRUCTION JOINTS OR SAW JOINTS, SEE DETAILS THIS SHEET (SHT. S02).



TYP. SLAB CONSTRUCTION JOINT DETAIL

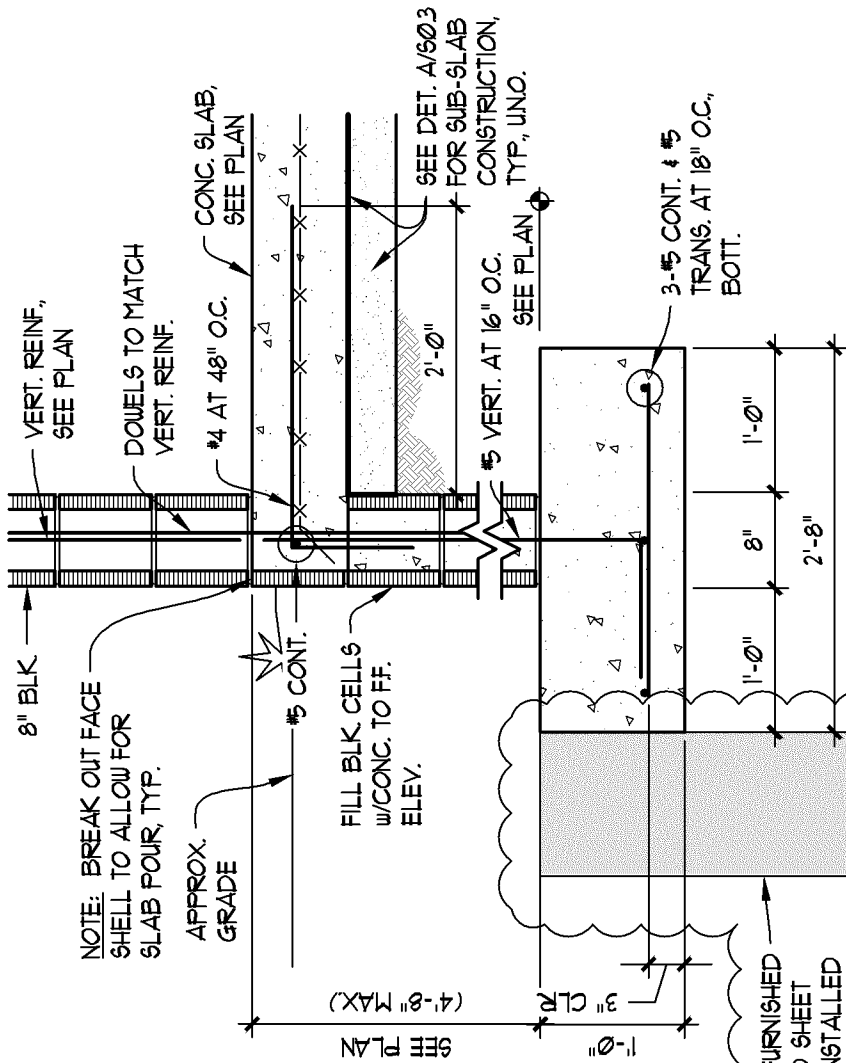
DETAIL
SCALE: 1"=1'-0"



ELEVATION VIEW
TYP. FOOTING CONSTRUCTION JOINT

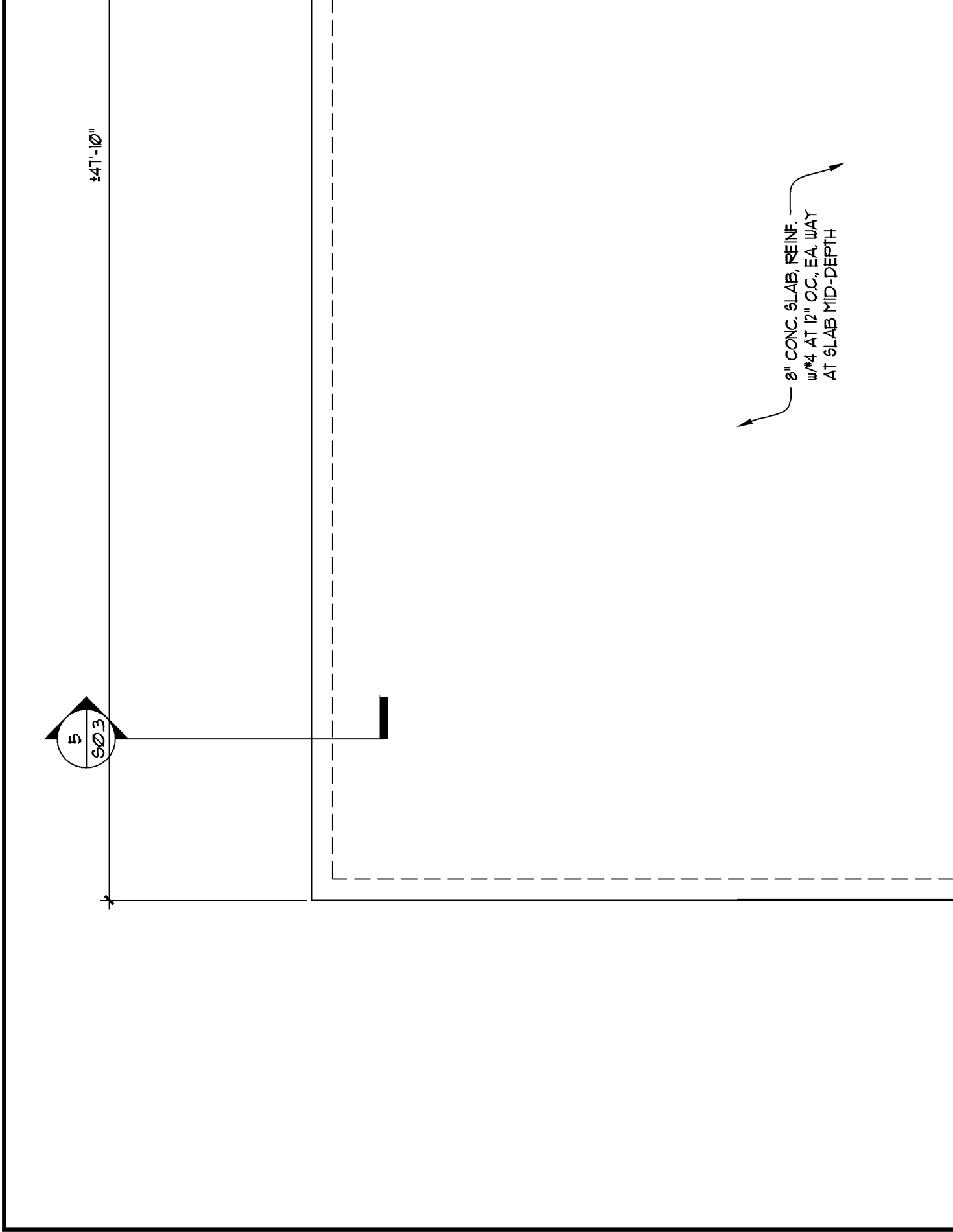
DETAIL
SCALE: 3/4"=1'-0"





SHEET PILE WALL. SHEET PILE WALL SHALL BE DESIGNED, FURNISHED AND INSTALLED BY THE CONTRACTOR AND HIS DELEGATED SHEET PILE ENGINEER. SHEET PILE SHALL BE STEEL SHEET PILE INSTALLED IN THE LOCATIONS, AND TO THE ELEVATIONS, SHOWN AND INDICATED ON THESE PLANS. EMBEDMENT LENGTH OF THE PILES BELOW THE BOTTOM OF THE FOOTINGS SHALL BE DETERMINED BY THE DELEGATED ENGINEER. MAXIMUM LOAD ON WALL FOOTING IS 2.5 KIPS PER LINEAR FOOT. CONTRACTOR'S DELEGATED ENGINEER SHALL PREPARE SIGNED AND SEALED CALCULATIONS TO BE SUBMITTED TO AND REVIEWED BY THE PROJECT STRUCTURAL ENGINEER PRIOR TO THE INSTALLATION OF THE PILES.

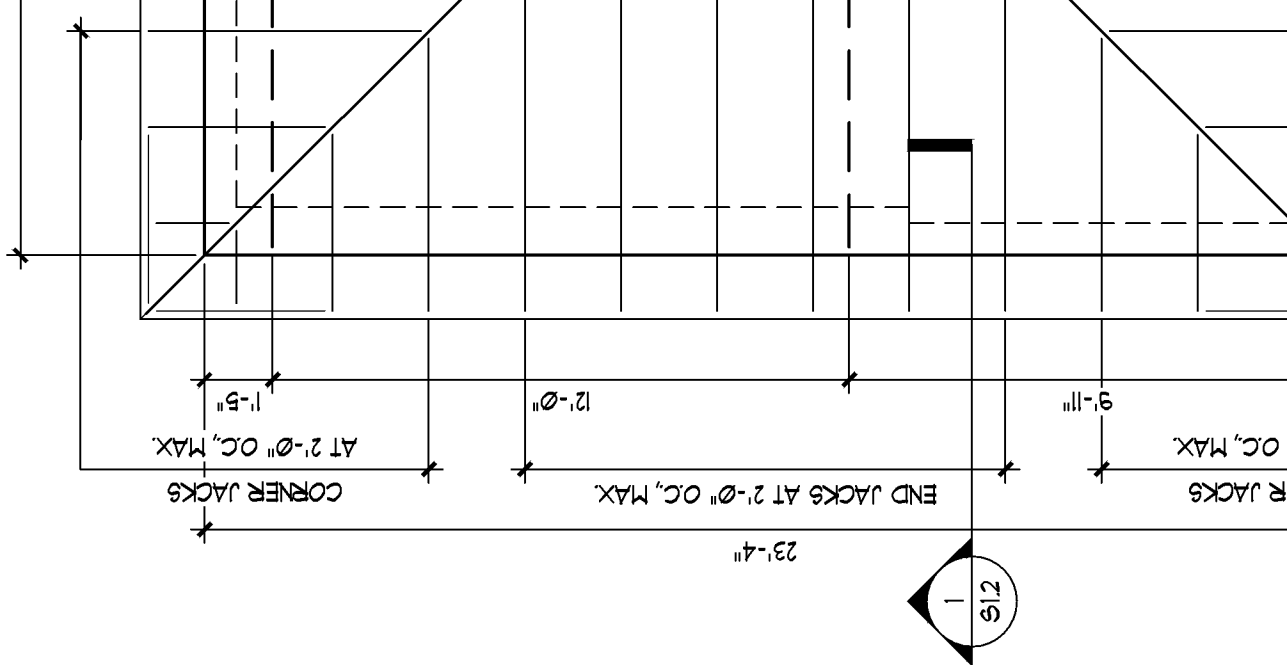
SCOUR ELEV. = 5.00'



±41'-10"

5
S03

8" CONC. SLAB REINF.
w/#4 AT 12" O.C., EA. WAY
AT SLAB MID-DEPTH

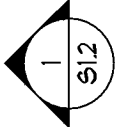


CORNER JACKS
AT 2'-0" O.C., MAX.
1'-5"

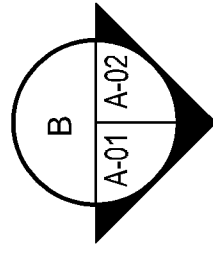
END JACKS AT 2'-0" O.C., MAX.
12'-0"

R JACKS
O.C., MAX.
9'-11"

23'-4"

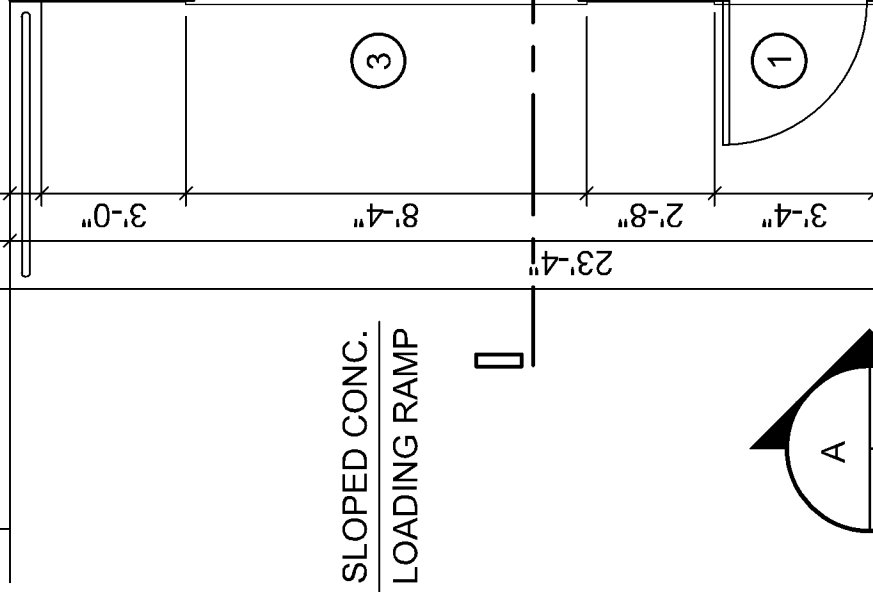


30'-0"



SPLIT HVAC UNIT -
SEE MECHANICAL

TYP
8"



SLOPED CONC.
LOADING RAMP

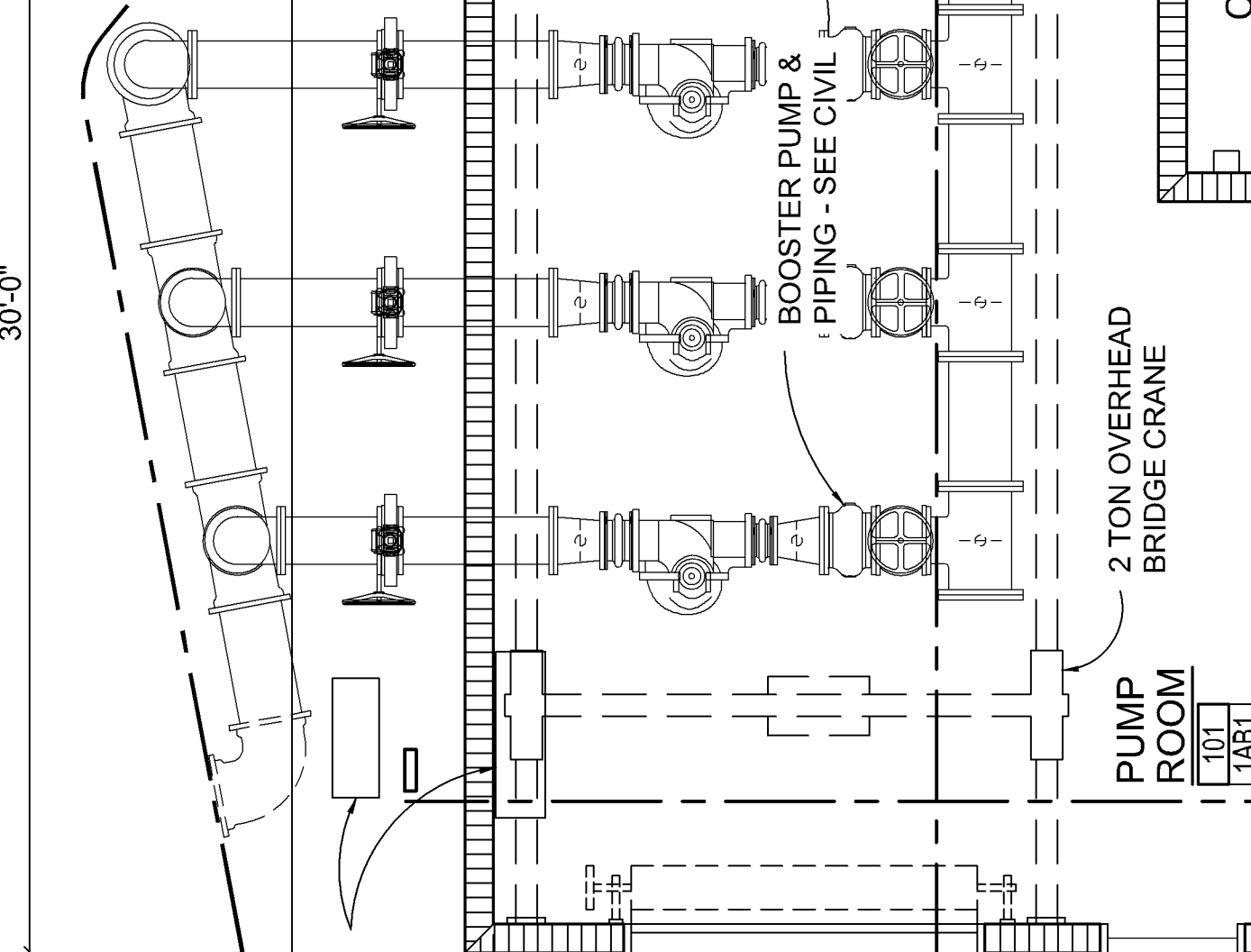
3

1

PUMP ROOM
101
1AB1

2 TON OVERHEAD
BRIDGE CRANE

BOOSTER PUMP &
PIPING - SEE CIVIL



12
5

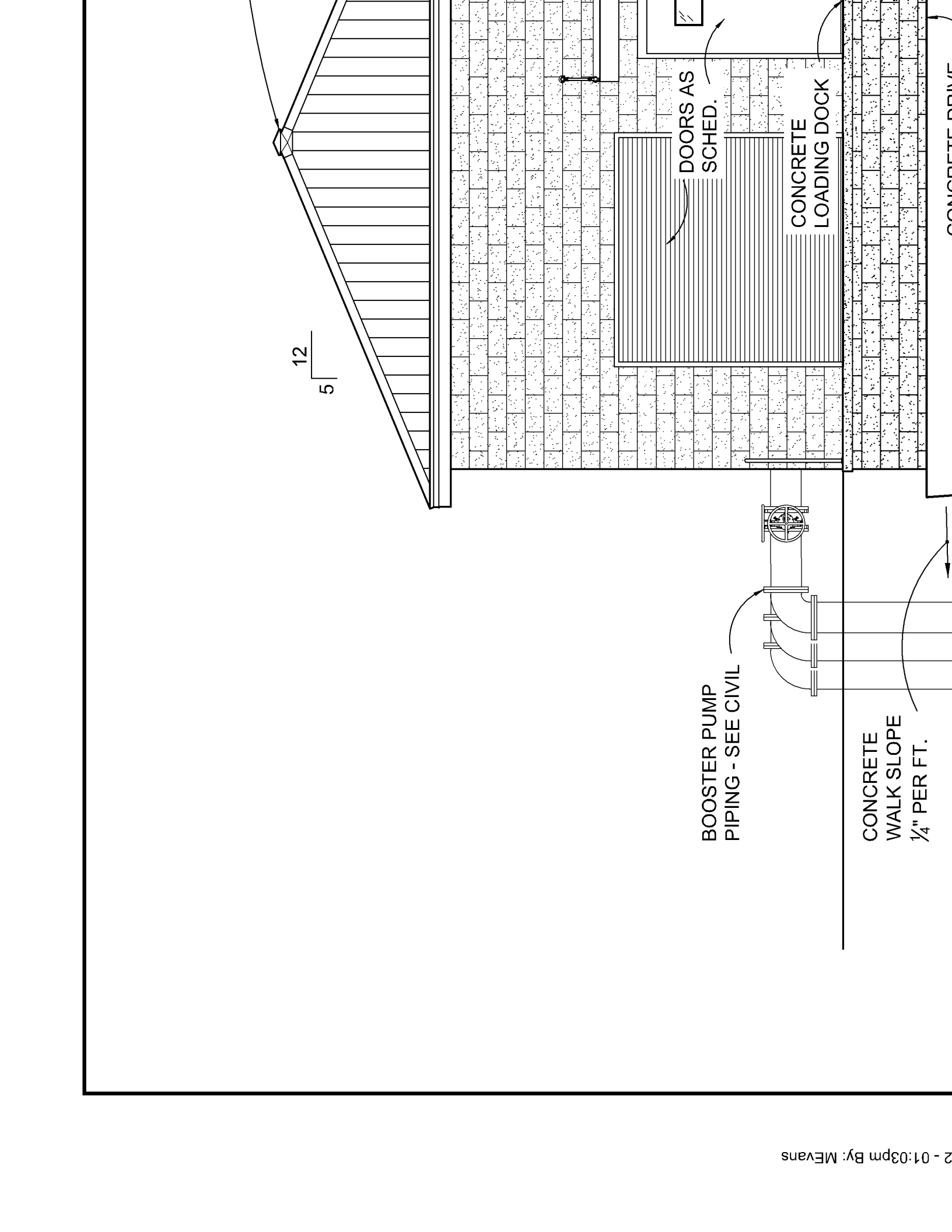
DOORS AS
SCHED.

CONCRETE
LOADING DOCK

BOOSTER PUMP
PIPING - SEE CIVIL

CONCRETE
WALK SLOPE
1/4" PER FT.

CONCRETE DRIVE

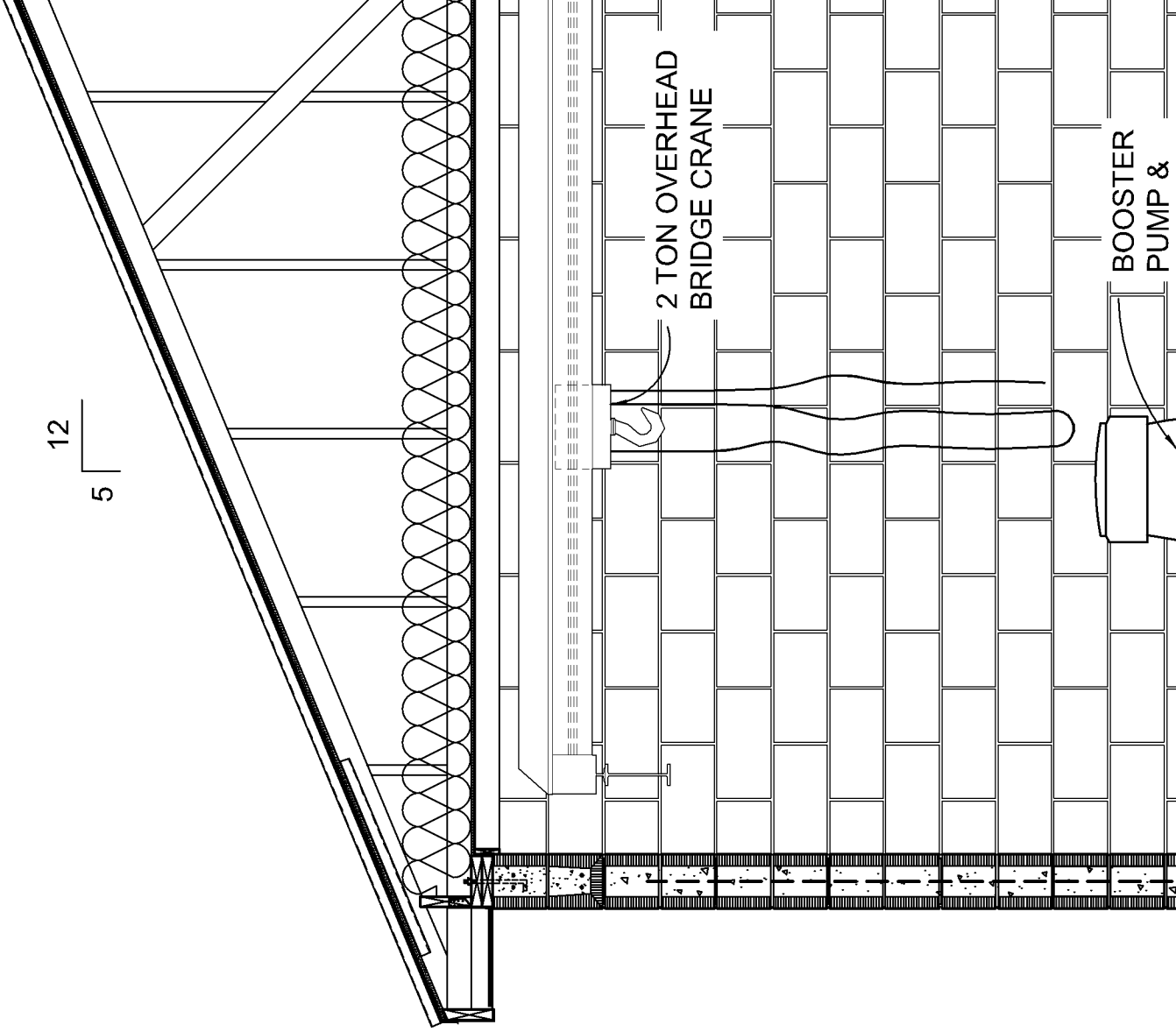


CONTINUOUS
RIDGE VENT

12
5

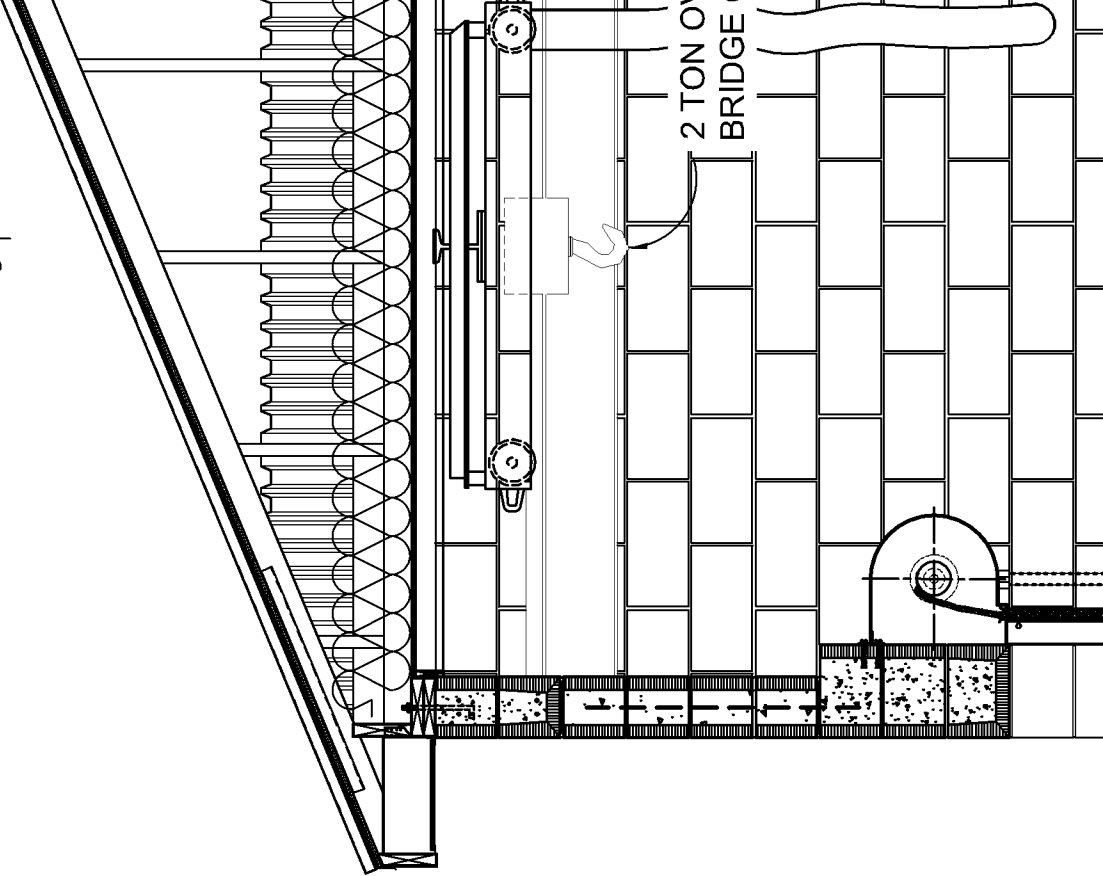
2 TON OVERHEAD
BRIDGE CRANE

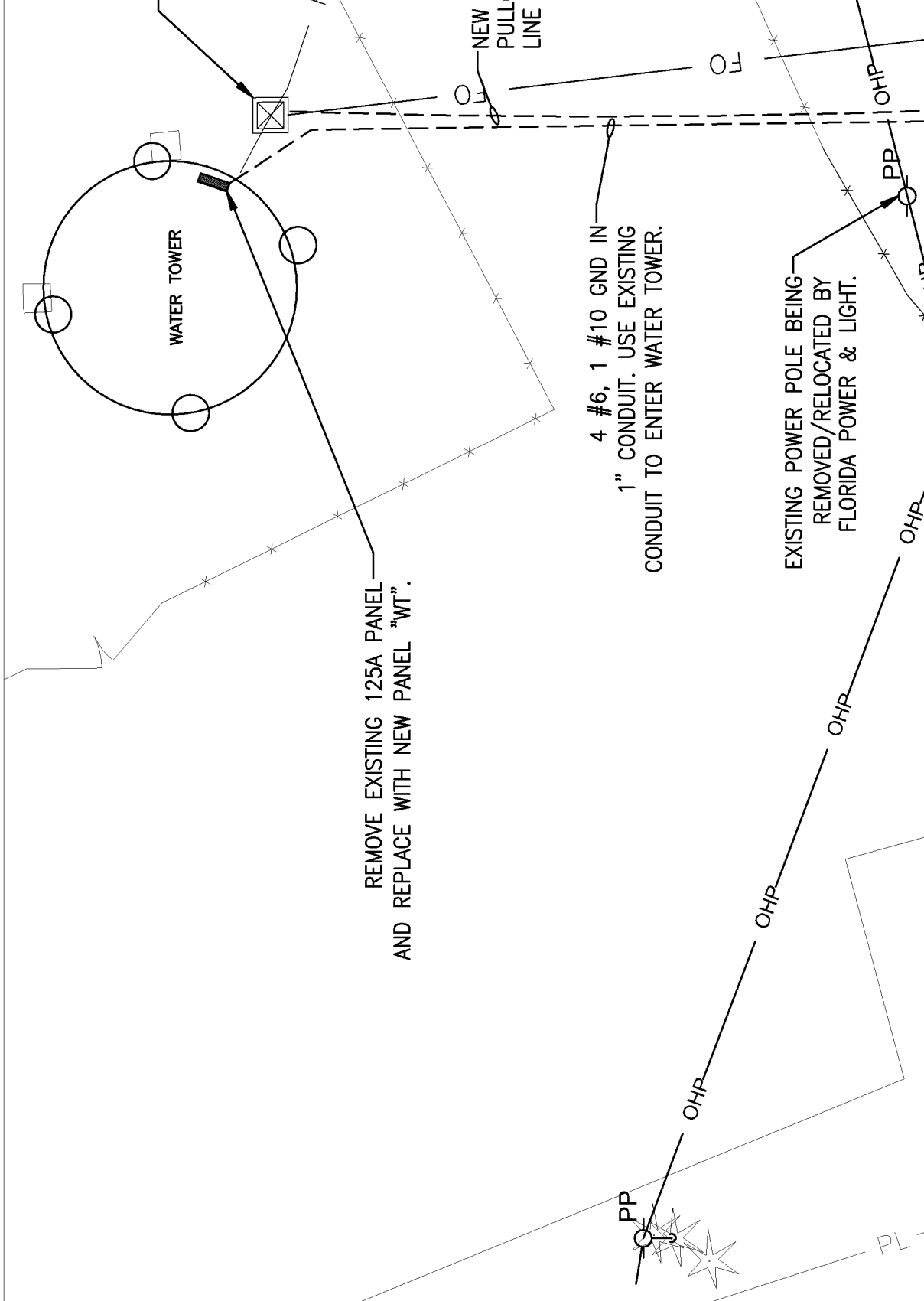
BOOSTER
PUMP &



12
5

2 TON O
BRIDGE





REMOVE EXISTING 125A PANEL
AND REPLACE WITH NEW PANEL "WT".

4 #6, 1 #10 GND IN
1" CONDUIT. USE EXISTING
CONDUIT TO ENTER WATER TOWER.

EXISTING POWER POLE BEING
REMOVED/RELOCATED BY
FLORIDA POWER & LIGHT.

WATER TOWER

NEW
PULL
LINE

FO

OHP
PP

PP

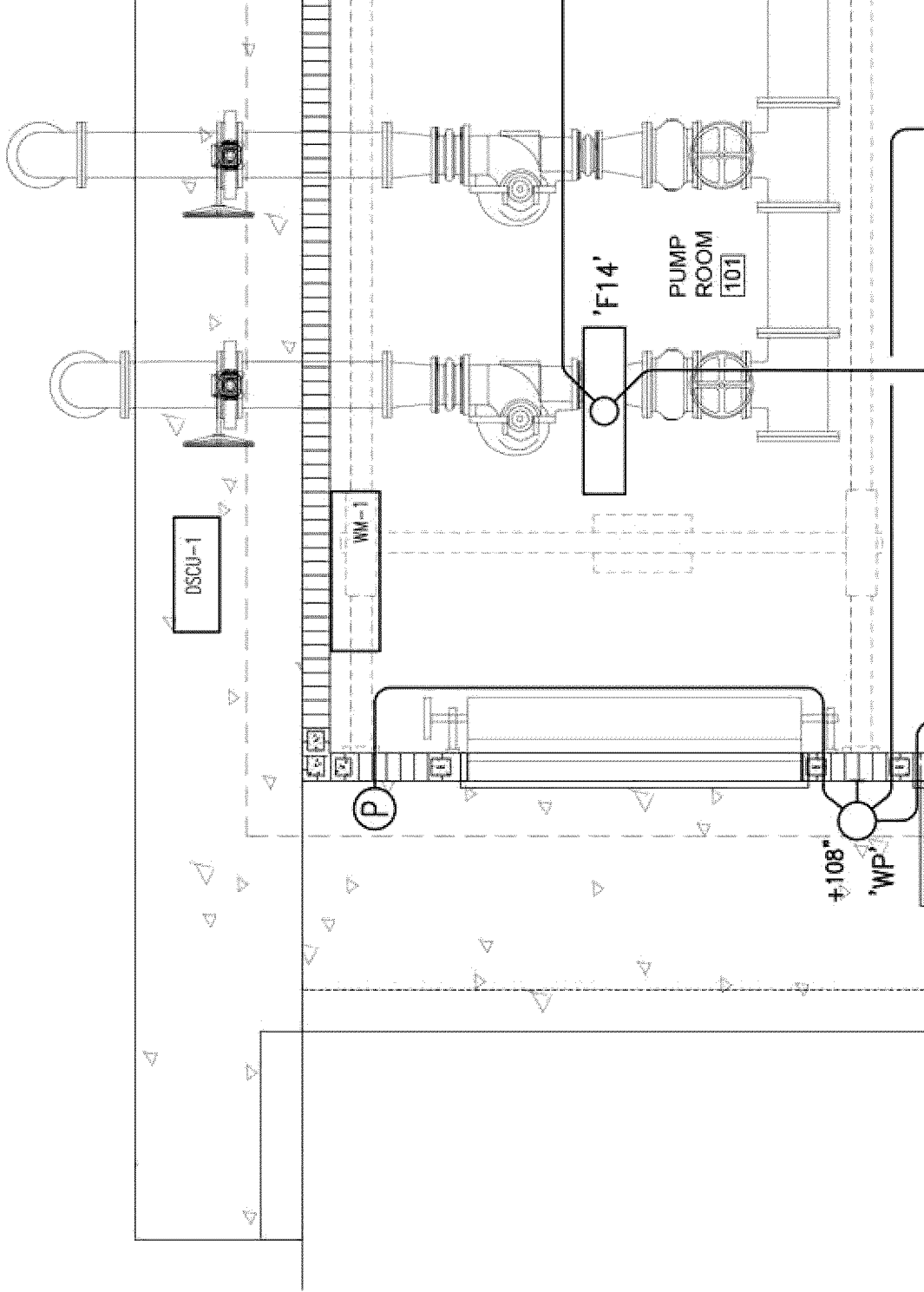
OHP

OHP

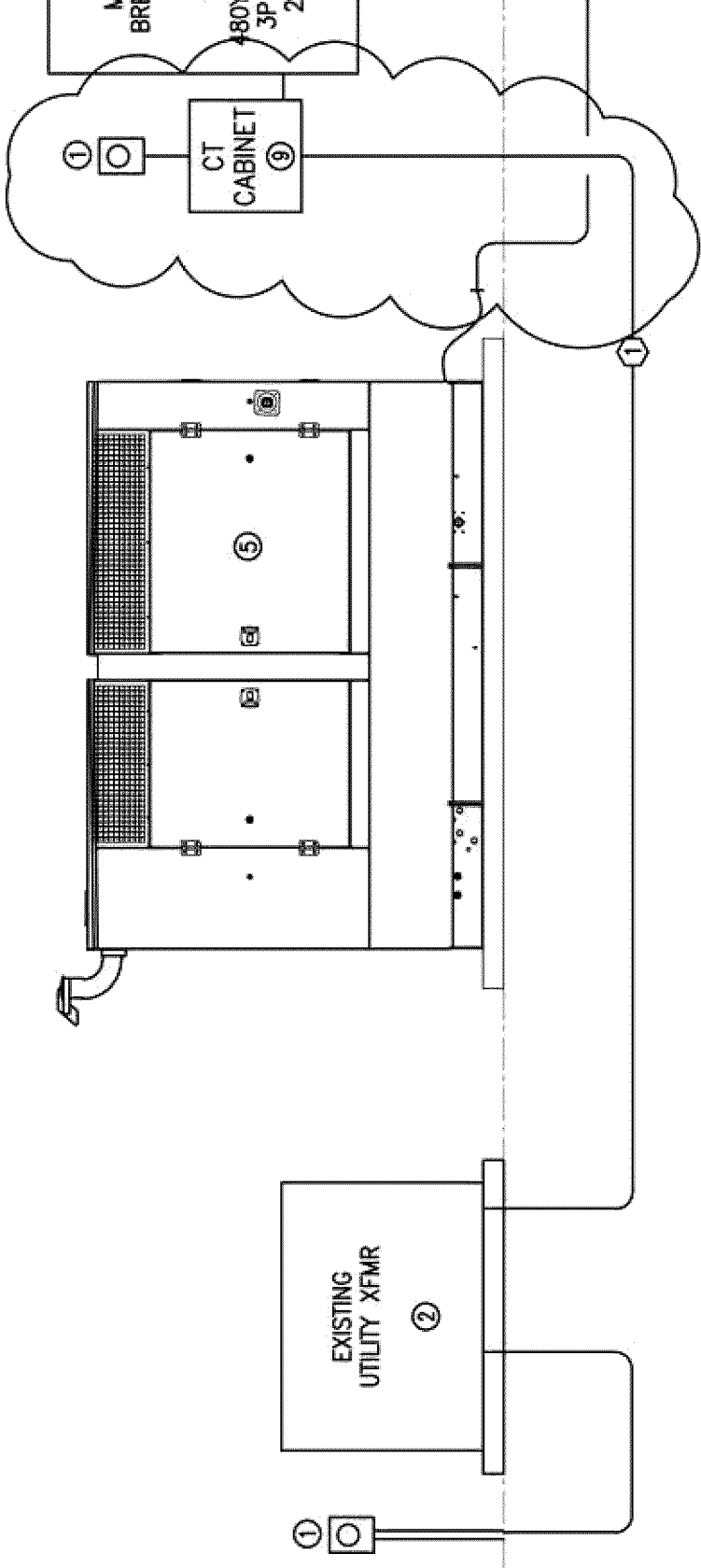
OHP

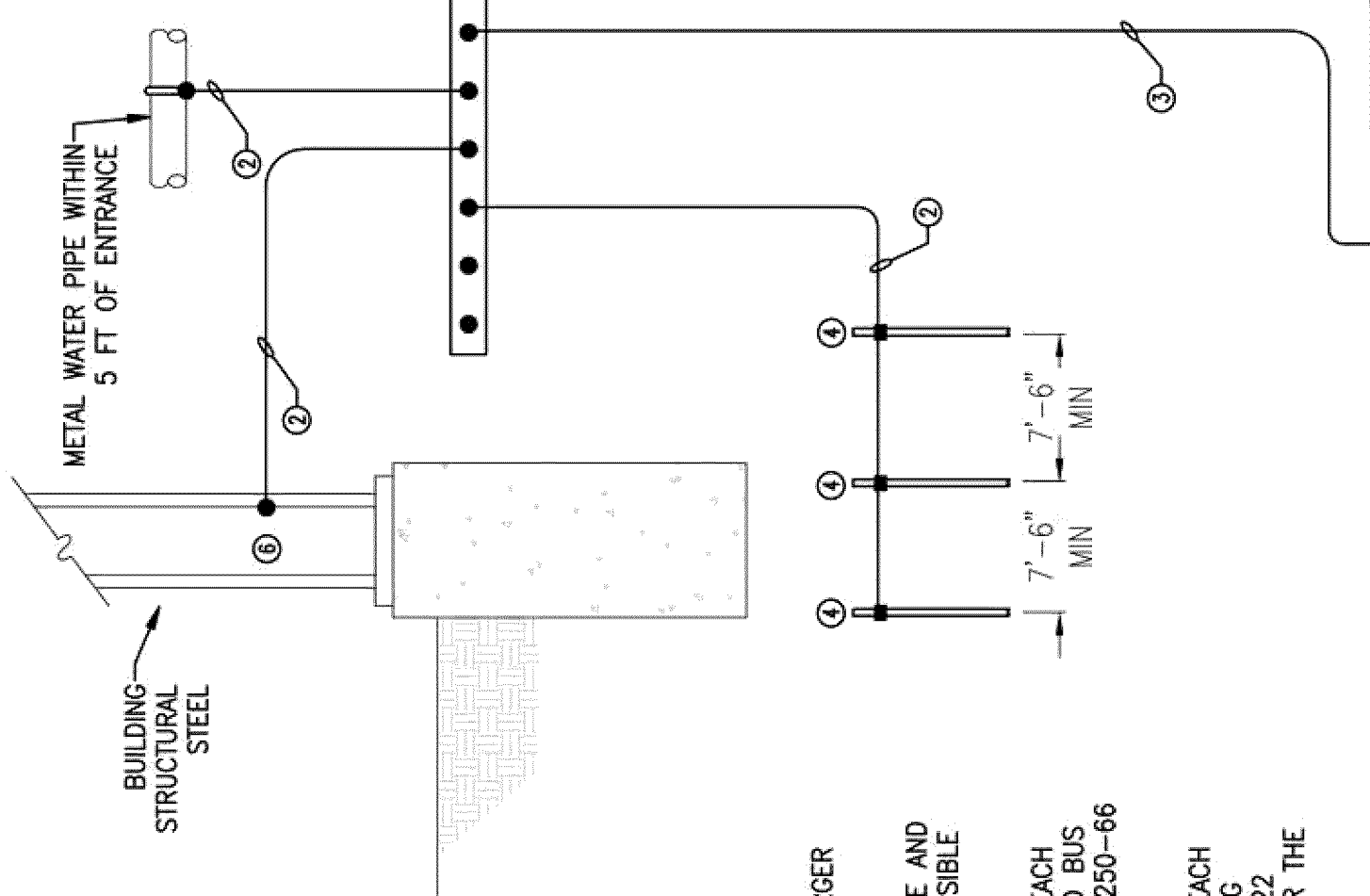
OHP

PL



POWER PANEL





GENERAL NOTES

1. BOND HOT AND COLD WATER PIPING SYSTEMS.
2. CONDUCTOR SIZES SHOWN ARE MINIMUM AND MAY BE LARGER THAN THE MINIMUM SIZES REQUIRED BY NEC.
3. INSTALL GROUNDING CONNECTIONS TO BUILDING STRUCTURE AND WATER PIPES AT LOCATIONS THAT ARE VISIBLE AND ACCESSIBLE FOR INSPECTION, MAINTENANCE, AND TESTING.
4. INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC SERVICE ENTRANCE CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250-66 USING THE SERVICE PHASE CONDUCTOR SIZE.
5. INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC FEEDER CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250-122 USING THE FEEDER CIRCUIT OVERCURRENT DEVICE SIZE OR THE SEPARATELY DERIVED SYSTEM OVERCURRENT DEVICE SIZE.